D-Link®
Building Networks for People

Network Security Firewall
CLI Reference Guide

NetDefendOS

Ver. 12.00.20

Network Security Solution http://www.dlink.com

NetDefend

CLI Reference Guide

DFL-260E/860E/870/1660/2560/2560G

NetDefendOS version 12.00.20

D-Link Corporation
No. 289, Sinhu 3rd Rd, Neihu District, Taipei City 114, Taiwan R.O.C.
http://www.DLink.com

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Table of Contents

List of Examples

Preface

Audience

The target audience for this reference guide is:

- Administrators that are responsible for configuring and managing the D-Link Firewall.
- Administrators that are responsible for troubleshooting the D-Link Firewall.

This guide assumes that the reader is familiar with the D-Link Firewall, and has the necessary basic knowledge in network security.

Notation

The following notation is used throughout this reference guide when specifying the options of a command:

Angle brackets <name> or -option=<description>	Used for specifying the *name* of an option or a description of a value.
Square brackets [option] or -option[=value]	Used for specifying that an option or a value for an option is *optional* and can be omitted.
Curly brackets {value1 | value2 | value3}	Used for specifying the *available values* for an option.
Ellipsis ...	Used for specifying that *more than one* value can be specified for the option.

Example 1. Command Option Notation

One of the usages for the **help** command looks like this:

```
help -category={COMMANDS | TYPES} [<Topic>]
```

This means that help has an option called `category` which has two possible values which are *`COMMANDS`* and *`TYPES`*. There is also an optional option called `Topic` which in this case is a search string used to specify what help topic to display. Since the topic is optional, it is possible to exclude it when running the command.

Both of the following examples are valid for the usage described above:

```
gw-world:/> help -category=COMMANDS
gw-world:/> help -category=COMMANDS activate
```

The usage for the **routes** command is:

```
routes [-all] [-switched] [-flushl3cache[=<percent>]] [-num=<n>]
       [-nonhost] [-tables] [-lookup=<ip address>] [-verbose]
       [-setmtu=<mtu>] [-cacheinfo] [<table name>]...
```

None of the options of this command are mandatory. The `flushl3cache` option also has an optional value. This is because that option has a default value, *`100`*, which will be used if no value

is specified.

The following two examples will yield the same result:

```
gw-world:/> routes -flushl3cache=100
gw-world:/> routes -flushl3cache
```

Because the `table name` option is followed by ellipses it is possible to specify more than one routing table. Since `table name` is optional as well, the user can specify zero or more policy-based routing tables.

```
gw-world:/> routes Virroute Virroute2
```

Chapter 1: Introduction

This guide is a reference for all commands and configuration object types that are available in the command line interface for NetDefendOS.

The CLI is case-sensitive. However, the tab-completion feature of the CLI does not require the correct case to perform completion and will alter the typed case if it is required.

1.1. Basic CLI Usage

Entering Commands

The commands described in this guide can be run by typing the command name at the system prompt and then pressing the return key. Many commands require options to be set to run. If a required option is missing a brief syntax help will be displayed.

User roles

Some commands and options cannot be used unless the logged-in user has administrator privileges. This is indicated in this guide by a note following the command or **Admin only** written next to an option.

Function keys

There are a number of function keys that are used in the CLI.

Backspace	Delete the character to the left of the cursor.
Tab	Complete current word.
Ctrl-A or Home	Move the cursor to the beginning of the line.
Ctrl-B or Left Arrow	Move the cursor one character to the left.

Ctrl-C	Clear line or cancel page view if more than one page of information is shown.
Ctrl-D or Delete	Delete the character to the right of the cursor.
Ctrl-E or End	Move the cursor to the end of the line.
Ctrl-F or Right Arrow	Move the cursor one character to the right.
Ctrl-K	Delete from the cursor to the end of the line.
Ctrl-N or Down Arrow	Show the next entry in the command history.
Ctrl-P or Up Arrow	Show the previous entry in the command history.
Ctrl-T	Transpose the current and the previous character.
Ctrl-U	Delete from the cursor to the beginning of line.
Ctrl-W	Delete word backwards.

The CLI History

Every time a command is run, the command line is added to a history list. The up and down arrow keys are used to access previous command lines (up arrow for older command lines and down arrow to move back to a newer command line). See also Section 2.4.4, “history”.

Example 1.1. The CLI History

Using the command line history via the arrow keys:

```
gw-world:/> show Address
gw-world:/> (up arrow)
gw-world:/> show Address (the previous commandline is displayed)
```

Adding and Removing IP Address Group Members

With IP address groups, it is often useful to be able to add new members to a group or remove existing group members. This is easily done with the web interface which provides an intuitive display showing the available objects and the objects in the group. It can also be done with the CLI but requires a special command syntax.

Suppose there already exists an *IP4Group* object called *my_ip_group*. It has three member *IP4Address* objects called *my_ip_1*, *my_ip_2* and *my_ip_3*. Suppose that the object *my_ip_2* is to be removed from the group. The command would be:

```
gw-world:/> set Address IP4Group my_ip_group Members-=my_ip_2
```

The option **Members-=** can remove one or more members of the group. To add one or more members to a group, the option **Members+=** can be used. Suppose that the *IP4Address* objects *my_ip_4* and *my_ip_5* are to be added to the group. The command would be:

```
gw-world:/> set Address IP4Group my_ip4_group Members+=my_ip_4,my_ip_5
```

1.2. CLI Tab Completion

By using the tab function key in the CLI the names of commands, options, objects and object properties can be automatically completed. If the text entered before pressing tab only matches one possible item, e.g. "activate" is the only match for "acti", and a command is expected, the name will be autocompleted. Should there be more than one match the part common to all matches will be completed. At this point the user can either enter more characters or press tab again, which will display a list of the possible completions. This can also be done without entering any characters, but the resulting list might be long if there are many possible completions, e.g. all commands.

Example 1.2. Tab completion

An example of tab completion when using the **add** command:

```
gw-world:/> add Add (tab)
gw-world:/> add Address ("ress" was autocompleted)
gw-world:/> add Address i (tab)
gw-world:/> add Address IP4 ("IP4" was autocompleted)
gw-world:/> add Address IP4
        (tab, or double tab if IP4 were entered manually)
A list of all types starting with IP4 is listed.
gw-world:/> add Address IP4a (tab)
gw-world:/> add Address IP4Address ("Address" was autocompleted)
gw-world:/> add Address IP4Address example_ip a (tab)
gw-world:/> add Address IP4Address example_ip Address=
        ("Address=" was autocompleted)
gw-world:/> add Address IP4Address example_ip Address=1.2.3.4
```

Tab completion of references:

```
gw-world:/> set Address IP4Group examplegroup Members= (tab, tab)
A list of valid objects is displayed.
gw-world:/> set Address IP4Group examplegroup Members=e (tab)
gw-world:/> set Address IP4Group examplegroup Members=example_ip
("example_ip" was autocompleted)
```

1.2.1. Inline Help with Tab Completion

It is possible to get help about available properties of configuration objects while a command line is being typed by using the *?* character. Write *?* instead of a property name and press tab and a help text for the available properties is shown. If *?* is typed in stead of a property value and tab is pressed a help text for that property which contains more information such as data type, default value, etc. is displayed.

Example 1.3. Inline help

Get inline help for all properties of an IP4Address:

```
gw-world:/> set IP4Address example_ip ? (tab)
A help text describing all available properties is displayed.
```

Getting inline help for the Address property:

```
gw-world:/> set IP4Address example_ip Address=? (tab)
A more detailed help text about Address is displayed.
```

1.2.2. Autocompleting Current and Default Values

Another special character that can be used together with tab completion is the period "." character. If "." is entered instead of a property value and tab is pressed it will be replaced by the current value of that property. This is useful when editing an existing list of items or a long text value.

The "<" character before a tab can be used to automatically fill in the default value for a parameter if no value has yet been set. If the "." character is used, all possible values will be shown and these can then be edited with the back arrrow and backspace keys.

Example 1.4. Edit an Existing Property Value in the CLI

Edit the current value:

```
gw-world:/> add IP4Address example_ip Address=1.2.3.4
gw-world:/> set IP4Address example_ip Address=. (tab)
gw-world:/> set IP4Address example_ip Address=1.2.3.4
        (the value was inserted)
The value can now be edited by using the arrow keys or backspace.

gw-world:/> set IP4Group examplegroup Members=ip1,ip2,ip3,ip5
gw-world:/> set IP4Group examplegroup Members=. (tab)
gw-world:/> set IP4Group examplegroup Members=ip1,ip2,ip3,ip5
(the value was inserted)
It is now possible to add or remove a member to the list without
having to enter all the other members again.
```

Edit the default value:

```
gw-world:/> add LogReceiverSyslog example Address=example_ip
        LogSeverity=. (tab)
gw-world:/> add LogReceiverSyslog example Address=example_ip
  LogSeverity=Emergency,Alert,Critical,Error,Warning,Notice,Info
```

It is now easy to remove a log severity.

1.2.3. Configuration Object Type Categories

Some object types are grouped together in a category in the CLI. This only matters when using tab completion as they are used to limit the number of possible completions when tab completing object types. The category can always be omitted when running commands if the type name is entered manually.

Example 1.5. Using categories with tab completion

Accessing an IP4Address object with the use of categories:

```
gw-world:/> show ad (tab)
gw-world:/> show Adress (the category is autocompleted)
```

```
gw-world:/> show Adress ip4a (tab)
gw-world:/> show Adress IP4Address (the type is autocompleted)
gw-world:/> show Adress IP4Address example_ip
```

Accessing an IP4Address object without the use of categories:

```
gw-world:/> show IP4Address example_ip
```

1.3. CLI Help Options

1.3.1. Help for Commands

There are two ways of getting help about a command. A brief help is displayed if the command name is typed followed by `-?` or `-h`. This applies to all commands and is therefore not listed in the option list for each command in this guide. Using the **help** command gives a more detailed help corresponding to the information found in this guide. In most cases it is possible to simply type **help** followed by the command name to get the full help. See Section 2.4.3, "help" for a more detailed description. To list the available commands, just type **help** and press return.

Example 1.6. Help for Commands

Brief help for the **activate** command:

```
gw-world:/> activate -?
gw-world:/> activate -h
```

Full help for **activate**:

```
gw-world:/> help activate
```

Help for the **arp** command. Arp is also the name of a configuration object type, so it is necessary to specify that the help text for the command should be displayed:

```
gw-world:/> help -category=COMMANDS arp
```

List all available commands:

```
gw-world:/> help
```

1.3.2. Help for Object Types

To get help about configuration object types, use the **help** command. It is also possible to get information about each property in an object type, such as data type, default value, etc. by entering the *?* character when entering the value of a property and pressing tab. More on this in Section 1.2.1, "Inline Help with Tab Completion".

Example 1.7. Help for Object Types

Full help for `IP4Address`:

```
gw-world:/> help IP4Address
```

Help for the ARP configuration object type, which collides with the **arp** command:

```
gw-world:/> help -category=TYPES ARP
```

Chapter 2: Command Reference

2.1. Configuration

2.1.1. activate

Activate changes.

Description

Activate the latest changes.

This will issue a reconfiguration, using the new configuration. If the reconfiguration is successful a **commit** command must be issued within the configured timeout interval in order to save the changes to media. If not, the system will revert to using the previous version of the configuration.

Usage

```
activate
```

Note
Requires Administrator privileges.

2.1.2. add

Create a new object.

Description

Create a new object and add it to the configuration.

Specify the type of object you want to create and the identifier, if the type has one, unless the object is identified by an index. Set the properties of the object by writing the propertyname equals (=) and then the value. An optional category can be specified for some object types when using tab completion.

If a mandatory property isn't specified a list of errors will be shown after the object is created. If an invalid property or value type is specified or if the identifier is missing the command will fail and not create an object.

Adjustments can be made after the object is created by using the **set** command.

Example 2.1. Create a new object

```
Add objects with an identifier property (not index):
 gw-world:/> add Address IP4Address example_ip Address=1.2.3.4
 Comments="This is an example"
 gw-world:/> add IP4Address example_ip2 Address=2.3.4.5
Add an object with an index:
 gw-world:/main> add Route Interface=lan
Add an object without identifier:
 gw-world:/> add DynDnsClientDyndnsOrg DNSName=example Username=example
```

Usage

```
add [<Category>] <Type> [<Identifier>] [-force] [-silent]
    [<key-value pair>]...
```

Options

-force	Add object, even if it has errors.
-silent	Do not show any errors.
<Category>	Category that groups object types.
<Identifier>	The property that identifies the configuration object. May not be applicable depending on the specified <Type>.
<key-value pair>	One or more property-value pairs, i.e. <property name>=<value> or <property name>="<value>".
<Type>	Type of configuration object to perform operation on.

Note

Requires Administrator privileges.

2.1.3. cancel

Cancel ongoing commit.

Description

Cancel commit operation immediately, without waiting for the timeout.

Usage

```
cancel
```

Note
Requires Administrator privileges.

2.1.4. cc

Change the current context.

Description

Change the current configuration context.

A context is a group of objects that are dependent on and grouped by a parent object. Many objects lie in the "root" context and do not have a specific parent. Other objects, e.g. User objects lie in a sub-context (or child context) of the root - in this case in a LocalUserDatabase. In order to add or modify users you have to be in the correct context, e.g. a LocalUserDatabase called "exampledb". Only objects in the current context can be accessed.

Example 2.2. Change context

```
Change to a sub/child context:
 gw-world:/> cc LocalUserDatabase exampledb
 gw-world:/exampledb>
Go back to the parent context:
 gw-world:/ospf1/area1> cc ..
 gw-world:/ospf1> cc ..
 gw-world:/>
Go back to the root context:
 gw-world:/ospf1/area1> cc
 gw-world:/>
or
 gw-world:/ospf1/area1> cc /
 gw-world:/>
```

Usage

```
cc [<Category>] <Type> <Identifier>
```

Change the current context.

```
cc -print
```

Print the current context.

```
cc
```

Change to root context (same as "cc /").

Options

-print	Print the current context.
<Category>	Category that groups object types.
<Identifier>	The property that identifies the configuration object. May not be applicable depending on the specified <Type>.
<Type>	Type of configuration object to perform operation on.

2.1.5. commit

Save new configuration to media.

Description

Save the new configuration to media. This command can only be issued after a successful activate command.

Usage

```
commit
```

Note
Requires Administrator privileges.

2.1.6. delete

Delete specified objects.

Description

Delete the specified object, removing it from the configuration.

Add the force flag to delete the object even if it is referenced by other objects or if it is a context that has child objects that aren't deleted. This may cause objects referring to the specified object or one of its children to get errors that must be corrected before the configuration can be

activated.

See also: **undelete**

Example 2.3. Delete an object

```
Delete an unreferenced object:
 gw-world:/> delete Address IP4Address example_ip
Delete a referenced object:
(will cause error in examplerule)
 gw-world:/> set IPRule examplerule SourceNetwork=examplenet
 gw-world:/> delete Address IP4Address examplenet -force
```

Usage

```
delete [<Category>] <Type> [<Identifier>] [-force]
```

Options

-force	Force object to be deleted even if it's used by other objects or has children.
<Category>	Category that groups object types.
<Identifier>	The property that identifies the configuration object. May not be applicable depending on the specified <Type>.
<Type>	Type of configuration object to perform operation on.

Note
Requires Administrator privileges.

2.1.7. pskgen

Generate random pre-shared key.

Description

Generate a pre-shared key of specified size, containing randomized key data. If a key with the specified name exists, the existing key is modified. Otherwise a new key object is created.

Usage

```
pskgen <Name> [-comments=<String>] [-size={64 | 128 | 256 | 512 |
       1024 | 2048 | 4096}]
```

Options

-comments=<String>	Comments for this key.
-size={64 | 128 | 256 | 512 | 1024 | 2048 | 4096}	Number of bits of data in the generated key. (Default: 64)
<Name>	Name of key.

Note
Requires Administrator privileges.

2.1.8. reject

Reject changes.

Description

Reject the changes made to the specified object by reverting to the values of the last committed configuration.

All changes made to the object will be lost. If the object is added after the last commit, it will be removed.

To reject the changes in more than one object, use either the `-recursive` flag to delete a context and all its children recursively or the `-all` flag to reject the changes in *all* objects in the configuration.

See also: **activate**, **commit**

Example 2.4. Reject changes

```
Reject changes in individual objects:
 gw-world:/> set Address IP4Address example_ip
 Comments="This comment will be rejected"
 gw-world:/> reject Address IP4Address example_ip
 gw-world:/> add Address IP4Address example_ip2 Address=1.2.3.4
 Comments="This whole object will be removed"
 gw-world:/> reject Address IP4Address example_ip2
Reject changes recursively:
(will reject changes in the user database and all users)
 gw-world:/exampledb> set User user1 Comments="Something"
 gw-world:/exampledb> set User user2 Comments="that will be"
 gw-world:/exampledb> set User user3 Comments="rejected"
 gw-world:/exampledb> cc ..
 gw-world:/> reject LocalUserDatabase exampledb -recursive
Reject all changes:
 gw-world:/anycontext> reject -all
All changes since the last commit will be rejected:
(example_ip will be removed since it is newly added)
 gw-world:/> add IP4Address example_ip Address=1.2.3.4
 gw-world:/> delete IP4Address example_ip
 gw-world:/> reject IP4Address example_ip
```

Usage

```
reject [<Category>] <Type> [<Identifier>] [-recursive]
```

Reject changes made to the specified object.

```
reject -all
```

Reject all changes in the configuration.

Options

-all	Reject all changes in the configuration.
-recursive	Recursively reject changes.
<Category>	Category that groups object types.
<Identifier>	The property that identifies the configuration object. May not be applicable depending on the specified <Type>.
<Type>	Type of configuration object to perform operation on.

Note
Requires Administrator privileges.

2.1.9. reset

Reset unit configuration and/or binaries.

Description

Reset configuration or binaries to factory defaults.

Usage

```
reset -configuration
```

Reset the configuration to factory defaults.

```
reset -unit
```

Reset the unit to factory defaults.

Options

-configuration	Reset configuration to factory default.
-unit	Reset unit to factory defaults.

Note
Requires Administrator privileges.

2.1.10. set

Set property values.

Description

Set property values of configuration objects.

Specify the type of object you want to modify and the identifier, if the type has one. Set the properties of the object by writing the propertyname equals (=) and then the value. An optional category can be specified for some object types when using tab completion.

If a mandatory property hasn't been specified or if a property has an error a list of errors will be shown after the specified properties have been set. If an invalid property or value type is specified the command will fail and not modify the object.

See also: **add**

Example 2.5. Set property values

```
Set properties for objects that have an identifier property:
 gw-world:/> set Address IP4Address example_ip Address=1.2.3.4
 Comments="This is an example"
 gw-world:/> set IP4Address example_ip2 Address=2.3.4.5
 Comments=comment_without_whitespace
 gw-world:/main> set Route 1 Comment="A route"
 gw-world:/> set IPRule 12 Index=1
Set properties for an object without identifier:
 gw-world:/> set DynDnsClientDyndnsOrg Username=example
```

Usage

```
set [<Category>] <Type> [<Identifier>] [-disable] [-enable]
    [-force] [<key-value pair>]...
```

Options

-disable	Disable object. This option is not available if the object is already disabled.
-enable	Enable object. This option is not available if the object is already enabled.
-force	Set values, even if they contain errors.
<Category>	Category that groups object types.
<Identifier>	The property that identifies the configuration

	object. May not be applicable depending on the specified <Type>.
<key-value pair>	One or more property-value pairs, i.e. <property name>=<value> or <property name>="<value>".
<Type>	Type of configuration object to perform operation on.

Note
Requires Administrator privileges.

2.1.11. show

Show objects.

Description

Show objects.

Show the properties of a specified object. There are a number of flags that can be specified to show otherwise hidden properties. To show a list of object types and categories available in the current context, just type **show**. Show a table of all objects of a type by specifying a type or a category. Use the `-errors` or `-changes` flags to show what objects have been changed or have errors in the configuration.

When showing a table of all objects of a certain type, the status of each object since the last time the configuration was committed is indicated by a flag. The flags used are:

- The object is deleted.

o The object is disabled.

! The object has errors.

+ The object is newly created.

***** The object is modified.

Additional flags:

D The object has dynamic properties which are updated by the system.

When listing categories and object types, categories are indicated by [] and types where objects may be contexts by /.

Example 2.6. Show objects

```
Show the properties of an individual object:
 gw-world:/> show Address IP4Address example_ip
 gw-world:/main> show Route 1
 gw-world:/> show Client DynDnsClientDyndnsOrg
Show a table of all objects of a type and a selection of their
```

```
properties as well as their status:
 gw-world:/> show Address IP4Address
 gw-world:/> show IP4Address
Show a table of all objects for each type in a category:
 gw-world:/> show Address
Show objects with changes and errors:
 gw-world:/> show -changes
 gw-world:/> show -errors
Show what objects use (refer to) a certain object:
 gw-world:/> show Address IP4Address example_ip -references
```

Usage

```
show
```

Show the types and categories available in the current context.

```
show [<Category>] [<Type> [<Identifier>]] [-disabled] [-references]
```

Show an object or list a type or category.

```
show -errors [-verbose]
```

Show all errors.

```
show -changes
```

Show all changes.

Options

-changes	Show all changes in the current configuration.
-disabled	Show disabled properties.
-errors	Show all errors in the current configuration.
-references	Show all references to this object from other objects.
-verbose	Show error details.
<Category>	Category that groups object types.
<Identifier>	The property that identifies the configuration object. May not be applicable depending on the specified <Type>.
<Type>	Type of configuration object to perform operation on.

2.1.12. undelete

Restore previously deleted objects.

Description

Restore a previously deleted object.

This is possible as long as the **activate** command has not been called.

See also: **delete**

Example 2.7. Undelete an object

```
Undelete an unreferenced object:
 gw-world:/> delete Address IP4Address example_ip
 gw-world:/> undelete Address IP4Address example_ip
Undelete a referenced object:
(will remove the error in examplerule)
 gw-world:/> set IPRule examplerule SourceNetwork=examplenet
 gw-world:/> delete Address IP4Address examplenet -force
 gw-world:/> undelete Address IP4Address examplenet
```

Usage

```
undelete [<Category>] <Type> [<Identifier>]
```

Options

<Category>	Category that groups object types.
<Identifier>	The property that identifies the configuration object. May not be applicable depending on the specified <Type>.
<Type>	Type of configuration object to perform operation on.

Note

Requires Administrator privileges.

2.2. Runtime

2.2.1. about

Show copyright/build information.

Description

Show copyright and build information.

Usage

```
about
```

2.2.2. alarm

Show alarm information.

Description

Show list of currently active alarms.

Usage

```
alarm [-history] [-active]
```

Options

-active	Show the currently active alarms.
-history	Show the 20 latest alarms.

2.2.3. appcontrol

Show application control status.

Description

Browse the applications defined in the Application Control functionality. Saved browsing results as filters that can be later used to define IPPolicies.

Usage

```
appcontrol
```

Show general information about application control system.

```
appcontrol -show_lists
```

List information about specified application.

```
appcontrol -delete_lists={ALL | <Integer>}
```

List information about specified application.

```
appcontrol <Name>
```

List information about specified application.

```
appcontrol -application=<String> [-save_list]
```

Define a filter selecting individual applications.

```
appcontrol -filter [-name=<String>] [-family=<String>]
           [-risk={VERY_LOW | LOW | MEDIUM | HIGH | VERY_HIGH}]
           [-tag=<String>] [-save_list]
```

Define a filter selecting families, tags, risks and a matching expression for the applications names.

Options

-application=<String>	Exact application name.
-delete_lists={ALL | <Integer>}	Free saved Strings.
-family=<String>	Application family.
-filter	Shows applications matching certain criteria.
-name=<String>	Application name (wildcards allowed).
-risk={VERY_LOW | LOW | MEDIUM | HIGH | VERY_HIGH}	Application risk level.
-save_list	Saved filter result.
-show_lists	List saved strings.
-tag=<String>	Application tag.
<Name>	Application name.

2.2.4. arp

Show ARP entries for given interface.

Description

List the ARP cache entries of specified interfaces.

If no interface is given the ARP cache entries of all interfaces will be presented.

The presented list can be filtered using the *ip* and *hw* options.

Usage

```
arp
```

Show all ARP entries.

```
arp -show [<Interface>] [-ip=<pattern>] [-hw=<pattern>] [-num=<n>]
```

Show ARP entries.

```
arp -hashinfo [<Interface>]
```

Show information on hash table health.

```
arp -flush [<Interface>]
```

Flush ARP cache of specified interface.

```
arp -notify=<ip> [<Interface>] [-hwsender=<Ethernet Address>]
```

Send gratuitous ARP for IP.

Options

-flush	Flush ARP cache of all specified interfaces. (Admin only)
-hashinfo	Show information on hash table health.
-hw=<pattern>	Show only hardware addresses matching pattern.
-hwsender=<Ethernet Address>	Sender ethernet address.
-ip=<pattern>	Show only IP addresses matching pattern.
-notify=<ip>	Send gratuitous ARP for <ip>.
-num=<n>	Show only the first <n> entries per interface. (Default: 20)
-show	Show ARP entries for given interface(s).
<Interface>	Interface name.

2.2.5. arpsnoop

Toggle snooping and displaying of ARP requests.

Description

Toggle snooping and displaying of ARP queries and responses on-screen.

The snooped messages are displayed before the access section validates the sender IP addresses in the ARP data.

Usage

```
arpsnoop
```

Show snooped interfaces.

```
arpsnoop {ALL | NONE | <interface>} [-verbose]
```

Snoop specified interface.

Options

-verbose	Verbose.
{ALL | NONE | <interface>}	Interface name.

Note
Requires Administrator privileges.

2.2.6. ats

Show active ARP Transaction States.

Description

Show active ARP Transaction States.

Usage

```
ats [-num=<n>]
```

Options

-num=<n>	Limit list to <n> entries. (Default: 20)

2.2.7. authagent

Shows the state of the Authentication Agents.

Description

Shows the state of the Authentication Agents.

Usage

```
authagent -version
```

Shows the state of the configured Authentication Agents including the protocol version.

```
authagent
```

Shows the state of the configured Authentication Agents.

```
authagent {ALL | <AuthAgent>}
```

Shows the state of the configured Authentication Agents.

```
authagent -reconnect {ALL | <AuthAgent>}
```

Closes the connection with the Agent and attempst to reconnect.

Options

-reconnect	Closes the connection with the Agent and attempst to reconnect. (Admin only)
-version	Show protocol version.
{ALL | <AuthAgent>}	Authentication Agent name.

2.2.8. authagentsnoop

Toggle snooping and displaying of Authentication Agents traffic.

Description

Toggle snooping and displaying of Authentication Agents queries and responses on-screen.

Usage

```
authagentsnoop
```

Show snooped Authentication Agents.

```
authagentsnoop {ALL | NONE | <AuthAgent>} [-verbose]
```

Snoop specified Authentication Agent.

Options

-verbose	Verbose.
{ALL | NONE | <AuthAgent>}	Authentication Agent name.

Note
Requires Administrator privileges.

2.2.9. avcache

Control the anti-virus cache.

Description

Show anti-virus cache statistics or remove all entries in it.

Usage

```
avcache -clear
```

Remove all entries in the anti-virus cache.

```
avcache
```

Show anti-virus cache count.

Options

-clear	Remove all entries in the anti-virus cache.

2.2.10. blacklist

Blacklist.

Description

Block and unblock hosts on the black and white list.

Note: Static blacklist hosts cannot be unblocked.

If *-force* is not specified, only the exact host with the service, protocol/port and destiny specified is unblocked.

Example 2.8. Block hosts

```
blacklist -show -black -listtime -info
blacklist -block 100.100.100.0/24 -serv=FTP -dest=50.50.50.1 -time=6000
```

Usage

```
blacklist
```

Show the current blacklist and whitelist content.

```
blacklist -show [-num={ALL | <Integer>}] [-alerttype={IDS |
          HOST_THRESHOLD | NETWORK_THRESHOLD | CLI | REST |
```

```
          DOS_GENERAL | DOS_GEOIP | BOTNET | SCANNER | ALL}]
          [-creationtime] [-dynamic] [-listtime] [-info] [-black]
          [-white] [-all]
```

Show information about the blacklisted hosts.

```
blacklist -block <host> [-serv=<service>] [-prot={TCP | UDP | ICMP
          | OTHER | TCPUDP | ALL}] [-port=<port number>]
          [-dest=<ip address>] [-time=<seconds>]
```

Block specified netobject.

```
blacklist -unblock <host> [-serv=<service>] [-prot={TCP | UDP |
          ICMP | OTHER | TCPUDP | ALL}] [-port=<port number>]
          [-dest=<ip address>] [-force]
```

Unblock specified netobject.

```
blacklist -purge {IDS | HOST_THRESHOLD | NETWORK_THRESHOLD | CLI |
          REST | DOS_GENERAL | DOS_GEOIP | BOTNET | SCANNER}
```

Unblock all netobject of specific alert type.

Options

-alerttype={IDS | HOST_THRESHOLD | NETWORK_THRESHOLD | CLI | REST | DOS_GENERAL | DOS_GEOIP | BOTNET | SCANNER | ALL}	Alert types to show (default: ALL).
-all	Show all the information.
-black	Show blacklist hosts only.
-block	Block specified netobject. (Admin only)
-creationtime	Show creation time.
-dest=<ip address>	Destination address to block/unblock (ExceptExtablished flag is set on).
-dynamic	Show dynamic hosts only.
-force	Unblock all services for the host that matches to options.
-info	Show detailed information.
-listtime	Show time in list (for dynamic whitelist hosts).
-num={ALL | <Integer>}	Maximum number of entries to show (default: 20).
-port=<port number>	Number of the port to block/unblock.
-prot={TCP | UDP | ICMP | OTHER | TCPUDP | ALL}	Protocol to block/unblock.
-purge	Unblock all object of specific type. (Admin only)
-serv=<service>	Service to block/unblock.
-show	Show information about the blacklisted hosts.
-time=<seconds>	The time that the host will remain blocked.
-unblock	Unblock specified netobject. (Admin only)

-white	Show whitelist hosts only.
<host>	IP address range.
{IDS | HOST_THRESHOLD | NETWORK_THRESHOLD | CLI | REST | DOS_GENERAL | DOS_GEOIP | BOTNET | SCANNER}	Alert types to purge.

2.2.11. buffers

List packet buffers or the contents of a buffer.

Description

Lists the 20 most recently freed packet buffers, or in-depth information about a specific buffer.

Usage

```
buffers
```

List the 20 most recently freed buffers.

```
buffers -recent
```

Decode the most recently freed buffer.

```
buffers <Num>
```

Decode buffer number <Num>.

Options

-recent	Decode most recently freed buffer.
<Num>	Decode given buffer number.

2.2.12. cam

CAM table information.

Description

Show information about the CAM table(s) and their entries.

Usage

```
cam -num=<n>
```

Show CAM table information.

```
cam <Interface> [-num=<n>]
```

Show interface-specified CAM table information.

```
cam <Interface> [-flush]
```

Flush CAM table information of specified interface.

```
cam -flush
```

Flush CAM table information.

Options

-flush	Flush CAM table. If interface is specified, only entries using this interface are flushed. (Admin only)
-num=<n>	Limit list to <n> entries per CAM table. (Default: 20)
<Interface>	Interface.

2.2.13. certcache

Show the contents of the certificate cache.

Description

Show all certificates in the certificate cache.

Usage

```
certcache [-verbose] [-flush]
```

Options

-flush	Flush certificate cache.
-verbose	Show verbose information.

2.2.14. cfglog

Display configuration log.

Description

Display the log of the last configuration read attempt.

Usage

```
cfglog
```

2.2.15. connections

List current state-tracked connections.

Description

List current state-tracked connections.

Usage

```
connections -show [-extended] [-num=<n>] [-verbose]
            [-srciface=<interface>] [-destiface=<interface>]
            [-ipver={IPV6 | IPV4}] [-srcip=<ip address>]
            [-destip=<ip address>] [-protocol=<name/num>]
            [-srcport=<port>] [-destport=<port>]
            [-dataless=<bytes>] [-datamore=<bytes>]
```

List connections.

```
connections
```

Same as "connections -show".

```
connections -close [-all] [-srciface=<interface>]
            [-destiface=<interface>] [-ipver={IPV6 | IPV4}]
            [-srcip=<ip address>] [-destip=<ip address>]
            [-protocol=<name/num>] [-srcport=<port>]
            [-destport=<port>] [-dataless=<bytes>]
            [-datamore=<bytes>]
```

Close connections.

Options

-all	Mark all connections.
-close	Close all connections that match the filter expression. (Admin only)
-dataless=<bytes>	Filter on amount of data transferred below specified limit. Acceptable suffixes are 'k', 'M' and 'G'.
-datamore=<bytes>	Filter on amount of data transferred above specified limit. Acceptable suffixes are 'k', 'M' and 'G'.
-destiface=<interface>	Filter on destination interface.
-destip=<ip address>	Filter on destination IP address.
-destport=<port>	Filter on TCP/UDP destination port.
-extended	Show connections with extended information.
-ipver={IPV6 | IPV4}	Filter on IP version.
-num=<n>	Limit list to <n> connections. (Default: 20)

-protocol=<name/num>	Filter in IP protocol.
-show	Show connections.
-srciface=<interface>	Filter on source interface.
-srcip=<ip address>	Filter on source IP address.
-srcport=<port>	Filter on TCP/UDP source port.
-verbose	Verbose (more information).

2.2.16. cpuid

Display info about the cpu.

Description

Display the make and model of the machine's CPU.

Usage

```
cpuid
```

Display the make and model of the machine's CPU.

2.2.17. crashdump

Show the contents of the crash.dmp file.

Description

Show the contents of the crash.dmp file, if it exists.

Usage

```
crashdump
```

2.2.18. cryptostat

Show information about crypto accelerators.

Description

Show information about active crypto accelerators.

Usage

```
cryptostat [-all] [-hashinfo]
```

Options

-all	Show information about all devices.
-hashinfo	Show information about the hardware fastpath hash.

2.2.19. dconsole

Displays the content of the diagnose console.

Description

The diagnose console is used to help troubleshooting internal problems within the firewall

Usage

```
dconsole [-clean] [-flush] [-date=<date>] [-onlyhigh]
```

Options

-clean	Remove all diagnose entries. (Admin only)
-date=<date>	YYYY-MM-DD. Only show entries from this date and forward.
-flush	Flush all diagnose entries to disk. (Admin only)
-onlyhigh	Only show entries with severity high. (Admin only)

2.2.20. dhcp

Display information about DHCP-enabled interfaces or modify/update their leases.

Description

Display information about a DHCP-enabled interface.

Usage

```
dhcp
```

List DHCP enabled interfaces.

```
dhcp -list
```

List DHCP enabled interfaces.

```
dhcp -show [<interface>]
```

Show information about DHCP enabled interface.

```
dhcp -lease={RENEW | RELEASE} <interface>
```

Modify interface lease.

Options

-lease={RENEW | RELEASE}	Modify interface lease. (Admin only)
-list	List all DHCP enabled interfaces.
-show	Show information about DHCP enabled interface.
<interface>	DHCP Interface.

2.2.21. dhcprelay

Show DHCP/BOOTP relayer ruleset.

Description

Display the content of the DHCP/BOOTP relayer ruleset and the current routed DHCP relays.

Display filter filters relays based on interface/ip (example: if1 192.168.*)

Usage

```
dhcprelay
```

Show the currently relayed DHCP sessions.

```
dhcprelay -show [-num={ALL | <Integer>}] [-rules] [-routes]
          [<display filter>]...
```

Show DHCP/BOOTP relayer ruleset.

```
dhcprelay -release <ip address> [-interface=<Interface>]
```

Terminate relayed session.

Options

-interface=<Interface>	Interface.
-num={ALL | <Integer>}	Maximum number of entries to show (default: 20).
-release	Terminate relayed session <[interface:]ip>. (Admin

	only)
-routes	Show the currently relayed DHCP sessions.
-rules	Show the DHCP/BOOTP relayer ruleset.
-show	Show ruleset.
<display filter>	Display filter, filters relays based on interface/ip.
<ip address>	IP address.

2.2.22. dhcpserver

Show content of the DHCP server ruleset.

Description

Show the content of the DHCP server ruleset and various information about active/inactive leases.

Display filter filters entries based on Interface/MAC/IP (example: lf1 192.168.*)

Usage

```
dhcpserver
```

Show DHCP server leases.

```
dhcpserver -show [-rules] [-leases] [-num=<Integer>]
           [-fromentry=<Integer>] [-mappings] [-utilization]
           [<Display filter>]...
```

Show DHCP server ruleset.

```
dhcpserver -release={BLACKLIST}
```

Release a specific types of IPs.

```
dhcpserver -releaseip <Interface> <IP address>
```

Release an active IP.

Options

-fromentry=<Integer>	Show entry list from offset <n>.
-leases	Show DHCP server leases.
-mappings	Show DHCP server IP mappings.
-num=<Integer>	Limit list to <n> entries.
-release={BLACKLIST}	Release specific type of IPs. (Admin only)
-releaseip	Release an active IP. (Admin only)

-rules	Show DHCP server rules.
-show	Show ruleset.
-utilization	Show IP pool utilization.
<Display filter>	Display filter based on Interface/MAC/IP (eg. If1 192.168.*).
<Interface>	Interface.
<IP address>	IP address.

2.2.23. dhcpv6

Display information about DHCPv6-enabled interfaces or modify/update their leases.

Description

Display information about a DHCPV6-enabled interface.

Usage

```
dhcpv6
```

List DHCPv6 enabled interfaces.

```
dhcpv6 -list
```

List DHCPv6 enabled interfaces.

```
dhcpv6 -show [<interface>]
```

Show information about DHCPv6 enabled interface.

```
dhcpv6 -lease={RENEW | RELEASE} <interface>
```

Modify interface lease.

Options

-lease={RENEW | RELEASE}	Modify interface lease. (Admin only)
-list	List all DHCPv6 enabled interfaces.
-show	Show information about DHCPv6 enabled interface.
<interface>	DHCPv6 Interface.

2.2.24. dhcpv6server

Show content of the DHCPv6 server ruleset.

Description

Show the content of the DHCPv6 server ruleset and various information about active/inactive leases.

Display filter filters leases based on interface/mac/ip (example: if1 2001:DB8::*)

Usage

```
dhcpv6server
```

Show DHCPv6 server leases.

```
dhcpv6server -releaseip <interface> <IPv6 address>
```

Release an active IP6.

```
dhcpv6server -show [-rules] [-leases] [-num=<Integer>]
             [-fromentry=<Integer>] [<display filter>]...
```

Show DHCP server ruleset.

Options

-fromentry=<Integer>	Shows dhcp server lease list from offset <n>.
-leases	Show DHCPv6 server leases.
-num=<Integer>	Limit list to <n> leases.
-releaseip	Release an active IP. (Admin only)
-rules	Show DHCPv6 server rules.
-show	Show ruleset.
<display filter>	Display filters for leases based on interface/mac/ip (eg. if1 2001:DB8::*).
<interface>	Interface.
<IPv6 address>	IPv6 address.

2.2.25. dns

DNS client and queries.

Description

Show status of the DNS client and manage pending DNS queries.

Usage

```
dns -cache [<FQDNAddress>] [-num=<n>]
```

Show contents of DNS cache.

```
dns -flush
```

Flush the contents of DNS cache.

```
dns
```

Show status of the DNS client.

```
dns -query <domain name> [-type={A | AAAA}]
```

Resolve domain name.

```
dns -list
```

List pending DNS queries.

```
dns -remove
```

Remove all pending DNS queries.

Options

-cache	Show contents of the DNS cache.
-flush	Flush entire contents of the DNS cache.
-list	List pending DNS queries.
-num=<n>	Limit list to <n> addresses. (Default: 20)
-query	Resolve domain name.
-remove	Remove all pending DNS queries.
-type={A | AAAA}	Query type.
<domain name>	Resolve domain name.
<FQDNAddress>	FQDN Address object name.

2.2.26. dnsbl

DNSBL.

Description

Show status of DNSBL.

Usage

```
dnsbl [-show] [<SMTP ALG>] [-clean]
```

Options

-clean	Clear DNSBL statistics for ALG.
-show	Show DNSBL statistics for ALG.
<SMTP ALG>	Name of SMTP ALG.

2.2.27. dnscontrol

DNS Control ALG commands.

Description

Show status for DNS Control ALG sessions.

Usage

```
dnscontrol
```

List DNS Control Sessions.

```
dnscontrol -list [-num[=<Integer>]] [-verbose]
```

List DNS Control Sessions (Advanced).

```
dnscontrol -stats
```

Show DNS control statistics.

Options

-list	List all DNS Control sessions.
-num[=<Integer>]	Sessions to list. (Default: 40)
-stats	Show DNS Control statistics.
-verbose	Verbose output.

2.2.28. dynroute

Show dynamic routing policy.

Description

Show the dynamic routing policy filter ruleset and current exports.

In the "Flags" field of the dynrouting exports, the following letters are used:

o Route describe the optimal path to the network

u Route is unexported

Usage

```
dynroute [-rules] [-exports]
```

Options

-exports	Show current exports.
-rules	Show dynamic routing, filter ruleset.

2.2.29. filedownload

File download stats.

Description

Show statistics of the File Download engine.

Usage

```
filedownload
```

Show active downloads.

```
filedownload -inactive
```

Show inactive downloads.

```
filedownload -active
```

Show active downloads.

Options

-active	Show active downloads.
-inactive	Show inactive downloads.

2.2.30. frags

Show active fragment reassemblies.

Description

List active fragment reassemblies.

More detailed information can optionally be obtained for specific reassemblies:

NEW Newest reassembly

ALL All reassemblies

0..1023 Assembly 'N'

Example 2.9. frags

```
frags NEW
frags 254
```

Usage

```
frags [{NEW | ALL | <reassembly id>}] [-free] [-done] [-num=<n>]
```

Options

-done	List done (lingering) reassemblies.
-free	List free instead of active.
-num=<n>	List <n> entries. (Default: 20)
{NEW | ALL | <reassembly id>}	Show in-depth info about reassembly <n>. (Default: all)

2.2.31. ha

Show and change HA status.

Description

Show current HA status.

Usage

```
ha [-activate] [-deactivate]
```

Options

-activate	Go active. (Admin only)
-deactivate	Go inactive. (Admin only)

2.2.32. hostmon

Show Host Monitor statistics.

Description

Show active Host Monitor sessions.

Usage

```
hostmon [-verbose] [-num=<n>]
```

Options

-num=<n>	Limit list to <n> entries. (Default: 20)
-verbose	Verbose output.

2.2.33. httpalg

Commands related to the HTTP Application Layer Gateway.

Description

Show information about the WCF cache or list the overridden WCF hosts.

Usage

```
httpalg -override [-flush]
```

List or flush hosts that have overridden the wcf filter.

```
httpalg -wcfcache [-show] [-url=<String>] [-flush] [-verbose]
        [-count] [-server[={STATUS | CONNECT | DISCONNECT}]]
        [-num=<n>]
```

Display URL cache information.

Options

-count	Only display cache count.
-flush	Removes all entries.
-num=<n>	Limit list to <n> entries. (Default: 20)
-override	List hosts that have overridden the wcf filter.
-server[={STATUS | CONNECT | DISCONNECT}]	Web Content Filtering Server options. (Default: status)

-show	Show Web Content Filtering cache data.
-url=<String>	Limits the output from the show command to only match the specified characters.
-verbose	Verbose.
-wcfcache	Show statistics of WCF functionality.

2.2.34. httpposter

Display HTTP Poster status.

Description

Display configuration and status of configured HTTPPoster_URLx targets.

Usage

```
httpposter [-repost=<Integer>]
```

Options

-repost=<Integer>	Re-post URL now. (Admin only)

2.2.35. hwm

Show hardware monitor sensor status.

Description

Show hardware monitor sensor status.

Usage

```
hwm [-all] [-verbose]
```

Options

-all	Show ALL sensors, WARNING: use at own risk, may take long time for highspeed ifaces to cope.
-verbose	Show sensor number, type and limits.

2.2.36. idppipes

Show and remove hosts that are piped by IDP.

Description

Show list of currently piped hosts.

Usage

```
idppipes
```

List all idppipes.

```
idppipes -show [-host=<ip addr>]
```

Lists hosts for which new connections are piped by IDP.

```
idppipes -unpipe [-all] [-host=<ip addr>]
```

Remove piping for the specified host.

Options

-all	mark all hosts.
-host=<ip addr>	Filter on source IP address.
-show	Lists hosts for which new connections are piped by IDP.
-unpipe	Remove piping for the specified host. (Admin only)

2.2.37. ifstat

Show interface statistics.

Description

Show list of attached interfaces, or in-depth information about a specific interface.

Usage

```
ifstat [<Interface>] [-filter=<expr>] [-pbr=<table name>]
       [-num=<n>] [-restart] [-allindepth] [-maclist]
       [-snmpnewindexes]
```

Options

-allindepth	Show in-depth information about all interfaces.
-filter=<expr>	Filter list of interfaces.

-maclist	Show MAC addresses for all interfaces.
-num=<n>	Limit list to <n> lines. (Default: 20)
-pbr=<table name>	Only list members of given PBR table(s).
-restart	Stop and restart the interface. (Admin only)
-snmpnewindexes	Renumber persistent SNMP interface indexes for all interfaces. A reconfigure must follow this command in order to generate the new indexes.
<Interface>	Name of interface.

2.2.38. igmp

IGMP Interfaces.

Description

Show information about the current state of the IGMP interfaces.

Send simulated messages to test configuration of the interface.

Usage

```
igmp
```

Prints the current IGMP state.

```
igmp -state [<Interface>]
```

Prints the current IGMP state. If an interface is specified, more details are provided.

```
igmp -query <Interface> [<MC address> [<router address>]]
```

Simulate an incoming IGMP query message.

```
igmp -join <Interface> <MC address> [<host address>]
```

Simulate an incoming IGMP join message.

```
igmp -leave <Interface> <MC address> [<host address>]
```

Simulate an incoming IGMP leave message.

Options

-join	Simulate an incoming IGMP join message.
-leave	Simulate an incoming IGMP leave message.
-query	Simulate an incoming IGMP query message.
-state	Show the current IGMP state.

<host address>	Host IP address.
<Interface>	Interface.
<MC address>	Multicast Address.
<router address>	Router IP address.

2.2.39. ihs

Alias for **ipsechastat**.

2.2.40. ike

Initiate/delete/show IKE negotiated SAs.

Description

Command to do various operations on IKE negotiated Security Associations.

Usage

```
ike -stat [<IPsecTunnelBase>] [-cfgmode]
```

Show global or interface statistics about IKE SAs.

```
ike -mem
```

Show memory statistics about the IKE enigne.

```
ike -delete [<ip address>] [-srcif=<Interface>]
    [-tunnel=<IPsecTunnelBase>] [-force]
```

Delete IKE SAs.

```
ike -connect [<IPsecTunnelBase>]
```

Setup IKE and IPsec SAs for a specified tunnel.

```
ike -tunnels [<IPsecTunnelBase>] [-num={ALL | <Integer>}] [-force]
```

Show configured tunnels.

```
ike -show [<ip address>] [-num={ALL | <Integer>}]
    [-srcif=<Interface>] [-verbose] [-force]
    [-tunnel=<IPsecTunnelBase>]
```

Show current IKE SAs.

```
ike -snoop [<ip address>] [-match] [-brief] [-off]
```

Enable/disable IKE snooping.

```
ike -ha [-clear]
```

Shows statistics about IKE/IPsec SAs synchronized and how many that failed to import. Sent

statistics shows how many packets that has been sent to the other cluster member when this node was active and receive statistics show how many packets/failures it got as inactive.

```
ike
```

Show current IKE SAs.

Options

-brief	Show only header information.
-cfgmode	Show statistics for config mode pool.
-clear	Reset all statistics.
-connect	Setup IKE and IPsec SAs for a specified tunnel.
-delete	Delete IKE SAs. (Admin only)
-force	Don't send notifications. Delete without delay.
-ha	Show HA synchronizing statistics for IKE/IPsec SAs.
-match	Turn on snooping of tunnel matching.
-mem	Show memory statistics.
-num={ALL | <Integer>}	Maximum number of entries to show (default: 40/8).
-off	Turn off IKE snoop.
-show	Show information on current IKE SAs.
-snoop	Enable/disable snooping of IKE messages. (Admin only)
-srcif=<Interface>	Interface used to reach the remote endpoint.
-stat	Show verbose information.
-tunnel=<IPsecTunnelBase>	IPsec interface.
-tunnels	Show information on configured tunnels.
-verbose	Show verbose information.
<ip address>	IP address of remote SG/peer.
<IPsecTunnelBase>	IPsec interface.

2.2.41. ikesnoop

Enable or disable IKE-snooping.

Description

Turn IKE on-screen snooping on/off. Useful for troubleshooting IPsec connections.

Usage

```
ikesnoop
```

Show IKE snooping status.

```
ikesnoop -on [<ip address>] [-verbose]
```

Enable IKE snooping.

```
ikesnoop -off
```

Disable IKE snooping.

Options

-off	Turn IKE snooping off.
-on	Turn IKE snooping on.
-verbose	Enable IKE snooping with verbose output.
<ip address>	IP address to snoop.

Deprecated
*(2014-05-27) Replaced by command **ike -snoop**. Deprecated commands may be removed in future releases.*

2.2.42. ippool

Show IP pool information.

Description

Show information about the current state of the configured IP pools.

Usage

```
ippool
```

Show IP pool information.

```
ippool -release [<ip address>] [-all]
```

Forcibly free IP assigned to subsystem.

```
ippool -renew [<ip address>] [-all]
```

Try to renew IP leases through DHCP Server.

```
ippool -show [-verbose] [-num=<n>]
```

Show IP pool information.

Options

-all	Free or renew all IP addresses.
-num=<n>	Limit list to <n> entries. (Default: 100)
-release	Forcibly free IP assigned to subsystem. (Admin only)
-renew	Try to renew IP leases through DHCP Server. (Admin only)
-show	Show IP pool information.
-verbose	Verbose output.
<ip address>	IP address to free or renew.

2.2.43. ipreputation

IP Reputation stats.

Description

Show IP Reputation engine information and perform IP Reputation operations.

Usage

```
ipreputation -query <ip address> [-category[={ALL | SPAM_SOURCES |
             WINDOWS_EXPLOITS | WEB_ATTACKS | BOTNETS | SCANNERS |
             DOS | REPUTATION | PHISHING | PROXY | NETWORK |
             CLOUD_PROVIDERS | MOBILE_THREATS | <String>}]]
             [-lookup[={ALLMETHODS | LOCAL | CLOUD | CACHE}]]
```

Perform an advanced IP Reputation Query.

```
ipreputation -query <ip address>
```

Perform an IP Reputation Query.

```
ipreputation -show [-updates] [-verbose]
```

Show IP Reputation update information.

```
ipreputation -updates [-update] [-verbose]
```

Update IP Reputation Database.

```
ipreputation
```

Show engine information.

```
ipreputation -cache [-show] [-flush] [-num=<n>] [-verbose]
```

IP Reputation cache.

```
ipreputation -subsystems [-verbose]
```

Show subsystem information.

```
ipreputation -statistics[={TOTAL | 24H | 2M | 30D}]
```

Show IP Reputation statistics.

Options

-cache	IP Reputation cache.
-category[={ALL | SPAM_SOURCES | WINDOWS_EXPLOITS | WEB_ATTACKS | BOTNETS | SCANNERS | DOS | REPUTATION | PHISHING | PROXY | NETWORK | CLOUD_PROVIDERS | MOBILE_THREATS | <String>}]	IP Reputation category. (Default: all)
-flush	Remove IP Reputation cache entries.
-lookup[={ALL | METHODS | LOCAL | CLOUD | CACHE}]	Query lookup method. (Default: allmethods)
-num=<n>	Limit list to <n> entries. (Default: 40)
-query	Perform an IP Reputation query.
-show	Show IP Reputation update information.
-statistics[={TOTAL | 24H | 2M | 30D}]	IP Reputation statistics. (Default: 24h)
-subsystems	Show subsystem information.
-update	IP Reputation updates.
-updates	Update the IP Reputation database.
-verbose	Verbose output.
<ip address>	IP address.

2.2.44. ipsec

Show the IPsec SAs in use.

Description

List the currently active IPsec SAs, optionally only showing SAs matching the pattern given for the argument "iface".

Usage

```
ipsec -stat [<IPsecTunnelBase>]
```

Show global or interface statistics about IPsec SAs.

```
ipsec -show [<IPsecTunnelBase>] [-verbose] [-num={ALL | <Integer>}]
      [-srcif=<Interface>] [-force] [-usage]
```

Show SA information.

```
ipsec
```

Show SA information.

Options

-force	Bypass confirmation question.
-num={ALL | <Integer>}	Maximum number of entries to show (default: 40/8).
-show	Show SA information.
-srcif=<Interface>	Interface used to reach the remote endpoint.
-stat	Show IPsec statistics.
-usage	Show detailed SA statistics information.
-verbose	Show verbose information.
<IPsecTunnelBase>	IPsec interface.

2.2.45. ipsecdefines

Display various DEFINES that specify the system performance.

Description

Display various DEFINES that specify the system performance.

Usage

```
ipsecdefines
```

2.2.46. ipsecglobalstats

Show global ipsec statistics.

Description

List global IPsec statistics.

Usage

```
ipsecglobalstats -mem [-verbose]
```

Start IKE test.

```
ipsecglobalstats -verbose
```

Start IKE test.

```
ipsecglobalstats
```

Show interfaces.

Options

-mem	Show memory statistics.
-verbose	Show all statistics.

Deprecated
*(2014-05-27) Replaced by command **ike -stat**. Deprecated commands may be removed in future releases.*

2.2.47. ipsechastat

Show statistics about HA synchronization for IPsec.

Description

Shows statistics about IKE/IPsec SAs synchronized and how many that failed to import. Sent statistics shows how many packets that has been sent to the other cluster member when this node was active and receive statistics show how many packets/failures it got as inactive.

Usage

```
ipsechastat [-clear]
```

Options

-clear	Reset all statistics.

2.2.48. ipsecstats

Show the SAs in use.

Description

List the currently active IKE and IPsec SAs, optionally only showing SAs matching the pattern given for the argument "tunnel".

Usage

```
ipsecstats [-ike] [<tunnel>] [-ipsec] [-usage] [-verbose]
           [-num={ALL | <Integer>}] [-force]
```

Options

-force	Bypass confirmation question.
-ike	Show IKE SAs.
-ipsec	Show IPsec SAs.
-num={ALL | <Integer>}	Maximum number of entries to show (default: 40/8).
-usage	Show detailed SA statistics information.
-verbose	Show verbose information.
<tunnel>	Only show SAs matching pattern.

Deprecated
*(2014-05-27) Replaced by command **ipsec -show**. Deprecated commands may be removed in future releases.*

2.2.49. ipsectunnels

Lists the current IPsec configuration.

Description

Lists the current IPsec configuration,

Usage

```
ipsectunnels -iface=<recv iface>
```

Show specific interface.

```
ipsectunnels -num={ALL | <Integer>} [-force]
```

Show specific number if interface.

```
ipsectunnels
```

Show interfaces.

Options

-force	Bypass confirmation question.
-iface=<recv iface>	IPsec interface to show information about.
-num={ALL | <Integer>}	Maximum number of entries to show (default: 40).

Deprecated
*(2014-05-27) Replaced by command **ike -tunnels**. Deprecated commands may be removed in future releases.*

2.2.50. killsa

Kill all SAs belonging to the given remote SG/peer.

Description

Kill all (IPsec and IKE) SAs associated with a given remote IKE peer IP or optional all SA:s in the system. IKE delete messages are sent.

Usage

```
killsa <ip address> [-iface=<interface>]
```

Delete SAs belonging to provided remote SG/peer.

```
killsa -all [-iface=<interface>]
```

Delete all SAs.

Options

-all	Kill all SAs.
-iface=<interface>	Remote interface for SG/peer.
<ip address>	IP address of remote SG/peer.

Note
Requires Administrator privileges.

Deprecated
*(2014-05-27) Replaced by command **ike -delete**. Deprecated commands may be removed in future releases.*

2.2.51. l2tp

Show L2TP information.

Description

Shows L2TP information and statistics.

Usage

```
l2tp -state={ALL | ACTIVE | LISTENING} [-child] [-num=<Integer>]
```

Show all L2TP sessions.

```
l2tp -l2tpserver=<PPTP/L2TP Server> [-l2tpv3server=<L2TPv3 Server>]
     [-l2tpv3client=<L2TPv3 Client>]
     [-l2tpclient=<PPTP/L2TP Client>] [-state={ALL | ACTIVE |
     LISTENING}] [-child] [-num=<Integer>]
```

List L2TP sessions.

```
l2tp -l2tpv3server=<L2TPv3 Server> [-l2tpserver=<PPTP/L2TP Server>]
     [-state={ALL | ACTIVE | LISTENING}] [-child] [-num=<Integer>]
```

List L2TP sessions.

```
l2tp -l2tpclient=<PPTP/L2TP Client> [-l2tpv3client=<L2TPv3 Client>]
     [-state={ALL | ACTIVE | LISTENING}] [-child] [-num=<Integer>]
```

List L2TP sessions.

```
l2tp -l2tpv3client=<L2TPv3 Client> [-l2tpclient=<PPTP/L2TP Client>]
     [-state={ALL | ACTIVE | LISTENING}] [-child] [-num=<Integer>]
```

List L2TP sessions.

Options

-child	Include child sessions.
-l2tpclient=<PPTP/L2TP Client>	Only show sessions belonging to this L2TPClient.
-l2tpserver=<PPTP/L2TP Server>	Only show sessions belonging to this L2TPServer.
-l2tpv3client=<L2TPv3 Client>	Only show sessions belonging to this L2TPv3Client.
-l2tpv3server=<L2TPv3 Server>	Only show sessions belonging to this L2TPv3Server.
-num=<Integer>	Number of entries to list.
-state={ALL | ACTIVE | LISTENING}	Show sessions with specified state. (Default: active)

2.2.52. languagefiles

Manage language files on disk.

Description

Manage language files on disk

Usage

```
languagefiles
```

Show all language files on disk.

```
languagefiles -remove=<String>
```

Remove a language file from disk.

Options

-remove=<String>	Specify language file to delete.

2.2.53. ldap

LDAP information.

Description

Status and statistics for the configured LDAP databases.

Usage

```
ldap
```

List all LDAP databases.

```
ldap -list
```

List all LDAP databases.

```
ldap -show [<LDAP Server>]
```

Show LDAP database status and statistics.

```
ldap -reset [<LDAP Server>]
```

Reset LDAP database.

Options

-list	List all LDAP databases.
-reset	Reset status for LDAP database. (Admin only)
-show	Show status and statistics.
<LDAP Server>	LDAP database.

2.2.54. license

License management.

Description

Display the current license.

Usage

```
license
```

Show the contents of the current license.

```
license -show
```

Show the contents of the current license.

Options

-show	Show current status and credentials.

2.2.55. linkmon

Display link montitoring statistics.

Description

If link monitor hosts have been configured, linkmon will monitor host reachability to detect link/NIC problems.

Usage

```
linkmon
```

2.2.56. logout

Logout user.

Description

Logout current user.

Usage

```
logout
```

2.2.57. lwhttp

Commands related to the Light-Weight HTTP inspection engine.

Description

The lwhttp CLI command prints information about the Light-Weight HTTP inspection engine a.k.a. LW-HTTP ALG.

The LW-HTTP inspection engine is automaticlaly enabled for IP policies with HTTP protocol validation or a web profile configured.

Compared to the ordinary HTTP-ALG, the LW-HTTP inspector provides better throughput performance without affecting network security.

Usage

```
lwhttp
```

2.2.58. macstorage

The MAC address storage.

Description

The mac address storage keeps mac addresses persistent for SR-IOV interfaces when used in virtual environments.

Usage

```
macstorage
```

2.2.59. memory

Show memory information.

Description

Show core memory consumption. Also show detailed memory use of some components and lists.

Usage

```
memory [-sort={DESC | TOTAL | NUM}]
```

Options

-sort={DESC | TOTAL | NUM}	Sort list.

2.2.60. natpool

Show current NAT Pools.

Description

Show current NAT Pools and in-depth information.

Usage

```
natpool [-verbose] [<pool name> [<IP4 Address>]] [-num=<Integer>]
```

Options

-num=<Integer>	Maximum number of items to list (default: 20).
-verbose	Verbose (more information).
<IP4 Address>	Translated IP.
<pool name>	NAT Pool name.

2.2.61. nd

Show Neighbor Discovery entries for given interface.

Description

List the Neighbor Discovery cache entries of specified interfaces.

If no interface is given the Neighbor Discovery cache entries of all interfaces will be presented.

The presented list can be filtered using the *ip* and *hw* options.

Usage

```
nd -routerdiscovery [<Interface>] [-num=<n>]
```

Show Router Discovery enabled interfaces.

```
nd
```

Show all Neighbor Discovery entries.

```
nd -show [<Interface>] [-ip=<pattern>] [-hw=<pattern>] [-num=<n>]
```

Show Neighbor Discovery entries.

```
nd -hashinfo [<Interface>]
```

Show information on hash table health.

```
nd -flush [<Interface>]
```

Flush Neighbor Discovery cache of specified interface.

```
nd -query=<ip> <Interface>
```

Send Neighbor Solicitation for IP.

```
nd -del=<ip> <Interface>
```

Delete ND cache entry.

Options

-del=<ip>	Delete ND cache entry <ip>.
-flush	Flush Neighbor Discovery cache of all specified interfaces. (Admin only)
-hashinfo	Show information on hash table health.
-hw=<pattern>	Show only hardware addresses matching pattern.
-ip=<pattern>	Show only IP addresses matching pattern.
-num=<n>	Show only the first <n> entries per interface. (Default: 20)
-query=<ip>	Send Neighbor Solicitation for <ip>.
-routerdiscovery	Show Router Discovery enabled interfaces.
-show	Show Neighbor Discovery entries for given interface(s).
<Interface>	Interface name.

2.2.62. ndsnoop

Toggle snooping and displaying of ARP requests.

Description

Toggle snooping and displaying of Neighbor Discovery queries and responses on-screen.

The snooped messages are displayed before the access section validates the sender IP addresses in the ARP data.

Usage

```
ndsnoop
```

Show snooped interfaces.

```
ndsnoop {ALL | NONE | <interface>} [-verbose]
```

Snoop specified interface.

Options

-verbose	Verbose.
{ALL | NONE | <interface>}	Interface name.

Note
Requires Administrator privileges.

2.2.63. neighborcache

Shows the default contents of the neighbor cache.

Description

Contains information such as hostname, configured name, hardware address and ip4 address, for the firewall's network neighbors.

Usage

```
neighborcache [-show] [-names] [-users] [-ipv6] [-filter={INACTIVE
              | ACTIVE}]
```

Options

-filter={INACTIVE | ACTIVE}	Shows the filtered contents of the neighbor cache, based on state.
-ipv6	Shows the ipv6 addresses for entries in the neighbor cache.
-names	Shows the host name and configured name for entries in the neighbor cache.
-show	Shows the default contents of the neighbor cache.
-users	Shows any authenticated users against their neighbor cache entry.

2.2.64. netobjects

Show runtime values of network objects.

Description

Displays named network objects and their contents.

Example 2.10. List network objects which have names containing "net".

```
netobjects *net*
```

Usage

```
netobjects [<String>] [-num=<num>]
```

Options

-num=<num>	Number of entries to show. (Default: 20)
<String>	Name or pattern.

2.2.65. ospf

Show runtime OSPF information.

Description

Show runtime information about the OSPF router process(es).

Note: *-process* is only required if there are >1 OSPF router processes.

Usage

```
ospf
```

Show runtime information.

```
ospf -iface [<interface>] [-process=<OSPF Router Process>]
```

Show interface information.

```
ospf -area [<OSPF Area>] [-process=<OSPF Router Process>]
```

Show area information.

```
ospf -neighbor [<OSPF Neighbor>] [-process=<OSPF Router Process>]
```

Show neighbor information.

```
ospf -route [{HA | ALT}] [-process=<OSPF Router Process>]
```

Show the internal OSPF process routingtable.

```
ospf -database [-verbose] [-process=<OSPF Router Process>]
```

Show the LSA database.

```
ospf -lsa <lsaID> [-process=<OSPF Router Process>]
```

Show details for a specified LSA.

```
ospf -snoop={ON | OFF} [-process=<OSPF Router Process>]
```

Show troubleshooting messages on the console.

```
ospf -ifacedown <interface> [-process=<OSPF Router Process>]
```

Take specified interface offline.

```
ospf -ifaceup <interface> [-process=<OSPF Router Process>]
```

Take specified interface online.

```
ospf -execute={STOP | START | RESTART}
     [-process=<OSPF Router Process>]
```

Start/stop/restart OSPF process.

Options

-area	Show area information.
-database	Show the LSA database.
-execute={STOP | START | RESTART}	Start/stop/restart OSPF process. (Admin only)
-iface	Show interface information.
-ifacedown	Take specified interface offline. (Admin only)
-ifaceup	Take specified interface online. (Admin only)
-lsa	Show details for a specified LSA <lsaID>.
-neighbor	Show neighbor information.
-process=<OSPF Router Process>	Required if there are >1 OSPF router processes.
-route	Show the internal OSPF process routingtable.
-snoop={ON | OFF}	Show troubleshooting messages on the console. (Admin only)
-verbose	Increase amount of information to display.
<interface>	OSPF enabled interface.
<interface>	OSPF enabled interface.
<lsaID>	LSA ID.

<OSPF Area>	OSPF Area.
<OSPF Neighbor>	Neighbor.
{HA | ALT}	Show HA routingtable.

2.2.66. pcapdump

Packet capturing.

Description

Packet capture engine

Usage

```
pcapdump
```

Show capture status.

```
pcapdump -start [<interface(s)>] [-size=<value>] [-snaplen=<value>]
         [-count=<value>] [-out] [-out-nocap]
         [-eth=<Ethernet Address>] [-ethsrc=<Ethernet Address>]
         [-ethdest=<Ethernet Address>] [-ip=<IP4 Address>]
         [-ipsrc=<IP4 Address>] [-ipdest=<IP4 Address>]
         [-port=<String>] [-srcport=<String>] [-destport=<String>]
         [-proto=<0...255>] [-icmp] [-tcp] [-udp] [-promisc]
         [-ipversion=<1...15>]
```

Start capture.

```
pcapdump -stop [<interface(s)>]
```

Stop capture.

```
pcapdump -status
```

Show capture status.

```
pcapdump -show [<interface(s)>] [-num={ALL | <Integer>}]
```

Show a captured packets brief.

```
pcapdump -write [<interface(s)>] [-filename=<String>]
```

Write the captured packets to disk.

```
pcapdump -wipe
```

Remove all captured packets from memory.

```
pcapdump -cleanup
```

Remove all captured packets, release capture mode and delete all written capture files from disk.

Options

-cleanup	Remove all captured packets, release capture mode and delete all written capture files from disk.
-count=<value>	Number of packets to capture.
-destport=<String>	Destination TCP/UDP port filter.
-eth=<Ethernet Address>	Ethernet address filter.
-ethdest=<Ethernet Address>	Ethernet destination address filter.
-ethsrc=<Ethernet Address>	Ethernet source address filter.
-filename=<String>	Filename for capture file.
-icmp	ICMP filter.
-ip=<IP4 Address>	IP address filter.
-ipdest=<IP4 Address>	Destination IP address filter.
-ipsrc=<IP4 Address>	Source IP address filter.
-ipversion=<1...15>	IP version filter.
-num={ALL | <Integer>}	Maximum number of entries to show (default: 20).
-out	Realtime packet brief dumped to console.
-out-nocap	Unbuffered (not stored in memory) realtime packet brief dumped to console.
-port=<String>	TCP/UDP port filter.
-promisc	Set iface in promiscuous mode.
-proto=<0...255>	IP protocol filter.
-show	Show a captured packets brief.
-size=<value>	Size (kb) of buffer to store captured packets in memory (default 512kb).
-snaplen=<value>	Maximum length of each packet to capture.
-srcport=<String>	Source TCP/UDP port filter.
-start	Start capture.
-status	Show capture status.
-stop	Stop capture.
-tcp	TCP filter.
-udp	UDP filter.
-wipe	Remove all captured packets from memory.
-write	Write the captured packets to disk.
<interface(s)>	Name of interface(s).

Note
Requires Administrator privileges.

2.2.67. pipes

Show pipes information.

Description

Show list of configured pipes / pipe details / pipe users.

Note: The "pipes" command is not executed right away; it is queued until the end of the second, when pipe values are calculated.

Usage

```
pipes
```

List all pipes.

```
pipes -users [<Pipe>] [-expr=<String>]
```

List users of a given pipe.

```
pipes -show [<Pipe>] [-expr=<String>]
```

Show pipe details.

Options

-expr=<String>	Pipe wildcard(*) expression.
-show	Show pipe details.
-users	List users of a given pipe.
<Pipe>	Show pipe details.

2.2.68. pptp

Show PPTP information.

Description

Shows PPTP information and statistics.

Usage

```
pptp -state={ALL | ACTIVE | LISTENING | CHILDONLY} [-child]
     [-num=<Integer>]
```

Show all PPTP sessions.

```
pptp -pptpserver=<PPTP/L2TP Server> [-state={ALL | ACTIVE |
     LISTENING | CHILDONLY}] [-child] [-num=<Integer>]
```

List PPTP sessions.

```
pptp -pptpclient=<PPTP/L2TP Client> [-state={ALL | ACTIVE |
     LISTENING | CHILDONLY}] [-child] [-num=<Integer>]
```

List PPTP sessions.

Options

-child	Include child sessions.
-num=<Integer>	Number of entries to list.
-pptpclient=<PPTP/L2TP Client>	Only show sessions belonging to this PPTP client (L2TPClient with TunnelProtocol == PPTP).
-pptpserver=<PPTP/L2TP Server>	Only show sessions belonging to this PPTP server (L2TPServer with TunnelProtocol == PPTP).
-state={ALL | ACTIVE | LISTENING | CHILDONLY}	Show sessions with specified state. (Default: active)

2.2.69. pptpalg

Show PPTP ALG information.

Description

Shows information and statistics of the PPTP ALGs.

Usage

```
pptpalg
```

Show all configured PPTP ALGs.

```
pptpalg -sessions <PPTP ALG> [-verbose] [-num=<Integer>]
```

List all PPTP sessions.

```
pptpalg -services <PPTP ALG>
```

List all services attached to PPTP ALG.

Options

-num=<Integer>	Number of entries to list.

-services	List all services attached to PPTP ALG.
-sessions	List all session using a PPTP tunnel.
-verbose	Verbose output.
<PPTP ALG>	PPTP ALG.

2.2.70. reconfigure

Initiates a configuration re-read.

Description

Restart the firewall using the currently active configuration.

Usage

Note
Requires Administrator privileges.

2.2.71. rekeysa

Rekey IPsec or IKE SAs established with given remote peer.

Description

Rekey IPsec or IKE SAs associated with a given remote IKE peer, or optionally all IPsec or IKE SAs in the system.

Usage

```
rekeysa -ike <ip address>
```

Rekey IKE SAs.

```
rekeysa -ipsec <ip address>
```

Rekey IPsec SAs.

```
rekeysa <ip address>
```

Rekey IPsec SAs.

Options

-ike	Rekey IKE SAs.

-ipsec	Rekey IPsec SAs.
<ip address>	IP address of remote peer.

Note
Requires Administrator privileges.

2.2.72. route

Alias for **routes**.

2.2.73. routemon

List the currently monitored interfaces and gateways.

Description

List the currently monitored interfaces and/or gateways.

Usage

```
routemon
```

2.2.74. routes

Display routing lists.

Description

Display information about the routing table(s):

- Contents of a (named) routing table.
- The list of routing tables, along with a total count of route entries in each table, as well as how many of the entries are single-host routes.

Note that "core" routes for interface IP addresses are not normally shown. Use the *-all* switch to show core routes also.

Use the *-switched* switch to show only switched routes.

Explanation of Flags field of the routing tables:

O Learned via OSPF

X Route is Disabled

M Route is Monitored

A Published via Proxy ARP

D Dynamic (from e.g. DHCP relay, IPsec, L2TP/PPP servers, etc.)

H HA synced from cluster peer

Usage

```
routes [-all] [<table name>] [-switched] [-flushl3cache] [-num=<n>]
       [-nonhost] [-tables] [-lookup=<ip address>] [-verbose]
```

Options

-all	Also show routes for interface addresses.
-flushl3cache	Flush Layer 3 Cache. (Admin only)
-lookup=<ip address>	Lookup the route for the given IP address.
-nonhost	Do not show single-host routes.
-num=<n>	Limit display to <n> entries. (Default: 20)
-switched	Only show switched routes and L3C entries.
-tables	Display list of named (PBR) routing tables.
-verbose	Verbose.
<table name>	Name of routing table.

2.2.75. rtmonitor

Real-time monitor information.

Description

Show information about real-time monitor objects, and real-time monitor alerts.

All objects matching the specified filter are displayed. The filter can be the name of an object, or the beginning of a name. If no filter is specified, all objects are displayed.

If the option "monitored" is specified, only objects that have an associated real-time monitor alert are displayed.

Example 2.11. Show all monitored objects in the alg/http category

```
gw-world:/> rtmonitor alg/http -m
```

Usage

```
rtmonitor [<filter>] [-terse] [-monitored] [-num={ALL | <Integer>}]
```

Options

-monitored	Only show monitored objects.
-num={ALL | <Integer>}	Maximum number of entries to show (default: 20).
-terse	Only show object name.
<filter>	Object filter.

2.2.76. rules

Show rules lists.

Description

Shows the content of the various types of rules, i.e. main ruleset, pipe ruleset, etc.

Example 2.12. Show a range of rules

```
rules -verbose 1-5 7-9
```

Usage

```
rules -type=IP [-ruleset={* | MAIN | <IP Rule Set>}] [-verbose]
      [-schedule] [-usageless=<usageless>] [-usagemore=<usagemore>]
      [<rules>]...
```

Show IP rules.

```
rules -type={ROUTING | PIPE | IDP | THRESHOLD | IGMP} [-verbose]
      [-schedule] [-usageless=<usageless>] [-usagemore=<usagemore>]
      [<rules>]...
```

Show a specific type of rules.

Options

-ruleset={* | MAIN | <IP Rule Set>}	Show a specified IP ruleset.
-schedule	Filter out rules that are not currently allowed by selected schedules.
-type={IP | ROUTING | PIPE | IDP | THRESHOLD | IGMP}	Type of rules to display. (Default: IP)
-usageless=<usageless>	Filter on usage below(<=) specified limit.
-usagemore=<usagemore>	Filter on usage above(>=) specified limit.

-verbose	Verbose: show all parameters of the rules.
<rules>	Range of rules to display. (default: all rules).

2.2.77. selftest

Run appliance self tests.

Description

The appliance self tests are used to verify the correct function of hardware components.

IMPORTANT: In order for a selftest result to be reliable the test must be run using a default configuration and having the SGW disconnected from any networks.

IMPORTANT: Normal SGW operations might be disrupted during the test(s).

The outcome of the throughput crypto accelerator tests are dependent on configuration values. If the number of large buffers (LocalReassSettings->LocalReass_NumLarge) too low, it might lower throughput result. In the field 'Drop/Fail', the 'Drop' column contains the number of packets that were dropped before ever reaching the crypto accelerator and the 'Fail' column contains the number of packets that for some reason failed encryption. The 'Pkt In/Out' field shows the total number of packets sent to, and returned from the accelerator.

The interface tests 'traffic' and 'throughput' are dependent on the settings for the NIC ring sizes and possibly also license limitations. The 'traffic' test uses a uniform random distribution of six packet sizes between 60 and 1518 bytes. The content of each received packet is validated. The 'throughput' test uses only the largest packet size, and does not validate the contents of the received packets.

Example 2.13. Interface ping test between all interfaces

```
selftest -ping
```

Example 2.14. Interface ping test between interfaces 'if1' and 'if2'

```
selftest -ping -interfaces=if1,if2
```

Example 2.15. Start 30 min burn-in, testing RAM, storage media and crypto accelerator

```
selftest -burnin -minutes 30 -media -memory -cryptoaccel
```

Usage

```
selftest -memory [-num=<Integer>]
```

Check the sanity of the RAM.

```
selftest -media [-size=<Integer>]
```

Check the sanity of the disk drive.

```
selftest -mac
```

Check if there are MAC address collisions on the interfaces.

```
selftest -ping [-interfaces=<Interface>]
```

Run a ping test over the interfaces.

```
selftest -throughput [-interfaces=<Interface>]
```

Run a throughput test over the interfaces.

```
selftest -traffic [-interfaces=<Interface>]
```

Run a traffic test over the interfaces.

```
selftest -cryptoaccel
```

Verify the correct functioning of the accelerator cards.

```
selftest -burnin [-hours[=<Integer>]] [-minutes[=<Integer>]]
         [-memory] [-media] [-ping] [-throughput] [-traffic]
         [-cryptoaccel] [-size=<Integer>]
```

Run burn-in tests for a set of sub tests. If no sub tests are specified the following are included: -memory, -ping, -traffic, -cryptoaccel.

```
selftest -abort
```

Abort a running self test.

```
selftest
```

Show the status of a running test.

Options

-abort	Abort a running self test.
-burnin	Run burn-in tests for a selected set of sub tests.
-cryptoaccel	Verify the correct functioning of available crypto accelerator cards.
-hours[=<Integer>]	Test duration in hours. (Default: 48)
-interfaces=<Interface>	Ethernet interface(s).
-mac	Check if there are MAC address collisions on the interfaces.
-media	Check the sanity of the disk drive.
-memory	Check the sanity of the RAM.
-minutes[=<Integer>]	Test duration in minutes. (Default: 0)

-num=<Integer>	Number of times to execute the test. (Default: 1)
-ping	Run a ping test over the interfaces.
-size=<Integer>	Size of media space to utilize in the test. Set in MB. (Default: 1)
-throughput	Run a throughput test over the interfaces. This will show the maximal achievable interface throughput.
-traffic	Run a traffic test over the interfaces. The traffic test uses mixed frame sizes and verifies the content of each received frame.

Note
Requires Administrator privileges.

2.2.78. services

Show runtime values of configured services.

Description

Shows the runtime values of all configured services.

Example 2.16. List all services which names begin with "http"

```
services http*
```

Usage

```
services [<String>]
```

Options

<String>	Name or pattern.

2.2.79. sessionmanager

Session Manager.

Description

Show information about the Session Manager, and list currently active users.

Explanation of Timeout flags for sessions:

D Session is disabled

S Session uses a timeout in its subsystem

- Session does not use timeout

Usage

```
sessionmanager
```

Show Session Manager status.

```
sessionmanager -status
```

Show Session Manager status.

```
sessionmanager -list [-num=<n>]
```

List active sessions.

```
sessionmanager -info <session name> <database>
```

Show in-depth information about session(s).

```
sessionmanager -message <session name> <database> <message text>
```

Send message to session with console.

```
sessionmanager -disconnect <session name> <database> [<IP Address>
               [{LOCAL | SSH | NETCON | HTTP | HTTPS}]]
```

Forcibly terminate session(s).

Options

-disconnect	Forcibly terminate session(s). (Admin only)
-info	Show in-depth information about session.
-list	List active sessions.
-message	Send message to session.
-num=<n>	List <n> number of session.
-status	Show Session Manager status.
<database>	Name of user database.
<IP Address>	IP address.
<message text>	Message to send.
<session name>	Name of session.
{LOCAL | SSH | NETCON | HTTP | HTTPS}	Session type.

2.2.80. settings

Show settings.

Description

Show the contents of the settings section, category by category.

Usage

```
settings
```

Show list of categories.

```
settings <category>
```

Show settings in category.

Options

<category>	Show settings in category.

2.2.81. shutdown

Initiate core or system shutdown.

Description

Initiate restart of the core/system.

Usage

```
shutdown [<seconds>] [-normal] [-reboot]
```

Options

-normal	Initiate core shutdown.
-reboot	Initiate system reboot.
<seconds>	Seconds until shutdown. (Default: 5)

Note
Requires Administrator privileges.

2.2.82. sipalg

SIP ALG.

Description

List running SIP-ALG configurations, SIP registration and call information.

The -flags option with -snoop allows any combination of the following values:

- 0x00000001 GENERAL
- 0x00000002 ERRORS
- 0x00000004 OPTIONS
- 0x00000008 PARSE
- 0x00000010 VALIDATE
- 0x00000020 SDP
- 0x00000040 ALLOW_CHANGES
- 0x00000080 SUPPORTED_CHANGES
- 0x00000100 2543COMPLIANCE
- 0x00000200 RECEPTION
- 0x00000400 SESSION
- 0x00000800 REQUEST
- 0x00001000 RESPONSE
- 0x00002000 TOPO_CHANGES
- 0x00004000 MEDIA
- 0x00008000 CONTACT
- 0x00010000 CONN
- 0x00020000 PING
- 0x00040000 TRANSACTION
- 0x00080000 CALLLEG
- 0x00100000 REGISTRY

Flags can be added in the usual way. The default value is 0x00000003 (GENERAL and ERRORS).

NOTE: 'verbose' option outputs a lot of information on the console which may lead to system instability. Use with caution.

Usage

```
sipalg -definition [<alg>]
```

Show running ALG configuration parameters.

```
sipalg -registration[={SHOW | FLUSH}] <alg>
```

Show or flush current registration table.

```
sipalg -calls <alg>
```

Show active calls table.

```
sipalg -session <alg>
```

Show active SIP sessions.

```
sipalg -connection <alg> [-num=<n>]
```

Show SIP connections.

```
sipalg -statistics[={SHOW | FLUSH}] <alg>
```

Show or flush SIP counters.

```
sipalg -snoop={ON | OFF | VERBOSE} [<ipaddr>] [-flags=<String>]
```

Control SIP snooping. Useful for troubleshooting SIP transactions. NOTE: 'verbose' option outputs a lot of information on the console which may lead to system instability. Use with caution.

Options

-calls	Show active calls table.
-connection	Show SIP connections.
-definition	Show running ALG configuration parameters.
-flags=<String>	SIP snooping for certain levels. Expected number in hexadecimal notation.
-num=<n>	Limit list to <n> connections. (Default: 20)
-registration[={SHOW | FLUSH}]	Show or flush registration table. (Default: show)
-session	Show active SIP sessions.
-snoop={ON | OFF | VERBOSE}	Enable or disable SIP snooping. NOTE: 'verbose' option outputs a lot of information on the console which may lead to system instability. Use with caution. (Admin only)
-statistics[={SHOW | FLUSH}]	Show or flush SIP counters. (Default: show)
<alg>	SIP-ALG name.
<alg>	SIP-ALG name.
<ipaddr>	IP Address to snoop.

2.2.83. slb

Manage and show status for SLB.

Description

Display SLB status and preform various related actions

Usage

```
slb
```

Display status for all policies.

```
slb -status <SLB Policy>
```

Display status for specific policy.

```
slb -suspend <SLB Policy> <ip address>
```

Suspend load distribution to server.

```
slb -resume <SLB Policy> <ip address>
```

Resume load distribution to server.

Options

-resume	Resume load distribution to SLB server (maintenance off).
-status	Display status for specific SLB policy.
-suspend	Suspend load distribution to SLB server (maintenance on).
<ip address>	IP address.
<SLB Policy>	SLB policy.

2.2.84. smtp

List SMTP LogReceiver sessions and send test mail.

Description

List SMTP sessions for configured SMTP LogReceivers and CLI SMTP sessions created when using "sendmail" to send test mail to SMTP LogReceiver. The temporary CLI sessions, marked with (CLI), has a lifetime of 300s.

Usage

```
smtp -list [-num[=<1...1000>]] [-verbose]
```

Show SMTP sessions.

```
smtp -verbose
```

Show SMTP sessions with verbose output.

```
smtp -stat
```

Show SMTP statistics.

```
smtp -sendmail -logreceiver=<Mail Alerting> [-message=<String>]
```

Send mail to specified SMTP LogReceiver.

Options

-list	Show SMTP sessions.
-logreceiver=<Mail Alerting>	LogReceiver.
-message=<String>	Mail message.
-num[=<1...1000>]	Number of entries to list. (Default: 40)
-sendmail	Send test mail to SMTP LogReceiver.
-stat	Show SMTP statistics.
-verbose	Verbose output.

2.2.85. sshserver

SSH Server.

Description

Show SSH Server status, or start/stop/restart SSH Server.

Usage

```
sshserver
```

Show server status and list all connected clients.

```
sshserver -status [-verbose]
```

Show server status and list all connected clients.

```
sshserver -keygen <SSH Host Key>
```

Generate SSH Server private keys.

```
sshserver -restart <ssh server>
```

Restart SSH Server.

Options

-keygen	Generate SSH Server private keys. This operation may take a long time to finish, up to several minutes!
-restart	Stop and start the SSH Server.
-status	Show server status and list all connected clients.
-verbose	Verbose output.
<SSH Host Key>	Key type to create.
<ssh server>	SSH Server.

Note
Requires Administrator privileges.

2.2.86. sslvpn

SSLVPN tunnels.

Description

List running SSLVPN configurations, SSLVPN active tunnels and call information.

Usage

```
sslvpn [-num=<n>]
```

Options

-num=<n>	Limit display to <n> entries. (Default: 20)

2.2.87. stats

Display various general firewall statistics.

Description

Display general information about the firewall, such as uptime, CPU load, resource consumption and other performance data.

Usage

```
stats
```

2.2.88. sysmsgs

System messages.

Description

Show contents of the FWLoader sysmsg buffer.

Usage

```
sysmsgs
```

2.2.89. techsupport

Technical Support information.

Description

Generate information useful for technical support.

Due to the large amount of output, this command might show a truncated result when execute from the local console.

Usage

```
techsupport
```

2.2.90. time

Display current system time.

Description

Display/set the system date and time.

Usage

```
time
```

Display current system time.

```
time -verbose
```

Display current system time.

```
time -set <date> <time>
```

Set system local time: <YYYY-MM-DD> <HH:MM:SS>.

```
time -sync [-force]
```

Synchronize time with timeserver(s) (specified in settings).

Options

-force	Force synchronization regardless of the MaxAdjust setting.
-set	Set system local time: <YYYY-MM-DD> <HH:MM:SS>. (Admin only)
-sync	Synchronize time with timeserver(s) (specified in settings).
-verbose	Show more information about time zone and DST.
<date>	Date YYYY-MM-DD.
<time>	Time HH:MM:SS.

2.2.91. uarules

Show user authentication rules.

Description

Displays the contents of the user authentication ruleset.

Example 2.17. Show a range of rules

```
uarules -v 1-2,4-5
```

Usage

```
uarules [-verbose] [<Integer Range>]
```

Options

-verbose	Verbose output.
<Integer Range>	Range of rules to list.

2.2.92. updatecenter

Show autoupdate status and manage IDP/AV databases.

Description

Show autoupdate mechanism status or force an update.

Usage

```
updatecenter
```

Show update status and database information.

```
updatecenter -status[={ANTIVIRUS | IDP | ALL}] [-verbose]
```

Show update status and database information.

```
updatecenter -update[={ANTIVIRUS | IDP | ALL}]
```

Initiate an update check of the specified database.

```
updatecenter -removedb={ANTIVIRUS | IDP}
```

Remove the specified signature database.

```
updatecenter -servers
```

Show status of update servers.

Options

-removedb={ANTIVIRUS | IDP}	Remove the database for the specified service.
-servers	Show status of update servers.
-status[={ANTIVIRUS | IDP | ALL}]	Show update status and database information. (Admin only; Default: all)
-update[={ANTIVIRUS | IDP | ALL}]	Force an update now for the specified service. (Admin only; Default: all)
-verbose	Show verbose status information. (Admin only)

2.2.93. userauth

Show logged-on users.

Description

Show currently logged-on users and other information. Also allows logged-on users to be forcibly logged out.

Note: In the user listing - *list*, only privileges actually used by the policy are displayed.

Usage

```
userauth
```

List all authenticated users.

```
userauth -list [-num=<n>] [-blocked] [-verbose]
```

List all authenticated users.

```
userauth -privilege
```

List all known privileges (usernames and groups).

```
userauth -user [<user ip>]
```

Show all information for user(s) with this IP address.

```
userauth -remove [<user ip> [<Interface>]] [-all]
```

Forcibly log out an authenticated user.

Options

-all	All users.
-blocked	List all blocked users.
-list	List all authenticated users.
-num=<n>	Limit list of authenticated users. (Default: 20)
-privilege	List all known privileges (usernames and groups).
-remove	Forcibly log out an authenticated user. (Admin only)
-user	Show all information for user(s) with this IP address.
-verbose	List all blocked users history.
<Interface>	Interface.
<user ip>	IP address for user(s).

2.2.94. vlan

Show information about VLAN.

Description

Show list of attached Virtual LAN Interfaces, or in-depth information about a specified VLAN.

Usage

```
vlan
```

List attached VLANs.

```
vlan -num=<n> [-page[=<n>]]
```

Set number of display lines per page and display page.

```
vlan <Interface>
```

Display in-depth information about a VLAN interface, and/or the VLAN interfaces that are based on a specific interface.

Options

-num=<n>	Limit display lines to <n> entries in page. (Default: 20)
-page[=<n>]	Set page <n> for lines to display. (Default: 1)
<Interface>	Display VLAN information about this interface.

2.2.95. vpnstats

Alias for **ipsecstats**.

2.2.96. zonedefense

Zonedefense.

Description

Block/unblock IP addresses/net and ethernet addresses.

Usage

```
zonedefense [-save] [-blockip=<ip address>]
            [-blockenet=<ethernet address>] [-eraseip=<ip address>]
            [-eraseenet=<ethernet address>] [-status] [-show]
```

Options

-blockenet=<ethernet address>	Block the specified ethernet address. (Admin only)
-blockip=<ip address>	Block the specified IP address/net. (Admin only)
-eraseenet=<ethernet address>	Unblock the specified ethernet address.
-eraseip=<ip address>	Unblock the specified IP address/net.

-save	Save the current zonedefense state on all switches.
-show	Show the current block database.
-status	Show the current status of the zonedefense state machine.

2.3. Utility

2.3.1. geoip

Display GeoIP information.

Description

Display status of GeoIP database and perform manual lookups.

Usage

```
geoip
```

Display statistics.

```
geoip -filters [-num=<n>]
```

Display filter information.

```
geoip -status
```

Display statistics.

```
geoip -query <IPAddress>
```

Lookup IP address to GeoIP location.

Options

-filters	Display current active Geolocation Filters.
-num=<n>	List <n> entries. (Default: 20)
-query	Resolve domain name.
-status	Display status for GeoIP database.
<IPAddress>	IP address to resolve.

2.3.2. ping

Ping host.

Description

Sends one or more ICMP ECHO, TCP SYN or UDP datagrams to the specified IP address of a host. All datagrams are sent preloaded-style (all at once).

The data size *-length* given is the ICMP or UDP data size. 1472 bytes of ICMP data results in a 1500-byte IP datagram (1514 bytes ethernet).

Usage

```
ping [<String>] [-srcif=<interface>] [-srcip=<ip address>]
     [-pbr=<table>] [-count=<1...10>] [-length=<2...8192>]
     [-port=<0...65535>] [-srcport=<0...65535>] [-udp] [-tcp]
     [-tos=<0...255>] [-verbose] [-6]
```

Options

-6	Force IPv6.
-count=<1...10>	Number of packets to send. (Default: 1)
-length=<2...8192>	Packet size. (Default: 4)
-pbr=<table>	Route using PBR Table.
-port=<0...65535>	Destination port of UDP or TCP ping.
-srcif=<interface>	Pass packet through the rule set, simulating that the packet was received by <srcif>.
-srcip=<ip address>	Use this source IP.
-srcport=<0...65535>	Source port of UDP or TCP ping.
-tcp	Send TCP ping.
-tos=<0...255>	Type of service.
-udp	Send UDP ping.
-verbose	Verbose (more information).
<String>	IP address or URL of host to ping.

2.3.3. traceroute

Trace route.

Description

Print the route packets take to a network host.

Usage

```
traceroute <host> [-starthop=<1...255>] [-maxhops=<1...255>]
           [-timeout=<1...60000>] [-count=<1...10>]
           [-size=<0...32768>] [-pbr=<table>] [-srcip=<ip address>]
           [-noresolve] [-nodelay] [-6]
```

Trace using ICMP.

```
traceroute -tcp <host> [-port=<1...65535>] [-starthop=<1...255>]
```

```
          [-maxhops=<1...255>] [-timeout=<1...60000>]
          [-count=<1...10>] [-pbr=<table>] [-srcip=<ip address>]
          [-noresolve] [-nodelay] [-6]
```

Trace using TCP.

```
traceroute -udp <host> [-port=<1...65535>] [-starthop=<1...255>]
          [-maxhops=<1...255>] [-timeout=<1...60000>]
          [-count=<1...10>] [-size=<0...32768>] [-pbr=<table>]
          [-srcip=<ip address>] [-noresolve] [-nodelay] [-6]
```

Trace using UDP.

```
traceroute -stop
```

Stop trace.

Options

-6	Force IPv6 if target is a FQDN.
-count=<1...10>	Number of queries to send for each hop. (Default: 3)
-maxhops=<1...255>	Maximum number of hosts to traverse in search of target. (Default: 30)
-nodelay	Send queries as fast as possible (may look like Denial of Service attack).
-noresolve	Disable reverse DNS lookup of hosts.
-pbr=<table>	Route using PBR Table.
-port=<1...65535>	Destination port.
-size=<0...32768>	Packet data size. (Default: 32)
-srcip=<ip address>	Use this source IP.
-starthop=<1...255>	Initial TTL value. (Default: 1)
-stop	Stop trace in progress.
-tcp	Use TCP instead of ICMP.
-timeout=<1...60000>	How many milliseconds to wait for each reply. (Default: 1000)
-udp	Use UDP instead of ICMP.
<host>	IP address or FQDN of host to trace.

2.4. Misc

2.4.1. clear

Clears the screen.

Description

Clears the screen.

Usage

```
clear
```

2.4.2. echo

Print text.

Description

Print text to the console.

Example 2.18. Hello World

```
echo Hello World
```

Usage

```
echo [<String>]...
```

Options

<String>	Text to print.

2.4.3. help

Show help for selected topic.

Description

The help system contains information about commands and configuration object types.

The fastest way to get help is to simply type **help** followed by the topic that you want help with. A topic can be for example a command name (e.g. **set**) or the name of a configuration object type (e.g. User).

When you don't know the name of what you are looking for you can specify the category of the wanted topic with the `-category` option and use tab-completion to display a list of matching topics.

Usage

```
help
```

List commands alphabetically.

```
help <Topic>
```

Display help about selected topic from any category.

```
help -category={COMMANDS | TYPES} [<Topic>]
```

Display help from a specific topic category.

Options

-category={COMMANDS | TYPES}	Topic category.
<Topic>	Help topic.

2.4.4. history

Dump history to screen.

Description

List recently typed commands that have been stored in the command history.

Usage

```
history
```

2.4.5. logsnoop

Display and filter system log messages.

Description

The logsnoop command can be used to display system log events. The source of the log events can be MemLog, real-time or both MemLog followed by real-time logs.

MemLog searching will only be functioning if a LogReceiverMemory object has been configured.

Since the system log rate may be high, displaying real time logs must be done with some caution. For this purpose, it is possible to limit the real time log display rate.

When filtering for log messages to display, there are many parameters that can be filtered on. The most powerful filtering tool is the wildcard matching in which the charcter '*' is interpreted as none/many characters and '?' as any single character.

It should be noted that all log filtering will have a negative effect on system performance.

Example 2.19. Show log message having 'warning' followed by 'udp' somewhere in the message

```
:/> logsnoop -on -pattern=*warning*udp*
```

Example 2.20. Rate limit log flow to five logs per second

```
:/> logsnoop -on -rate=5
```

Example 2.21. Show logs from the memlog buffer

```
:/> logsnoop -on -source=memlog
```

Example 2.22. Show logs having a source IP value

```
:/> logsnoop -on -srcip=0.0.0.0/0
```

Example 2.23. Show logs having a severity of warning or higher

```
:/> logsnoop -on -severity=warning
```

Usage

```
logsnoop -on [-source={MEMLOG | REALTIME | BOTH}]
         [-category=<String>] [-logid=<Integer>] [-event=<String>]
         [-action={NONE | DROP | ALLOW | BLOCK | REJECT |
         <String>}] [-severity={EMERGENCY | ALERT | CRITICAL |
         ERROR | WARNING | NOTICE | INFO | DEBUG}]
         [-starttime=<DateTime>] [-endtime=<DateTime>]
         [-pattern=<String>] [-srcip=<IPAddress>]
         [-destip=<IPAddress>] [-srcport=<0...65535>]
         [-destport=<0...65535>] [-srcif=<Interface>]
```

```
        [-destif=<Interface>] [-ipproto={TCP | UDP | ICMP |
        <String>}] [-rate=<Integer>] [-num=<Integer>]
```

Start log session.

```
logsnoop -off
```

Stop log session.

```
logsnoop
```

Show log snoop status.

Options

-action={NONE | DROP | ALLOW | BLOCK | REJECT | <String>}	Log action to filter on.
-category=<String>	Log category to filter on.
-destif=<Interface>	Destination interface to filter on.
-destip=<IPAddress>	Destination IP address or network to filter on.
-destport=<0...65535>	Destination port to filter on.
-endtime=<DateTime>	End time of log snooping. Format: year-month-day [HH:MM:SS].
-event=<String>	Log event to filter on.
-ipproto={TCP | UDP | ICMP | <String>}	Protocol to filter on.
-logid=<Integer>	Numeric log ID to filter on.
-num=<Integer>	Total log limit, number of logs.
-off	Stop log session.
-on	Start log session.
-pattern=<String>	Free text filter supporting wildcards.
-rate=<Integer>	Rate limit, logs/sec. Only applicable for real time logs.
-severity={EMERGENCY | ALERT | CRITICAL | ERROR | WARNING | NOTICE | INFO | DEBUG}	Log severity to filter on. Equal or higher severity matches.
-source={MEMLOG | REALTIME | BOTH}	Log source. (Default: realtime)
-srcif=<Interface>	Source interface to filter on.
-srcip=<IPAddress>	Source IP address or network to filter on.
-srcport=<0...65535>	Source port to filter on.
-starttime=<DateTime>	Start time of log snooping. Format: year-month-day [HH:MM:SS].

Note
Requires Administrator privileges.

2.4.6. ls

Lists device data accessible by SCP.

Description

Lists device data which are available through SCP.

Example 2.24. Transfer script files to and from the device

```
Upload:   scp myscript user@sgw-ip:script/myscript
Download: scp user@sgw-ip:script/myscript ./myscript
```

In addition to the files listed it is possible to upload license, certificates and ssh public key files.

Example 2.25. Upload license data

```
scp licence.lic user@sgw-ip:license.lic
```

Certificates and ssh client key objects are created if they do not exist.

Example 2.26. Upload certificate data

```
scp certificate.cer user@sgw-ip:certificate/certificate_name
scp certificate.key user@sgw-ip:certificate/certificate_name
```

Example 2.27. Upload ssh public key data

```
scp sshkey.pub user@sgw-ip:sshclientkey/sshclientkey_name
```

Usage

Options

-long	Enable long listing format.
<File>	File to list.

2.4.7. script

Handle CLI scripts.

Description

Run, create, show, store or delete script files.

Script files are transferred to and from the device by the SCP protocol. On the device they are stored in the "/script" folder.

Example 2.28. Execute script

```
"script.sgs":
add IP4Address Name=$1 Address=$2 Comment="$0: \$100".
:/> script -execute -name=script.sgs ip_test 127.0.0.1
is executed as line:
add IP4Address Name=ip_test Address=127.0.0.1 Comment="script.sgs: $100"
```

Usage

```
script -create [[<Category>] <Type> [<Identifier>]] [-name=<Name>]
```

Create configuration script from specified object, class or category.

```
script -execute [-verbose] [-force] [-quiet] -name=<Name>
       [<Parameters>]...
```

Execute script.

```
script -show [-all] [-name=<Name>]
```

Show script in console window.

```
script -store [-all] [-name=<Name>]
```

Store a script to persistent storage.

```
script -remove [-all] [-name=<Name>]
```

Remove script.

```
script
```

List script files.

Options

-all	Apply to all scripts.
-create	Create configuration script from specified object, class or category.
-execute	Execute script.

-force	Force script execution.
-name=<Name>	Name of script.
-quiet	Quiet script execution.
-remove	Remove script.
-show	Show script in console window.
-store	Store a script to persistent storage.
-verbose	Verbose mode.
<Category>	Category that groups object types.
<Identifier>	The property that identifies the configuration object. May not be applicable depending on the specified <Type>.
<Parameters>	List of input arguments.
<Type>	Type of configuration object to perform operation on.

Note

Requires Administrator privileges.

Chapter 3: Configuration Reference

3.1. Access

Description

Use an access rule to allow or block specific source IP addresses on a specific interface.

Properties

Index	The index of the object, starting at 1. (Identifier)
Name	Specifies a symbolic name for the object.
Action	Accept, Expect or Drop. (Default: Drop)
Interface	The interface the packet must arrive on for this rule to be carried out. Exception: the Expect rule.
Network	The IP span that the sender must belong to for this rule to be carried out.
Attribute	Special Attribute of the current object. (Optional)
LogEnabled	Enable logging. (Default: Yes)
LogSeverity	Specifies with what severity log events will be sent to the specified log receivers. (Default: Default)
Comments	Text describing the current object. (Optional)

Note

If no `Index` is specified when creating an instance of this type, the object will be placed last in the list and the `Index` will be equal to the length of the list.

3.2. Address

This is a category that groups the following object types.

3.2.1. AddressFolder

Description

An address folder can be used to group related address objects for better overview.

Properties

Name	Specifies a symbolic name for the network object. (Identifier)
Attribute	Special Attribute of the current object. (Optional)
Comments	Text describing the current object. (Optional)

3.2.1.1. FQDNGroup

Description

An FQDN Address Group is used for combining several FQDN Address objects for simplified management.

Properties

Name	Specifies a symbolic name for the network object. (Identifier)
Members	Group members.
Attribute	Special Attribute of the current object. (Optional)
Comments	Text describing the current object. (Optional)

3.2.1.2. FQDNAddress

Description

Use an FQDN Address item to define a name for a domain name.

Properties

Name	Specifies a symbolic name for the network object. (Identifier)
Address	FQDN, e.g. "www.example.com" or "*.example.com".
ActiveAddress	The IP addresses resolved from the name server.

	(Optional)
Attribute	Special Attribute of the current object. (Optional)
Comments	Text describing the current object. (Optional)

3.2.1.3. EthernetAddress

Description

Use an Ethernet Address item to define a symbolic name for an Ethernet MAC address.

Properties

Name	Specifies a symbolic name for the network object. (Identifier)
Address	Ethernet MAC address, e.g. "12-34-56-78-AB-CD".
Attribute	Special Attribute of the current object. (Optional)
Comments	Text describing the current object. (Optional)

3.2.1.4. EthernetAddressGroup

Description

An Ethernet Address Group is used for combining several Ethernet Address objects for simplified management.

Properties

Name	Specifies a symbolic name for the network object. (Identifier)
Members	Group members.
Attribute	Special Attribute of the current object. (Optional)
Comments	Text describing the current object. (Optional)

3.2.1.5. IP6HAAddress

Description

Use an IP6 HA Address item to define a name for a specific IP6 host, network or range for each node in a high availability cluster.

Properties

Name	Specifies a symbolic name for the network object. (Identifier)

Address	An IP address with one instance for each node in the high availability cluster.
Attribute	Special Attribute of the current object. (Optional)
Comments	Text describing the current object. (Optional)

3.2.1.6. IP6Group

Description

An IP6 Address Group is used for combining several IP6 Address objects for simplified management.

Properties

Name	Specifies a symbolic name for the network object. (Identifier)
Members	Group members.
Attribute	Special Attribute of the current object. (Optional)
Comments	Text describing the current object. (Optional)

3.2.1.7. IP4Address

Description

Use an IP4 Address item to define a name for a specific IP4 host, network or range.

Properties

Name	Specifies a symbolic name for the network object. (Identifier)
Address	IP address, e.g. "172.16.50.8", "192.168.7.0/24" or "172.16.25.10-172.16.25.50".
ActiveAddress	The dynamically set address used by e.g. DHCP enabled Ethernet interfaces. (Optional)
UserAuthGroups	Groups and user names that belong to this object. Objects that filter on credentials can only be used as source networks and destinations networks in rules. (Optional)
NoDefinedCredentials	If this property is enabled the object requires user authentication, but has no credentials (user names or groups) defined. This means that the object only requires that a user is authenticated, but ignores any kind of group membership. (Default: No)
Attribute	Special Attribute of the current object. (Optional)

Comments	Text describing the current object. (Optional)

3.2.1.8. IP4Group

Description

An IP4 Address Group is used for combining several IP4 Address objects for simplified management.

Properties

Name	Specifies a symbolic name for the network object. (Identifier)
Members	Group members.
UserAuthGroups	Groups and user names that belong to this object. Objects that filter on credentials can only be used as source networks and destinations networks in rules. (Optional)
NoDefinedCredentials	If this property is enabled the object requires user authentication, but has no credentials (user names or groups) defined. This means that the object only requires that a user is authenticated, but ignores any kind of group membership. (Default: No)
Attribute	Special Attribute of the current object. (Optional)
Comments	Text describing the current object. (Optional)

3.2.1.9. IP4HAAddress

Description

Use an IP4 HA Address item to define a name for a specific IP4 host for each node in a high availability cluster.

Properties

Name	Specifies a symbolic name for the network object. (Identifier)
Address	An IP address with one instance for each node in the high availability cluster.
UserAuthGroups	Groups and user names that belong to this object. Objects that filter on credentials can only be used as source networks and destinations networks in rules. (Optional)
NoDefinedCredentials	If this property is enabled the object requires user authentication, but has no credentials (user names or groups) defined. This means that the object only requires that a user is authenticated, but ignores

	any kind of group membership. (Default: No)
Attribute	Special Attribute of the current object. (Optional)
Comments	Text describing the current object. (Optional)

3.2.1.10. IP6Address

Description

Use an IP6 Address item to define a name for a specific IP6 host, network or range.

Properties

Name	Specifies a symbolic name for the network object. (Identifier)
Address	IPv6 address, e.g. "2001:DB8::/32".
ActiveAddress	The dynamically set address used by e.g. DHCPv6 enabled Ethernet interfaces. (Optional)
Attribute	Special Attribute of the current object. (Optional)
Comments	Text describing the current object. (Optional)

3.2.2. EthernetAddress

The definitions here are the same as in Section 3.2.1.3, “EthernetAddress” .

3.2.3. EthernetAddressGroup

The definitions here are the same as in Section 3.2.1.4, “EthernetAddressGroup” .

3.2.4. IP4Address

The definitions here are the same as in Section 3.2.1.7, “IP4Address” .

3.2.5. IP4Group

The definitions here are the same as in Section 3.2.1.8, “IP4Group” .

3.2.6. IP4HAAddress

The definitions here are the same as in Section 3.2.1.9, “IP4HAAddress” .

3.2.7. IP6Address

The definitions here are the same as in Section 3.2.1.10, “IP6Address” .

3.2.8. IP6Group

The definitions here are the same as in Section 3.2.1.6, “IP6Group” .

3.2.9. IP6HAAddress

The definitions here are the same as in Section 3.2.1.5, “IP6HAAddress” .

3.3. AdvancedScheduleProfile

Description

An advanced schedule profile contains definitions of occurrences used by various policies in the system.

Properties

Name	Specifies a symbolic name for the service. (Identifier)
Attribute	Special Attribute of the current object. (Optional)
Comments	Text describing the current object. (Optional)

3.3.1. AdvancedScheduleOccurrence

Description

An advanced schedule occurrence specifies an occurrence that should happen between certain times for days in month/week

Properties

StartTime	Start time in the format HH:MM, for example 13:30.
EndTime	End time in the format HH:MM, for example 14:15.
Occurrence	Specify type of occurrence. (Default: Weekly)
Weekly	Specifies days in week the schedule occurrence should be activated. Monday corresponds to 1 and Sunday 7. (Default: 1-7)
Monthly	Specifies days in month the schedule occurrence should be activated. The schedule only occurs at days that exists in the month. (Default: 1-31)
Attribute	Special Attribute of the current object. (Optional)
Comments	Text describing the current object. (Optional)

Note

If no `Index` is specified when creating an instance of this type, the object will be placed last in the list and the `Index` will be equal to the length of the list.

3.4. ALG

This is a category that groups the following object types.

3.4.1. ALG_FTP

Description

Use an FTP Application Layer Gateway to manage FTP traffic through the system.

Properties

Name	Specifies a symbolic name for the ALG. (Identifier)
AllowServerPassive	Allow server to use passive mode (unsafe for server). (Default: No)
ServerPorts	Server data ports. (Default: 1024-65535)
AllowClientActive	Allow client to use active mode (unsafe for client). (Default: No)
ClientPorts	Client data ports. (Default: 1024-65535)
AllowUnknownCommands	Allow unknown commands. (Default: No)
AllowSITEEXEC	Allow SITE EXEC. (Default: No)
MaxLineLength	Maximum line length in control channel. (Default: 256)
MaxCommandRate	Maximum number of commands per second. (Default: 20)
Allow8BitStrings	Allow 8-bit strings in control channel. (Default: Yes)
AllowResumeTransfer	Allow RESUME even in case of content scanning. (Default: No)
Antivirus	Disabled, Audit or Protect. (Default: Disabled)
ScanExclude	List of files to exclude from antivirus scanning. (Optional)
CompressionRatio	A compression ratio higher than this value will trigger the action in Compression Ratio Action, a value of zero will disable all compression checks. (Default: 20)
CompressionRatioAction	The action to take when high compression threshold is violated, all actions are logged. (Default: Drop)
AllowEncryptedZip	Allow encrypted zip files, even though the contents can not be scanned. (Default: No)
MaxArchiveDepth	The maximum number of archive "layers" that the antivirus engine will extract. (Default: 5)

ZDEnabled	Enable ZoneDefense Block. (Default: No)
ZDNetwork	Hosts within this network will be blocked at switches if a virus is found.
FailModeBehavior	Standard behaviour on error: Allow or Deny. (Default: Deny)
FileListType	Specifies if the file list contains files to allow or deny. (Default: Block)
File	List of file types to allow or deny. (Optional)
VerifyContentMimetype	Verify that file extentions correspond to the MIME type. (Default: No)
Attribute	Special Attribute of the current object. (Optional)
Comments	Text describing the current object. (Optional)

3.4.2. ALG_H323

Description

Use an H.323 Application Layer Gateway to manage H.323 multimedia traffic.

Properties

Name	Specifies a symbolic name for the ALG. (Identifier)
AllowTCPDataChannels	Allow TCP data channels (T.120). (Default: Yes)
MaxTCPDataChannels	Maximum number of TCP data channels per call. (Default: 10)
TranslateAddresses	Automatic or Specific. (Default: Automatic)
TranslateLogicalChannelAddresses	Translate logical channel addresses. (Default: Yes)
MaxGKRegLifeTime	Max Gatekeeper Registration Lifetime. (Default: 1800)
ChannelSetupMode	Channel connection setup mode. (Default: Optimistic)
Attribute	Special Attribute of the current object. (Optional)
Comments	Text describing the current object. (Optional)

3.4.3. ALG_HTTP

Description

Use an HTTP Application Layer Gateway to filter HTTP traffic.

Properties

Name	Specifies a symbolic name for the ALG. (Identifier)
AllowedProtocols	HTTP and/or HTTPS. (Default: HTTP)
RemoveCookies	Remove cookies. (Default: No)
RemoveScripts	Remove Javascript/VBScript. (Default: No)
RemoveApplets	Remove Java applets. (Default: No)
RemoveActiveX	Remove ActiveX objects (including Flash). (Default: No)
VerifyUTF8URL	Verify that URLs does not contain invalid UTF8 encoding. (Default: No)
BlackURLDisplayReason	Message to show when there is an attempt to access a blacklisted site. (Optional)
HTTPBanners	HTTP ALG HTML Banners. (Default: Default)
MaxDownloadSize	The maximum allowed file size in kB. (Optional)
Attribute	Special Attribute of the current object. (Optional)
FileListType	Specifies if the file list contains files to allow or deny. (Default: Block)
File	List of file types to allow or deny. (Optional)
VerifyContentMimetype	Verify that file extentions correspond to the MIME type. (Default: No)
Antivirus	Disabled, Audit or Protect. (Default: Disabled)
ScanExclude	List of files to exclude from antivirus scanning. (Optional)
CompressionRatio	A compression ratio higher than this value will trigger the action in Compression Ratio Action, a value of zero will disable all compression checks. (Default: 20)
CompressionRatioAction	The action to take when high compression threshold is violated, all actions are logged. (Default: Drop)
AllowEncryptedZip	Allow encrypted zip files, even though the contents can not be scanned. (Default: No)
MaxArchiveDepth	The maximum number of archive "layers" that the antivirus engine will extract. (Default: 5)
ZDEnabled	Enable ZoneDefense Block. (Default: No)
ZDNetwork	Hosts within this network will be blocked at switches if a virus is found.
FailModeBehavior	Standard behaviour on error: Allow or Deny. (Default: Deny)
AllowFilteringReclassification	Show reclassification link for blocked sites. (Default: No)

WebContentFilteringMode	Disabled, Audit or Enable. (Default: Disabled)
FilteringCategories	Web content categories to block. (Optional)
NonManagedAction	Action to take for content that hasn't been classified. (Default: Allow)
AllowFilteringOverride	Allow the user to display a blocked site. (Default: No)
OverrideUpdateOnAccess	Restart the override timer on each new access to disallowed categories. (Default: Yes)
OverrideTimeToLive	Seconds that all disallowed categories will be allowed for the host that requested the override. (Default: 300)
Comments	Text describing the current object. (Optional)

3.4.3.1. ALG_HTTP_URL

Description

Blacklist URLs to deny access to complete sites, to file types by extension, or to URLs with certain words in them.

Properties

Action	Whitelist or Blacklist. (Default: Blacklist)
URL	Specifies the URL to blacklist or whitelist.
Attribute	Special Attribute of the current object. (Optional)
Comments	Text describing the current object. (Optional)

Note

If no `Index` is specified when creating an instance of this type, the object will be placed last in the list and the `Index` will be equal to the length of the list.

3.4.4. ALG_POP3

Description

Use an POP3 Application Layer Gateway to manage POP3 traffic through the system.

Properties

Name	Specifies a symbolic name for the ALG. (Identifier)
BlockUserPass	Block clients from sending USER and PASS command. (Default: No)

HideUser	Prevent server from revealing that a user name do not exist. (Default: No)
AllowUnknownCommands	Allow unknown commands. (Default: No)
Attribute	Special Attribute of the current object. (Optional)
FileListType	Specifies if the file list contains files to allow or deny. (Default: Block)
File	List of file types to allow or deny. (Optional)
VerifyContentMimetype	Verify that file extentions correspond to the MIME type. (Default: No)
Antivirus	Disabled, Audit or Protect. (Default: Disabled)
ScanExclude	List of files to exclude from antivirus scanning. (Optional)
CompressionRatio	A compression ratio higher than this value will trigger the action in Compression Ratio Action, a value of zero will disable all compression checks. (Default: 20)
CompressionRatioAction	The action to take when high compression threshold is violated, all actions are logged. (Default: Drop)
AllowEncryptedZip	Allow encrypted zip files, even though the contents can not be scanned. (Default: No)
MaxArchiveDepth	The maximum number of archive "layers" that the antivirus engine will extract. (Default: 5)
ZDEnabled	Enable ZoneDefense Block. (Default: No)
ZDNetwork	Hosts within this network will be blocked at switches if a virus is found.
FailModeBehavior	Standard behaviour on error: Allow or Deny. (Default: Deny)
Comments	Text describing the current object. (Optional)

3.4.5. ALG_PPTP

Description

Use a PPTP Application Layer Gateway to manage PPTP traffic through the system.

Properties

Name	Specifies a symbolic name for the ALG. (Identifier)
EchoTimeout	Specifies idle timeout for Echo messages in the PPTP tunnel. (Default: 0)
IdleTimeout	SPecifies idle timeout for user traffic in the PPTP

	tunnel. (Default: 0)
Attribute	Special Attribute of the current object. (Optional)
Comments	Text describing the current object. (Optional)

3.4.6. ALG_SIP

Description

Use a SIP ALG to manage SIP based multimedia sessions.

Properties

Name	Specifies a symbolic name for the ALG. (Identifier)
MaxSessionsPerId	Maximum number of sessions per SIP URI. (Default: 5)
MaxRegistrationTime	The maximum allowed time in seconds between registration requests. (Default: 3600)
SipSignalTmout	Timeout value for last seen SIP message (in seconds). (Default: 43200)
DataChannelTmout	Timeout value for data channel (in seconds). (Default: 120)
AllowMediaByPass	Allow clients to exchange media directly when possible. (Default: Yes)
AllowTCPDataChannels	Allow TCP data channels. (Default: Yes)
MaxTCPDataChannels	Maximum number of TCP data channels per call. (Default: 5)
Attribute	Special Attribute of the current object. (Optional)
Comments	Text describing the current object. (Optional)

3.4.7. ALG_SMTP

Description

Use an SMTP Application Layer Gateway to manage SMTP traffic through the system.

Properties

Name	Specifies a symbolic name for the ALG. (Identifier)
VerifySenderEmail	Check emails for mismatching SMTP command From address and email header From address. (Default: No)
VerifySenderEmailAction	...and block them. (Default: Deny)

VerifySenderEmailSpamTag	Spam Tag that is inserted into the subject. (Default: "*** SPAM *** ")
VerifySenderEmailDomainOnly	Only check domain names in email From addresses. (Default: No)
MaxEmailPerMinute	Specifies the maximum amount of emails per minute from the same host. (Optional)
MaxEmailSize	Specifies the maximum allowed email size in kB. (Optional)
Attribute	Special Attribute of the current object. (Optional)
FileListType	Specifies if the file list contains files to allow or deny. (Default: Block)
File	List of file types to allow or deny. (Optional)
VerifyContentMimetype	Verify that file extentions correspond to the MIME type. (Default: No)
Antivirus	Disabled, Audit or Protect. (Default: Disabled)
ScanExclude	List of files to exclude from antivirus scanning. (Optional)
CompressionRatio	A compression ratio higher than this value will trigger the action in Compression Ratio Action, a value of zero will disable all compression checks. (Default: 20)
CompressionRatioAction	The action to take when high compression threshold is violated, all actions are logged. (Default: Drop)
AllowEncryptedZip	Allow encrypted zip files, even though the contents can not be scanned. (Default: No)
MaxArchiveDepth	The maximum number of archive "layers" that the antivirus engine will extract. (Default: 5)
ZDEnabled	Enable ZoneDefense Block. (Default: No)
ZDNetwork	Hosts within this network will be blocked at switches if a virus is found.
FailModeBehavior	Standard behaviour on error: Allow or Deny. (Default: Deny)
DNSBL	Disable or Enable DNSBL. (Default: No)
SpamThreshold	Spam Threshold defines when an email should be considered as Spam. (Default: 10)
DropThreshold	Drop Threshold defines when an email should be considered malicious and be dropped. (Default: 20)
SpamTag	Spam Tag that is inserted into the subject for an email considered as Spam or malicious. (Default: "*** SPAM *** ")

ForwardBlockedMail	Forward blocked mails to DropAddress. (Default: No)
DropAddress	Email address that emails reaching the drop threshold will be rerouted to.
AppendTXT	Use TXT records (will only be used if reaching the drop threshold). (Default: No)
CacheSize	Size of the IP Cache of checked sender IP addresses. (Default: 0)
CacheTimeout	Timeout in seconds before a cached IP address is removed. (Default: 600)
DNSBlackLists	Specifies the BlackList domain and its weighted value.
Comments	Text describing the current object. (Optional)

3.4.7.1. ALG_SMTP_Email

Description

Used to whitelist or blacklist an email sender/recipient.

Properties

Type	Specifies if the email address is the sender or the recipient. (Default: Sender)
Action	Specifies whether to whitelist (allow) or blacklist (deny) this address. (Default: Blacklist)
Email	Specifies the recipient email to blacklist or whitelist.
Attribute	Special Attribute of the current object. (Optional)
Comments	Text describing the current object. (Optional)

Note

If no `Index` is specified when creating an instance of this type, the object will be placed last in the list and the `Index` will be equal to the length of the list.

3.4.8. ALG_TFTP

Description

Use an TFTP Application Layer Gateway to manage TFTP traffic through the system.

Properties

Name	Specifies a symbolic name for the ALG. (Identifier)
AllowedCommands	Specifies allowed commands. (Default: ReadWrite)
RemoveOptions	Remove option part from request packet. (Default: No)
AllowUnknownOptions	Allow unknown options in request packet. (Default: No)
MaxBlocksize	Max value for the blksize option. (Optional)
MaxFileTransferSize	Max size for transferred file. (Optional)
BlockDirectoryTraversal	Prevent directory traversal (consecutive dots in filenames). (Default: No)
Attribute	Special Attribute of the current object. (Optional)
Comments	Text describing the current object. (Optional)

3.4.9. ALG_TLS

Description

Use a TLS Application Layer Gateway to manage TLS traffic through the system.

Properties

Name	Specifies a symbolic name for the ALG. (Identifier)
HostCert	Specifies the host certificate.
RootCert	Specifies the root certificates. (Optional)
Attribute	Special Attribute of the current object. (Optional)
Comments	Text describing the current object. (Optional)

3.5. AntiVirusPolicy

Description

An Anti-Virus Profile can be used by one or many IP Policies which has its service object configured with a protocol that supports anti-virus scanning (HTTP, FTP, POP3, SMTP, IMAP).

Properties

Name	Specifies a symbolic name for the Profile. (Identifier)
AuditMode	Anti-Virus audit mode. (Default: No)
ScanExclude	List of files to exclude from antivirus scanning. (Optional)
CompressionRatio	A compression ratio higher than this value will trigger the action in Compression Ratio Action, a value of zero will disable all compression checks. (Default: 20)
CompressionRatioAction	The action to take when high compression threshold is violated, all actions are logged. (Default: Drop)
AllowEncryptedZip	Allow encrypted zip files, even though the contents can not be scanned. (Default: No)
MaxArchiveDepth	The maximum number of archive file "layers" that the antivirus engine will extract. (Default: 5)
ZDEnabled	Enable ZoneDefense Block. (Default: No)
ZDNetwork	Hosts within this network will be blocked at switches if a virus is found.
FailModeBehavior	General behavior when anti-virus scanning fails. The data can either be allowed or denied. (Default: Deny)
Attribute	Special Attribute of the current object. (Optional)
Comments	Text describing the current object. (Optional)

3.6. AppControlSettings

Description

Settings related to the Application Control functionality.

Properties

MaxUnclassifiedPackets	Maximum number of packets in one direction on a connection before the application will be forced to unknown. (Default: 5)
MaxUnclassifiedBytes	Maximum number of bytes transfered in one direction on a connection before the application will be forced to unknown. (Default: 7500)
RestartOnFatalFailure	Restart the device automatically if a fatal failure occurs that disables Application Control. (Default: No)

Note

This object type does not have an identifier and is identified by the name of the type only. There can only be one instance of this type.

3.7. ApplicationRuleSet

Description

An Application Rule Set contains a list of Application Rules and some settings and can be used by one or more IP rules/IP Policies to configure Application Control on the traffic matching those IP Rules/IP Policies.

Properties

Name	Specifies a symbolic name for the Profile. (Identifier)
DefaultAction	Default action if nothing in the rule list matches. (Default: Deny)
UseCustomLimits	Use custom limits for unclassified traffic in this ruleset instead of the default limits specified in the advanced settings. (Default: No)
MaxUnclassifiedPackets	Maximum number of packets in one direction on a connection before the application will be forced to unknown. (Default: 5)
MaxUnclassifiedBytes	Maximum number of bytes transfered in one direction on a connection before the application will be forced to unknown. (Default: 7500)
StrictHTTP	Handle plain http more strictly to avoid leaking generic http services when only specific http services should be allowed. (Default: Yes)
Attribute	Special Attribute of the current object. (Optional)
Comments	Text describing the current object. (Optional)

3.7.1. ApplicationRule

Description

An application rule specifies what action to perform on applications that matches the specified filter criteria.

Properties

Name	Specifies a symbolic name for the Profile.
Action	Action for matched application. (Default: Allow)
AppFilter	Application filter.
ApplicationContent	Extended logging and policy for application attributes. (Default: [])
UserAuthGroups	Groups and user names that belong to this object. (Optional)

ForwardChain	Specifies one or more pipes to be used for forward traffic. (Optional)
ReturnChain	Specifies one or more pipes to be used for return traffic. (Optional)
Precedence	Specifies what precedence should be assigned to the packets before sent into a pipe. (Default: FromPipe)
FixedPrecedence	Specifies the fixed precedence.
Attribute	Special Attribute of the current object. (Optional)
Comments	Text describing the current object. (Optional)

Note

If no `Index` is specified when creating an instance of this type, the object will be placed last in the list and the `Index` will be equal to the length of the list.

3.8. ARPND

Description

Use an ARP/Neighbor Discovery entry to publish additional IP addresses and/or MAC addresses on a specified interface.

Properties

Mode	Static, Publish or XPublish. (Default: Publish)
Interface	Indicates the interface to which the ARP entry applies; e.g. the interface the address shall be published on.
IP	The IP address to be published or statically bound to a hardware address.
MACAddress	The hardware address associated with the IP address. (Default: 00-00-00-00-00-00)
Attribute	Special Attribute of the current object. (Optional)
Comments	Text describing the current object. (Optional)

Note

If no `Index` is specified when creating an instance of this type, the object will be placed last in the list and the `Index` will be equal to the length of the list.

3.9. ARPNDSettings

Description

Advanced ARP/Neighbor Discovery-table settings.

Properties

ARPMatchEnetSender	The Ethernet Sender address matching the hardware address in the ARP data. (Default: DropLog)
ARPQueryNoSenderIP	If the IP source address of an ARP query (NOT response!) is "0.0.0.0". (Default: DropLog)
ARPSenderIP	The IP Source address in ARP packets. (Default: Validate)
UnsolicitedARPReplies	Unsolicited ARP replies. (Default: DropLog)
ARPRequests	Specifies whether or not the ARP requests should automatically be added to or update the ARP table. (Default: Drop)
ARPChanges	ARP packets that would cause an entry to be changed. (Default: AcceptLog)
StaticARPChanges	ARP packets that would cause static entries to be changed. (Default: DropLog)
ARPExpire	Lifetime of an ARP entry in seconds. (Default: 900)
ARPExpireUnknown	Lifetime of an "unknown" ARP entry in seconds. (Default: 3)
ARPMulticast	ARP packets claiming to be multicast addresses; may need to be enabled for some load balancers/redundancy solutions. (Default: DropLog)
ARPBroadcast	ARP packets claiming to be broadcast addresses; should never need to be enabled. (Default: DropLog)
ARPCacheSize	Number of ARP entries in cache, total. (Default: 4096)
ARPHashSize	Number of ARP hash buckets per physical interface. (Default: 512)
ARPHashSizeVLAN	Number of ARP hash buckets per VLAN interface. (Default: 64)
ARPIPCollision	Behavior when receiving an ARP request with a sender IP colliding with the one used on the receive interface. (Default: Drop)
ARPLogResolveSuccess	Specifies whether or not to log when ARP Resolve succeeds. (Default: No)

LogResolveFailure	Specifies whether or not to log failed ARP Resolves. (Default: Yes)
NDRateLimit	Rate limit originated ND packets. (Default: 1000)
MaxAnycastDelayTime	Randomized time to delay proxied and anycast advertisements. (Default: 100)
NDMatchEnetSender	Ignore ND packets with mismatching sender- and options MAC-addresses. (Default: Yes)
NDValSenderIP	Validate the IP source address of the ND packet. (Default: Yes)
NDLogResolveSuccess	Specifies whether or not to log when ND Resolve succeeds. (Default: No)
NDChanges	Action to take when ND packets are received that would modify an existing entry. (Default: FavorOld)
StaticNDChanges	Action to take when ND packets are received that would modify a static entry. (Default: DropLog)
NDValidation	Action to take when the stateless validation of a ND packet fail. (Default: DropLog)
NDCacheSize	Number of cached IP/L2 address tuples. (Per iface). (Default: 1024)
NDMaxMulticastSolicit	Number of Neighbor Solicitations before giving up address resolution. (Default: 3)
NDMaxUnicastSolicit	Number of Neighbor Solicitations before giving up a zombie during dead peer detection. (Default: 3)
NDBaseReachableTime	Multiple of randomized time factor in seconds, resulting in the time before a ND entry becomes a zombie. (Default: 30)
NDDelayFirstProbeTime	Time in seconds for a cache entry to go from DELAY to PROBE state unless resolved. (Default: 5)
NDRetransTimer	Number of seconds between each Neighbor Solicitation during address resolution and dead peer detection. (Default: 1)
RAMaxInterval	Maximum time between sending unsolicited multicast Router Advertisement. (Default: 600s). (Default: 600)
RAMinInterval	Minimum time between sending unsolicited multicast Router Advertisement. Will be automatically adjusted if set to less than 3 seconds or greater than .75 * Max RA Interval). (Default: 200)
RAAutoLifetime	Auto adjust the Router Lifetime field using the following formula; 3 * Max RA Interval. (Default: Yes)
RADefaultLifetime	The value to be placed in the Router Lifetime field of Router Advertisements sent from the SGW, in seconds. (Default: 1800s). (Default: 1800)

RAReachableTime — The value to be placed in the Reachable Time field in the Router Advertisement messages SGW. The value zero means unspecified. (Default: 0s). (Default: 0)

RARetransTimer — The value to be placed in the Retrans Timer field in the Router Advertisement messages sent by the SGW. The value zero means unspecified. (Default: 0s). (Default: 0)

RAManagedFlag — Indicates that addresses are available via DHCPv6. (Default: False). (Default: No)

RAOtherConfigFlag — Indicates that other configuration information is available via DHCPv6. (Default: False). (Default: No)

RACurHopLimit — The default value to be placed in the Cur Hop Limit field in the Router Advertisement messages sent by the SGW. The value zero means unspecified. (Default: 64). (Default: 64)

RALinkMTU — The value to be placed in MTU options sent. A value of zero indicates that no MTU options are sent. (Default: 0). (Default: 0)

RAValidLifetime — The value to be placed in the Valid Lifetime in the Prefix Information option. The value of 999999999 represents infinity. (Default: 2592000s). (Default: 2592000)

RAPreferredLifetime — The value to be placed in the Preferred Lifetime in the Prefix Information option. The value of 999999999 represents infinity. (Default: 604800s). (Default: 604800)

RAOnLinkFlag — Indicates that the advertised prefix can be used for on-link determination. (Default: True). (Default: Yes)

RAAutonomousFlag — Indicates that the advertised prefix can be used for stateless address configuration. (Default: True). (Default: Yes)

Note

This object type does not have an identifier and is identified by the name of the type only. There can only be one instance of this type.

3.10. AuthAgent

Description

The Authentication Agent collect user login and logout events on a network domain controller.

Properties

Name	Specifies a symbolic name for the agent.
IPAddress	The IP address of the agent.
Port	The listening port of the agent. (Default: 9999)
PSK	Selects the Pre-shared key to use with this agent. (Default: auth_agent_psk)
Attribute	Special Attribute of the current object. (Optional)
LogEnabled	Enable logging. (Default: Yes)
LogSeverity	Specifies with what severity log events will be sent to the specified log receivers. (Default: Default)
RoutingTable	Specifies the routing table the clients host route should be added to. (Default: main)
Comments	Text describing the current object. (Optional)

Note

If no `Index` is specified when creating an instance of this type, the object will be placed last in the list and the `Index` will be equal to the length of the list.

3.11. AuthenticationSettings

Description

Settings related to Authentication and Accounting.

Properties

LogoutAccUsersAtShutdown	Logout authenticated accounting users and send AccountingStop packets prior to shutdown. (Default: Yes)
AllowAuthIfNoAccountingResponse	Allow an authenticated user to still have access even if no response is received by the Accounting Server. (Default: Yes)
VendorSpecificAttributeAccounting	Enable sending Vendor-Specific attribute to the RADIUS server at Accounting-Request messages. (Default: No)
VendorSpecificAttributeAuthentication	Enable sending Vendor-Specific attribute to the RADIUS server at Access-Request messages. (Default: No)
LogALGUser	Log authenticated user together with URL in ALG log messages. (Default: Yes)
LogConnUser	Include authenticated user name in CONN logs. (Default: Yes)
MaxRADIUSContexts	Maximum number of RADIUS communication contexts. (Default: 1024)
BruteForceMode	Which settings should be used for brute force protection. (Default: Automatic)
BruteForceNumAttempts	Number of times a user is able to try a password before their account is locked down. (Default: 5)
BruteForceLockdownTime	How long, in seconds, a user is locked down after failing to login. (Default: 30)

Note

This object type does not have an identifier and is identified by the name of the type only. There can only be one instance of this type.

3.12. AzureVPN

Description

This type lets you set up an IPsec tunnel to Microsoft Azure (IKEv2 tunnel with AES, SHA-2, DH group 2,14 and forward secrecy). Please note that the DH group 2 is considered insecure and shouldn't be used. Group 2 is however the default and only DH group set by default in Azure. It's recommended that you configure Azure to use the more secure DH group 14.

Properties

Name	Specifies a symbolic name for the interface. (Identifier)
LocalNetwork	The network on "this side" of the IPsec tunnel. The IPsec tunnel will be established between this network and the remote network.
RemoteNetwork	The network connected to the remote gateway. The IPsec tunnel will be established between the local network and this network.
PSK	Selects the Pre-shared key to use with this IPsec Tunnel.
RemoteEndpoint	Specifies the IP address of the remote endpoint. This is the address the firewall will establish the IPsec tunnel to. It also dictates from where inbound IPsec tunnels are allowed.
AutoInterfaceNetworkRoute	Automatically add a route for this interface using the given remote network. (Default: Yes)
SNMPIndex	Interface index assigned by the system when persistent interface indexes are enabled. (Default: 0)
Attribute	Special Attribute of the current object. (Optional)
MemberOfRoutingTable	All or Specific. (Default: All)
RoutingTable	Specifies the PBR table to insert the interface IP route into. It also means that the specified routing table will be used for all routing lookups, unless overridden by a PBR rule. (Default: main)
Comments	Text describing the current object. (Optional)

3.13. BlacklistWhiteHost

Description

Hosts and networks added to this whitelist can never be blacklisted by IDP or Threshold Rules.

Properties

Addresses	Specifies the addresses that will be whitelisted.
Service	Specifies the service that will be whitelisted.
Schedule	The schedule when the whitelist should be active. (Optional)
Attribute	Special Attribute of the current object. (Optional)
Comments	Text describing the current object. (Optional)

Note

If no `Index` is specified when creating an instance of this type, the object will be placed last in the list and the `Index` will be equal to the length of the list.

3.14. BotnetProtection

Description

Protect both inbound and outbound traffic from undesired communication with command and control servers as well as infected zombie machines. Detected botnet peers are automatically blacklisted for efficient blocking. Specific hosts can be excluded from Botnet Protection using the Whitelist.

Properties

EnableBotnetBlacklist	Botnet Protection looks up source and destination IP addresses in the IP reputation database and adds malicious source and destinations to the Blacklist. (Default: No)
ZDEnabled	Enable ZoneDefense blocking. (Default: No)
ZDNetwork	Hosts within this range are blocked by ZoneDefense if a zombie machine is detected.
Attribute	Special Attribute of the current object. (Optional)
LogEnabled	Enable logging. (Default: Yes)
LogSeverity	Specifies with what severity log events will be sent to the specified log receivers. (Default: Default)
Comments	Text describing the current object. (Optional)

Note

This object type does not have an identifier and is identified by the name of the type only. There can only be one instance of this type.

3.15. Certificate

Description

An X.509 certificate can be used to authenticate IKE peers or HTTPS servers.

Properties

Name	Specifies a symbolic name for the certificate. (Identifier)
Type	Local, Remote or Request.
CertificateData	Certificate data.
PrivateKey	Private key.
CRLChecks	Specifies whether to check CRLs (Certificate Revocation Lists) when validating certificates. (Default: Enforced)
CRLDistPointList	Specifies the CRL distribution points to use when validating the certificate itself and any issued certificates. Existing distribution points in the certificates will be overriden. (Optional)
PKAType	Encryption algorithm of the public key. (Default: Unknown)
IsCA	Is Certificate Authority. (Default: No)
Attribute	Special Attribute of the current object. (Optional)
Comments	Text describing the current object. (Optional)

3.16. COMPortDevice

Description

A serial communication port, that is used for accessing the CLI.

Properties

Port	Port. (Identifier)
BitsPerSecond	Bits per second. (Default: 9600)
DataBits	Data bits. (Default: 8)
Parity	Parity. (Default: None)
StopBits	Stop bits. (Default: 1)
FlowControl	Flow control. (Default: None)
Attribute	Special Attribute of the current object. (Optional)
Comments	Text describing the current object. (Optional)

3.17. ConfigModePool

Description

An IKE Config Mode Pool will dynamically assign the IP address, DNS server, WINS server etc. to the VPN client connecting to this firewall.

Properties

Name	Specifies a symbolic name for the Config Mode Pool. (Identifier)
IPPoolType	Specifies whether a predefined IP Pool or a static set of IP addresses should be used as IP address source.
IPPool	Specifies the IP pool to use for assigning IP addresses to VPN clients.
IPPoolAddress	Specifies the set of IP addresses to use for assigning IP addresses to VPN clients.
IPPoolNetmask	Specifies the netmask to assign to VPN clients. (Optional)
DNS	Specifies the IP address of a DNS server that a VPN client should be able to connect to. (Optional)
NBNSIP	Specifies the IP address of a NBNS/WINS server that a VPN client should be able to connect to. (Optional)
DHCP	Specifies the IP address of a DHCP that that a VPN client should be able to connect to. (Optional)
Subnets	Specifies additional subnets behind this firewall. (Optional)
IPv6Prefixes	Specifies IPv6 prefixes. (Optional)
Attribute	Special Attribute of the current object. (Optional)
Comments	Text describing the current object. (Optional)

3.18. ConnTimeoutSettings

Description

Timeout settings for various protocols.

Properties

ConnLife_TCP_SYN	Connection idle lifetime for TCP connections being formed. (Default: 60)
ConnLife_TCP	Connection idle lifetime for TCP. (Default: 262144)
ConnLife_TCP_FIN	Connection idle lifetime for TCP connections being closed. (Default: 80)
ConnLife_UDP	Connection idle lifetime for UDP. (Default: 130)
AllowBothSidesToKeepConnAlive_UDP	Allow both sides to keep a UDP connection alive. (Default: No)
ConnLife_Ping	Connection timeout for Ping. (Default: 8)
ConnLife_Other	Idle lifetime for other protocols. (Default: 130)
ConnLife_IGMP	Connection idle lifetime for IGMP. (Default: 12)

Note

This object type does not have an identifier and is identified by the name of the type only. There can only be one instance of this type.

3.19. CRLDistPointList

Description

A CRL distribution point list specifies one or more locations from where a certificate revocation list (CRL) can be obtained. It can be used to add distribution points to a certificate that does not provide any, or to override existing ones. Listed distribution points will be tried in order of occurance.

Properties

Name	Specifies a symbolic name for the CRL distribution point list. (Identifier)
Attribute	Special Attribute of the current object. (Optional)
Comments	Text describing the current object. (Optional)

3.19.1. CRLDistPoint

Description

A CRL distribution point (CDP) specifies a location from where a certificate revocation list (CRL) can be obtained.

Properties

URL	Specifies the URL for the CRL distribution point. For example http://www.example.com/ca.crl.
Attribute	Special Attribute of the current object. (Optional)
Comments	Text describing the current object. (Optional)

Note

If no `Index` is specified when creating an instance of this type, the object will be placed last in the list and the `Index` will be equal to the length of the list.

3.20. DateTime

Description

Set the date, time and time zone information for this system.

Properties

Location	Specifies local time zone. (Default: DLinkHQ)
DSTEnabled	Enable daylight saving time. (Default: Yes)
TimeSynchronization	Enable time synchronization. (Default: D-Link)
TimeSyncServerType	Type of server for time synchronization, UDPTime or SNTP (Simple Network Time Protocol). (Default: SNTP)
TimeSyncServer1	DNS hostname or IP Address of Timeserver 1.
TimeSyncServer2	DNS hostname or IP Address of Timeserver 2. (Optional)
TimeSyncServer3	DNS hostname or IP Address of Timeserver 3. (Optional)
TimeSyncInterval	Seconds between each resynchronization. (Default: 86400)
TimeSyncMaxAdjust	Maximum time drift in seconds that a server is allowed to adjust. (Default: 600)
TimeSyncGroupIntervalSize	Interval according to which server responses will be grouped. (Default: 10)
Attribute	Special Attribute of the current object. (Optional)
Comments	Text describing the current object. (Optional)

Note

This object type does not have an identifier and is identified by the name of the type only. There can only be one instance of this type.

3.21. DefaultInterface

Description

A special interface used to represent internal mechanisms in the system as well as an abstract "any" interface.

Properties

Name	Specifies a symbolic name for the interface. (Identifier)
SNMPIndex	Interface index assigned by the system when persistent interface indexes are enabled. (Default: 0)
Attribute	Special Attribute of the current object. (Optional)
Comments	Text describing the current object. (Optional)

3.22. Device

Description

Global parameters for this device.

Properties

Name	Name of the device. (Default: Device)
LocalCfgVersion	Local version number of the configuration. (Default: 1)
NextSNMPIfIndex	SNMP interface index assigned to the next interface created within the system. (Default: 1)
ConfigUser	Name of the user who committed the current configuration. (Default: BaseConfiguration)
ConfigSession	Session type used when the current configuration was committed. (Default: BaseConfiguration)
ConfigIP	IP address of the user who committed the current configuration. (Optional)
ConfigDate	Date when the current configuration was committed. (Optional)
OEMID	OEM identification string. (Default: 0)
HWModel	System hardware model. (Default: SOFTWARE)
Attribute	Special Attribute of the current object. (Optional)
Comments	Text describing the current object. (Optional)

Note

This object type does not have an identifier and is identified by the name of the type only. There can only be one instance of this type.

3.23. DHCPRelay

Description

Use a DHCP Relay to dynamically alter the routing table according to relayed DHCP leases.

Properties

Name	Specifies a symbolic name for the relay rule. (Identifier)
Action	Ignore, Relay or BootpFwd. (Default: Ignore)
SourceInterface	The source interface of the DHCP packet.
TargetDHCPServer	Specifies the IP of the server to send the relayed DHCP packets to.
TargetDHCPServer2	Optional secondary server. (Optional)
TargetDHCPServer3	Optional tertiary server. (Optional)
IPOfferFilter	Specifies the span of IP addresses that are allowed to be relayed from the DHCP server. (Default: 1)
AddRoute	Enable dynamic adding of routes as leases are added and removed. (Default: No)
AddRouteLocalIP	The IP Address specified here will automatically be published on the interfaces where a route is added. (Optional)
AddRouteGatewayIP	The IP used as gateway to reach hosts on this route. (Optional)
RoutingTable	Specifies the routing table the clients host route should be added to. (Default: main)
MaxRelaysPerInterface	Specifies how many relays are allowed per interface, that means, how many DHCP clients are allowed to be relayed through each interface. (Optional)
AgentIP	Define what IP the relay should use as gateway IP when passing the requests to the DHCP server. (Default: Recv)
AllowNULLOffers	Accept server responses offering IP address "0.0.0.0" (no IP address offered). (Default: No)
ProxyARPAllInterfaces	Always select all interfaces, including new ones, for publishing routes needed for the relay via Proxy ARP. (Default: No)
ProxyARPInterfaces	Specifies the interface/interfaces on which the firewall should publish routes needed for the relay via Proxy ARP. (Optional)
Attribute	Special Attribute of the current object. (Optional)

LogEnabled	Enable logging. (Default: Yes)
LogSeverity	Specifies with what severity log events will be sent to the specified log receivers. (Default: Default)
Comments	Text describing the current object. (Optional)

3.24. DHCPRelaySettings

Description

Advanced DHCP relay settings.

Properties

MaxTransactions	Maximum number of concurrent BOOTP/DHCP transactions. (Default: 32)
TransactionTimeout	Timeout for each transaction (in seconds). (Default: 10)
MaxPPMPerIface	Maximum packets per minute that are relayed from clients to the server, per interface. (Default: 500)
MaxHops	Requests/responses that have traversed more than this many relays will not be relayed. (Default: 5)
MaxLeaseTime	Maximum lease time (seconds) allowed from the DHCP server (too high times will be lowered silently). (Default: 10000)
MaxConcurrentRelays	Maximum number of concurrently active DHCP relays. (Default: 256)
AutoSaveRelayPolicy	Policy for saving the relay list to disk. (Default: ReconfShut)
AutoSaveRelayInterval	Seconds between auto saving the relay list to disk. (Default: 86400)

Note

This object type does not have an identifier and is identified by the name of the type only. There can only be one instance of this type.

3.25. DHCPServer

Description

A DHCP Server determines a set of IP addresses and host configuration parameters to hand out to DHCP clients attached to a given interface.

Properties

Index	The index of the object, starting at 1. (Identifier)
Name	Specifies a symbolic name for the DHCP Server rule. (Identifier)
Interface	The source interface to listen for DHCP requests on. This can be a single interface or a group of interfaces.
RelayerFilter	A range, group or network that will allow specific DHCP Relayers access to the DHCP Server. (Default: 0/0)
IPAddressPool	A range, group or network that the DHCP Server will use as IP address pool to give out DHCP leases from.
Netmask	Netmask sent to the DHCP Client. (Default: 255)
DefaultGateway	Specifies what IP should be sent to the client for use as default gateway. If unspecified or if 0.0.0.0 is specified, the IP given to the client will be sent as gateway. (Optional)
Domain	Domain name used for DNS resolution. (Optional)
LeaseTime	The time, in seconds, that a DHCP lease should be provided to a host after this the client have to renew the lease. (Default: 86400)
DNS1	IP of the primary DNS server. (Optional)
DNS2	IP of the secondary DNS server. (Optional)
NBNS1	IP of the primary Windows Internet Name Service (WINS) server that is used in Microsoft environments which uses the NetBIOS Name Servers (NBNS) to assign IP addresses to NetBIOS names. (Optional)
NBNS2	IP of the primary Windows Internet Name Service (WINS) server that is used in Microsoft environments which uses the NetBIOS Name Servers (NBNS) to assign IP addresses to NetBIOS names. (Optional)
LeasesRequireAuth	Enable distribution of leases only after clients have been authenticated. (Default: No)
NextServer	IP address of next server in the boot process.

	(Optional)
Attribute	Special Attribute of the current object. (Optional)
LogEnabled	Enable logging. (Default: Yes)
LogSeverity	Specifies with what severity log events will be sent to the specified log receivers. (Default: Default)
Comments	Text describing the current object. (Optional)

3.25.1. DHCPServerPoolStaticHost

Description

Static DHCP Server host entry

Properties

Host	IP Address of the host.
StaticHostType	Identifier for host. (Default: MACAddress)
MACAddress	The hardware address of the host.
ClientIdentType	Type of client identifier specified. (Default: Ascii)
ClientIdent	The client identifier for the host.
Attribute	Special Attribute of the current object. (Optional)
Comments	Text describing the current object. (Optional)

Note

If no `Index` is specified when creating an instance of this type, the object will be placed last in the list and the `Index` will be equal to the length of the list.

3.25.2. DHCPServerCustomOption

Description

Extend the DHCP Server functionality by adding custom options that will be handed out to the DHCP clients.

Properties

Code	The DHCP option code.
Type	What type the option is, i.e. STRING, IP4 and so on. (Default: UINT8)
Param	The parameter sent with the code, this can be one

	parameter or a comma separated list.
Attribute	Special Attribute of the current object. (Optional)
Comments	Text describing the current object. (Optional)

Note

If no `Index` is specified when creating an instance of this type, the object will be placed last in the list and the `Index` will be equal to the length of the list.

3.26. DHCPServerSettings

Description

Advanced DHCP server settings.

Properties

AutoSaveLeasePolicy	Policy for saving the lease database to disk. (Default: ReconfShut)
AutoSaveLeaseInterval	Seconds between auto saving the lease database to disk. (Default: 86400)

Note

This object type does not have an identifier and is identified by the name of the type only. There can only be one instance of this type.

3.27. DHCPv6Server

Description

A DHCPv6 Server determines a set of IPv6 addresses and host configuration parameters to hand out to DHCPv6 clients attached to a given interface.

Properties

Index	The index of the object, starting at 1. (Identifier)
Name	Specifies a symbolic name for the DHCPv6 Server rule. (Identifier)
Interface	The source interface to listen for DHCPv6 requests on. This can be a single interface or a group of interfaces.
IPv6AddressPool	A range, group or network that the DHCP Server will use as IPv6 address pool to give out DHCPv6 leases from.
Domain	Domain name used for DNS resolution. (Optional)
ValidLeaseTime	The length of time in seconds that an address remains valid for sending and receiving packets. When expired, the host is not allowed to use the provided address any more and should acquire a new one. (Default: 86400)
PreferredLeaseTime	The length of time in seconds that an address should be preferred to be used in new communications. When expired, unless renewed, the address becomes deprecated and should no longer be used as a source address in new communications. (Default: 66400)
DNS1	IPv6 of the primary DNS server. (Optional)
DNS2	IPv6 of the secondary DNS server. (Optional)
SendUnicastOption	Enable sending of Unicast option to DHCPv6 client. (Default: No)
ClearUniversalLocalBit	Clear the universal/local bit in the IPv6 address pool in case of /64 networks. (Default: No)
RapidCommit	Enable respond with committed address assignments and other resources on Solicit request. (Default: No)
PreferenceConfigured	Enable Preference option sending in Advertise message. (Default: No)
PreferenceValue	Preference Option value. (Default: 0)
Attribute	Special Attribute of the current object. (Optional)
LogEnabled	Enable logging. (Default: Yes)

LogSeverity	Specifies with what severity log events will be sent to the specified log receivers. (Default: Default)
Comments	Text describing the current object. (Optional)

3.27.1. DHCPv6ServerPoolStaticHost

Description

Static DHCPv6 Server host entry

Properties

Host	IPv6 Address of the host.
MACAddress	The hardware address of the host.
Attribute	Special Attribute of the current object. (Optional)
Comments	Text describing the current object. (Optional)

Note

If no `Index` is specified when creating an instance of this type, the object will be placed last in the list and the `Index` will be equal to the length of the list.

3.28. DHCPv6ServerSettings

Description

Advanced DHCPv6 server settings.

Properties

AutoSaveLeasePolicy	Policy for saving the lease database to disk. (Default: ReconfShut)
AutoSaveLeaseInterval	Seconds between auto saving the lease database to disk. (Default: 86400)

Note

This object type does not have an identifier and is identified by the name of the type only. There can only be one instance of this type.

3.29. DiagnosticsSettings

Description

Control how anonymous usage statistics are automatically shared with D-Link to improve the quality of the product and the services. Sensitive information e.g. VPN keys or certificates are not shared. All communication is encrypted and no information is shared with 3rd parties.

Properties

EnableDiagnostics	Allow anonymous diagnostics reports to be sent to D-Link. (Default: Yes)
IncludeUsageStatistics	Include usage statistics e.g. CPU load, connection count and memory usage to manufacturer. The information will improve the quality of future products and releases. (Default: Yes)
SendExceptionReports	Send exception reports automatically to the manufacturer. The reports will help us to identify critical issues and to provide a correction quicker. (Default: Yes)

Note

This object type does not have an identifier and is identified by the name of the type only. There can only be one instance of this type.

3.30. DNS

Description

Configure the DNS (Domain Name System) client settings.

Properties

DNSServer1	IP of the primary IPv4 DNS Server. (Optional)
DNSServer2	IP of the secondary IPv4 DNS Server. (Optional)
DNSServer3	IP of the tertiary IPv4 DNS Server. (Optional)
IP6DNSServer1	IP of the primary IPv6 DNS Server. (Optional)
IP6DNSServer2	IP of the secondary IPv6 DNS Server. (Optional)
IP6DNSServer3	IP of the tertiary IPv6 DNS Server. (Optional)
MinTTL	Overrides lower TTLs received from the DNS server when used in DNS cache. (Default: 1)
MinCacheTime	Determines the minimum amount of time an IP address remains in the cache. (Default: 86400)
Attribute	Special Attribute of the current object. (Optional)
Comments	Text describing the current object. (Optional)

Note

This object type does not have an identifier and is identified by the name of the type only. There can only be one instance of this type.

3.31. DNSProfile

Description

A DNS Profile can be used by one or many IP Policies which has its service object configured with DNS as protocol.

Properties

Name	Specifies a symbolic name for the Profile. (Identifier)
MaxUDPQueryLength	Maximum payload size in DNS queries over UDP. (Default: 4096)
MaxUDPResponseLength	Maximum payload size in DNS responses over UDP. (Default: 4096)
MaxTCPQueryLength	Maximum message size in DNS queries over TCP. (Default: 4096)
MaxTCPResponseLength	Maximum message size in DNS responses over TCP. (Default: 4096)
LogDNSLookups	Log resolved addresses. (Default: Yes)
PopulateDNSCache	Populate resovled addresses to DNS-cache. (Default: Yes)
RecursionDesiredFlag	Policy for handling the Recursion Desired flag in DNS messages. (Default: Allow)
MaxQuestionEntries	Maximum number of question entries. (Default: 1)
AllowAllClasses	All DNS Record classes are allowed in DNS queries and responses. (Default: No)
AllowedClasses	List of allowed DNS Record classes in DNS queries and reponses. (Default: IN)
AllowAllTypes	All DNS Record types are allowed in DNS queries and responses. (Default: Yes)
AllowedTypes	List of allowed DNS Record types in DNS queries and responses.
ScrambleQueryID	Mitigation against cache poisoning. Scrambles message IDs in queries sent over UDP, and de-scrambles them before delivering the reply. (Default: Yes)
Attribute	Special Attribute of the current object. (Optional)
Comments	Text describing the current object. (Optional)

3.32. DoSProtection

Description

DoS Protection protects servers behind the firewall from Denial of Service attacks. Detected DoS sources are automatically blacklisted for efficient blocking. Specific hosts can be excluded from DoS protection using the Whitelist. DoS Protection can also block traffic from configured geographical regions.

Properties

EnableRegionBlacklist	Enables filtering by regions. (Default: No)
Regions	Specifies matching regions for this filter. (Optional)
EnableDoSBlacklist	DoS Protection looks up source IP addresses in the IP reputation database and adds malicious sources to the Blacklist. (Default: No)
Interfaces	Interfaces to protect from attacks. Normally the interfaces towards the Internet. (Optional)
Attribute	Special Attribute of the current object. (Optional)
LogEnabled	Enable logging. (Default: Yes)
LogSeverity	Specifies with what severity log events will be sent to the specified log receivers. (Default: Default)
Comments	Text describing the current object. (Optional)

Note

This object type does not have an identifier and is identified by the name of the type only. There can only be one instance of this type.

3.33. DynamicRoutingRule

Description

A Dynamic Routing Policy rule creates a filter to catch statically configured or OSPF learned routes. The matched routes can be controlled by the action rules to be either exported to OSPF processes or to be added to one or more routing tables.

Properties

Index	The index of the object, starting at 1. (Identifier)
Name	Specifies a symbolic name for the rule. (Optional)
From	OSPF or Routing table. (Default: OSPF)
OSPFProcess	Specifies from which OSPF process the route should be imported from into either a routing table or another OSPF process.
RoutingTable	Specifies from which routing table a route should be imported into the OSPF AS or copied into another routing table.
DestinationInterface	The interface that the policy has to match. (Optional)
DestinationNetworkExactly	Specifies if the route needs to match a specific network exactly. (Optional)
DestinationNetworkIn	Specifies if the route just needs to be within a specific network. (Optional)
NextHop	The next hop (router) on the route that this policy has to match. (Optional)
MetricRange	Specifies an interval that the metric of the routes needs to be within. (Optional)
RouterID	Specifies if the policy should filter on router ID. (Optional)
OSPFRouteType	Specifies if the policy should filter on OSPF router type. (Optional)
OSPFTagRange	Specifies an interval that the tag of the routers need to be within. (Optional)
Attribute	Special Attribute of the current object. (Optional)
LogEnabled	Enable logging. (Default: Yes)
LogSeverity	Specifies with what severity log events will be sent to the specified log receivers. (Default: Default)
Comments	Text describing the current object. (Optional)

Note
If no `Index` is specified when creating an instance of this type, the object will be placed last in the list and the `Index` will be equal to the length of the list.

3.33.1. DynamicRoutingRuleExportOSPF

Description

An OSPF action is used to manipulate and export new or changed routes to an OSPF Router Process.

Properties

ExportToProcess	Specifies to which OSPF Process the route change should be exported.
SetTag	Specifies a tag for this route. This tag can be used in other routers for filtering. (Optional)
SetRouteType	The external route type. (Optional)
OffsetMetric	Increases the metric of the imported route by this value. (Optional)
LimitMetricRange	Limits the metrics for these routes to a minimum and maximum value, if a route has a higher or lower value then specified it will be set to the specified value. (Optional)
SetForward	IP to route over. (Optional)
Attribute	Special Attribute of the current object. (Optional)
Comments	Text describing the current object. (Optional)

Note
If no `Index` is specified when creating an instance of this type, the object will be placed last in the list and the `Index` will be equal to the length of the list.

3.33.2. DynamicRoutingRuleAddRoute

Description

A routing action is used to manipulate and insert new or changed routes to one or more local routing tables.

Properties

Destination	Specifies to which routing table the route changes

	to the OSPF Process should be exported.
OverrideStatic	Allow override of static routes. (Default: No)
OverwriteDefault	Allow overwrite of default route. (Default: No)
OffsetMetric	Increases the metric by this value. (Optional)
OffsetMetricType2	Increases the for Type2 routers metric by this value. (Optional)
LimitMetricRange	Limits the metrics for these routes to a minimum and maximum value, if a route has a higher or lower value then specified it will be set to the specified value. (Optional)
Attribute	Special Attribute of the current object. (Optional)
ProxyARPAllInterfaces	Always select all interfaces, including new ones, for publishing routes via Proxy ARP. (Default: No)
ProxyARPInterfaces	Specifies the interfaces on which the firewall should publish routes via Proxy ARP. (Optional)
Comments	Text describing the current object. (Optional)

Note

If no `Index` is specified when creating an instance of this type, the object will be placed last in the list and the `Index` will be equal to the length of the list.

3.34. DynDnsClientCjbNet

Description

Configure the parameters used to connect to the Cjb.net Dynamic DNS service.

Properties

Username	Username.
Password	The password for the specified username. (Optional)
Attribute	Special Attribute of the current object. (Optional)
Comments	Text describing the current object. (Optional)

Note

If no `Index` is specified when creating an instance of this type, the object will be placed last in the list and the `Index` will be equal to the length of the list.

3.35. DynDnsClientDLink

Description

Configure the parameters used to connect to the D-Link DynDNS service.

Properties

DNSName	The DNS name excluding the .dlinkddns.com suffix.
Username	Username.
Password	The password for the specified username. (Optional)
Attribute	Special Attribute of the current object. (Optional)
Comments	Text describing the current object. (Optional)

Note

If no `Index` is specified when creating an instance of this type, the object will be placed last in the list and the `Index` will be equal to the length of the list.

3.36. DynDnsClientDLinkChina

Description

Configure the parameters used to connect to the D-Link DynDNS service (China only).

Properties

DNSName	The DNS name excluding the .dlinkddns.com suffix.
Username	Username.
Password	The password for the specified username. (Optional)
Attribute	Special Attribute of the current object. (Optional)
Comments	Text describing the current object. (Optional)

Note

If no `Index` is specified when creating an instance of this type, the object will be placed last in the list and the `Index` will be equal to the length of the list.

3.37. DynDnsClientDyndnsOrg

Description

Configure the parameters used to connect to the dyn.com Dynamic DNS service.

Properties

DNSName	The DNS name excluding the .dyndns.org suffix.
Username	Username.
Password	The password for the specified username. (Optional)
Attribute	Special Attribute of the current object. (Optional)
Comments	Text describing the current object. (Optional)

Note

If no `Index` is specified when creating an instance of this type, the object will be placed last in the list and the `Index` will be equal to the length of the list.

3.38. DynDnsClientDynsCx

Description

Configure the parameters used to connect to the dyns.cx Dynamic DNS service.

Properties

DNSName	The DNS name excluding the .dyns.cx suffix.
Username	Username.
Password	The password for the specified username. (Optional)
Attribute	Special Attribute of the current object. (Optional)
Comments	Text describing the current object. (Optional)

Note

If no `Index` is specified when creating an instance of this type, the object will be placed last in the list and the `Index` will be equal to the length of the list.

3.39. DynDnsClientPeanutHull

Description

Configure the parameters used to connect to the Peanut Hull Dynamic DNS service.

Properties

DNSNames	Specifies the DNS names separated by ";".
Username	Username.
Password	The password for the specified username. (Optional)
Attribute	Special Attribute of the current object. (Optional)
Comments	Text describing the current object. (Optional)

Note

If no `Index` is specified when creating an instance of this type, the object will be placed last in the list and the `Index` will be equal to the length of the list.

3.40. EmailControlProfile

Description

An E-mail Control Profile can be used by one or many IP Policies which has its service object configured with a protocol that supports e-mail scanning (IMAP, POP3, SMTP).

Properties

Name	Specifies a symbolic name for the Profile. (Identifier)
AntiSpam	Anti-Spam protects against unsolicited bulk email. (Default: No)
TagThreshold	An email is tagged if the total score of all anti-spam mechanisms exceeds this threshold. (Default: 10)
RejectThreshold	An email is rejected if the total score of all anti-spam mechanisms exceeds this threshold. Applies to SMTP only. (Default: 20)
TagSubject	Prefix email subject with a custom text string if the Tag Threshold is exceeded. (Default: Yes)
SubjectTag	Custom text string to tag subject with. (Default: "*** SPAM *** ")
TagHeader	Suffix email header with informative X-Spam header fields. (Default: Yes)
DomainVerification	Use DNS to verify reply-to domains in emails. If a domain appears to be forged, the configured score value is added to the total score for that email. (Default: Yes)
DomainVerificationScore	Specify a score value for Domain Verification. (Default: 10)
LinkProtection	Neutralize undesirable web links in emails. If one or more undesirable links are found, the configured score value is added to the total score for that email. (Default: Yes)
LinkProtectionScore	Specify a score value for Link Protection. (Default: 10)
LinkProtectionCategories	Specify undesirable link categories. (Optional; Default: ADULT_CONTENT,BOTNETS,CHILD_ABUSE_MATERIAL,CRIME_TERROR
LinkProtectionNonManagedAction	Action to take for content that has not been classified. (Default: Allow)
DCC	Distributed Checksum Clearinghouses (DCC) is an external server network that acts as a central repository for email checksums reported by participating email servers. The idea is that if a checksum has been reported many times by many

different servers then it is probably spam. (Default: Yes)

DCCScore Specify a score value for DCC. (Default: 10)

DCCThreshold Specifies how many times a checksum must be reported before it is considered spam. If the DCC Threshold is exceeded, the configured score value is added to the total score for that email. (Default: 50)

DNSBL A DNS Blacklist is a 3rd party database of IP addresses that have been used to send spam. As the name implies, the DNS protocol is used to perform queries. Up to 10 DNS Blacklists may be configured. (Default: No)

DNSBL1 IP address blacklisting using an external database. If the sender's IP address is blacklisted, the configured score value is added to the total score for that email. (Default: No)

DNSBL2 IP address blacklisting using an external database. If the sender's IP address is blacklisted, the configured score value is added to the total score for that email. (Default: No)

DNSBL3 IP address blacklisting using an external database. If the sender's IP address is blacklisted, the configured score value is added to the total score for that email. (Default: No)

DNSBL4 IP address blacklisting using an external database. If the sender's IP address is blacklisted, the configured score value is added to the total score for that email. (Default: No)

DNSBL5 IP address blacklisting using an external database. If the sender's IP address is blacklisted, the configured score value is added to the total score for that email. (Default: No)

DNSBL6 IP address blacklisting using an external database. If the sender's IP address is blacklisted, the configured score value is added to the total score for that email. (Default: No)

DNSBL7 IP address blacklisting using an external database. If the sender's IP address is blacklisted, the configured score value is added to the total score for that email. (Default: No)

DNSBL8 IP address blacklisting using an external database. If the sender's IP address is blacklisted, the configured score value is added to the total score for that email. (Default: No)

DNSBL9 IP address blacklisting using an external database. If the sender's IP address is blacklisted, the configured score value is added to the total score for that email. (Default: No)

DNSBL10	IP address blacklisting using an external database. If the sender's IP address is blacklisted, the configured score value is added to the total score for that email. (Default: No)
DNSBL1Name	Specify the DNS name of a DNS Blacklist.
DNSBL2Name	Specify the DNS name of a DNS Blacklist.
DNSBL3Name	Specify the DNS name of a DNS Blacklist.
DNSBL4Name	Specify the DNS name of a DNS Blacklist.
DNSBL5Name	Specify the DNS name of a DNS Blacklist.
DNSBL6Name	Specify the DNS name of a DNS Blacklist.
DNSBL7Name	Specify the DNS name of a DNS Blacklist.
DNSBL8Name	Specify the DNS name of a DNS Blacklist.
DNSBL9Name	Specify the DNS name of a DNS Blacklist.
DNSBL10Name	Specify the DNS name of a DNS Blacklist.
DNSBL1Score	Specify a score value for DNS Blacklist 1. (Default: 10)
DNSBL2Score	Specify a score value for DNS Blacklist 2. (Default: 10)
DNSBL3Score	Specify a score value for DNS Blacklist 3. (Default: 10)
DNSBL4Score	Specify a score value for DNS Blacklist 4. (Default: 10)
DNSBL5Score	Specify a score value for DNS Blacklist 5. (Default: 10)
DNSBL6Score	Specify a score value for DNS Blacklist 6. (Default: 10)
DNSBL7Score	Specify a score value for DNS Blacklist 7. (Default: 10)
DNSBL8Score	Specify a score value for DNS Blacklist 8. (Default: 10)
DNSBL9Score	Specify a score value for DNS Blacklist 9. (Default: 10)
DNSBL10Score	Specify a score value for DNS Blacklist 10. (Default: 10)
BlacklistTag	For IMAP and POP3, custom text string to tag subject of blacklisted emails. For SMTP this has no effect; blacklisted messages are rejected instead. (Default: "*** BLACK LISTED *** ")
IMAP_HideUser	Prevent server from revealing that a user name does not exist. (Default: No)

IMAP_BlockPlainAuth	Block plain text authentication. (Default: No)
IMAP_AllowSTARTTLS	Allow clients to use the STARTTLS command. Note that this allows encrypted transactions to take place, which circumvents any enabled security mechanisms. (Default: No)
POP3_HideUser	Prevent server from revealing that a user name does not exist. (Default: No)
POP3_AllowUnknownCommands	Allow unknown commands. (Default: No)
POP3_BlockUserPass	Block clients from sending USER and PASS command. (Default: No)
POP3_AllowSTARTTLS	Allow clients to use the STARTTLS command. Note that this allows encrypted transactions to take place, which circumvents any enabled security mechanisms. (Default: No)
SMTP_MaxEmailPerMinute	Specifies the maximum amount of emails per minute from the same host. (Optional)
SMTP_MaxEmailSize	Specifies the maximum allowed email size in kB. (Optional)
SMTP_AllowSTARTTLS	Allow clients to use the STARTTLS command. Note that this allows encrypted transactions to take place, which circumvents any enabled security mechanisms. (Default: No)
Attribute	Special Attribute of the current object. (Optional)
Comments	Text describing the current object. (Optional)

3.40.1. EmailFilter

Description

Add an email filter to whitelist or blacklist an email source and/or destination combination. A whitelisted message will bypass all other anti-spam mechanisms. A blacklisted message is treated as spam.

Properties

Action	A blacklisted message is treated as spam. A whitelisted message will bypass all other anti-spam mechanisms. (Default: Blacklist)
SrcType	Source can either be an IP address or an email address from which the email was sent. (Default: Email)
SrcEmail	Specify sender email address. Wildcards can be used. Supported wildcards are *(multi character match) and ?(single character match).
SrcIP	Specify the IP address of the sender. (Optional)

DestEmail	Specify email address of the receiver. Wildcards can be used. Supported wildcards are *(multi character match) and ?(single character match). (Default: *)
Attribute	Special Attribute of the current object. (Optional)
Comments	Text describing the current object. (Optional)

Note

If no `Index` is specified when creating an instance of this type, the object will be placed last in the list and the `Index` will be equal to the length of the list.

3.41. Ethernet

Description

An Ethernet interface represents a logical endpoint for Ethernet traffic.

Properties

Name	Specifies a symbolic name for the interface. (Identifier)
EthernetDevice	Hardware settings for the Ethernet interface.
VLanQoSInherit	Set whether VLANs using the interface should inherit the IP QoS bits. (Default: No)
ReceiveMulticastTraffic	Sets the multicast receive mode of the interface. (Default: Auto)
LACPPortPriority	Port priority value to be sent in LACP messages. (Default: 1)
IP	The IP address of the interface.
Network	The network of the interface.
DefaultGateway	The default gateway of the interface. (Optional)
Broadcast	The broadcast address of the connected network. (Optional)
EnableIPv6	Enable processing of IPv6 traffic on this interface. (Default: No)
IPv6IP	The IP address of the interface.
IPv6Network	The network of the interface.
IPv6DefaultGateway	The default gateway of the interface. (Optional)
RouterDiscovery	Uses Router information (ND RA) from local network to auto-configure Network and Default Gateway addresses. (Default: No)
AutoIPv6IP	Automatically configures IP Address using Network Address and EUI-64. (Default: No)
DHCPv6Enabled	Enable DHCPv6 client on this interface. (Default: No)
PrivateIP	The private IP address of this high availability node. (Optional)
PrivateIP6	The private IP6 address of this high availability node. (Default: localhost6)
NOCHB	This will disable sending Cluster Heartbeats from this interface (used by HA to detect if a node is online and working). (Optional)

MTU	Specifies the size (in bytes) of the largest packet that can be passed onward. Must be 1294 or larger when IPv6 is enabled. (Default: 1500)
Metric	Specifies the metric for the auto-created route. (Default: 100)
DHCPEnabled	Enable DHCP client on this interface. (Default: No)
DHCPHostName	Optional DHCP Host Name. Leave blank to use default name. (Optional)
AutoSwitchRoute	Allows traffic to be forwarded transparently across all interfaces with Transparent Mode enabled that belong to the same routing table. (Default: No)
DHCPPassthrough	Allow DHCP to pass through transparently. (Default: No)
NonIPPassthrough	Allow non-IP protocols to pass through transparently. (Default: No)
BroadcastFwd	By default, this traffic is dropped. (Default: No)
AutoInterfaceNetworkRoute	Automatically add a route for this interface using the given network. (Default: Yes)
AutoDefaultGatewayRoute	Automatically add a default route for this interface using the given default gateway. (Default: Yes)
DHCPDNS1	IP of the primary DNS server. (Optional)
DHCPDNS2	IP of the secondary DNS server. (Optional)
DHCPv6DNS1	IP of the primary IPv6 DNS server. (Optional)
DHCPv6DNS2	IP of the secondary IPv6 DNS server. (Optional)
EnableRouterAdvertisement	Enable Router Advertisement for this interface. (Default: No)
SNMPIndex	Interface index assigned by the system when persistent interface indexes are enabled. (Default: 0)
Attribute	Special Attribute of the current object. (Optional)
MemberOfRoutingTable	All or Specific. (Default: All)
RoutingTable	Specifies the PBR table to insert the interface IP route into. It also means that the specified routing table will be used for all routing lookups, unless overridden by a PBR rule. (Default: main)
Comments	Text describing the current object. (Optional)

3.42. EthernetDevice

Description

Hardware settings for an Ethernet interface.

Properties

Name	Specifies a symbolic name for the device. (Identifier)
EthernetDriver	The Ethernet PCI driver that should be used by the interface.
PCIBus	PCI bus number where the Ethernet adapter is installed.
PCISlot	PCI slot number used by the Ethernet adapter.
PCIPort	Some Ethernet adapters have multiple ports that share the same bus and slot number. This parameter specifies what port to be used.
Media	Specifies if the link speed should be auto-negotiated or locked to a static speed. (Default: Auto)
Duplex	Specifies if the duplex should be auto-negotiated or locked to full or half duplex. (Default: Auto)
MACAddress	The hardware address for the interface. (Optional)
Attribute	Special Attribute of the current object. (Optional)
Comments	Text describing the current object. (Optional)

3.43. EthernetSettings

Description

Settings for Ethernet interface.

Properties

DHCP_MinimumLeaseTime	Minimum lease time (seconds) accepted from the DHCP server. (Default: 60)
DHCP_ValidateBcast	Require that the assigned broadcast address is the highest address in the assigned network. (Default: Yes)
DHCP_AllowGlobalBcast	Allow DHCP server to assign 255.255.255.255 as broadcast (Non-standard). (Default: No)
DHCP_UseLinkLocalIP	Use a 169.254.*.* IP while waiting for a lease (instead of 0.0.0.0). (Default: No)
DHCP_DisableArpOnOffer	Disable arp resolve on offers (normally used to verify that an IP is not occupied). (Default: No)
DHCP_DelayMinorUpdates	Delay applying minor updates, like DNS changes, until reconfiguration. (Default: No)
Ringsize_e1000_rx	Size of e1000 receive ring (per interface). (Default: 128)
Ringsize_e1000_tx	Size of e1000 send ring (per interface). (Default: 256)
Ringsize_r8169_rx	Size of r8169 receive ring (per interface). (Default: 256)
Ringsize_r8169_tx	Size of r8169 send ring (per interface). (Default: 256)
IfaceMon_e1000	Enable interface monitor for e1000 interfaces. (Default: Yes)
IfaceMon_BelowCPULoad	Temporarily disable interface monitor if CPU load goes above this percentage. (Default: 80)
IfaceMon_BelowIfaceLoad	Temporarily disable interface monitor on an interface if network load on the interface goes above this percentage. (Default: 70)
IfaceMon_MinInterval	Minimum interval between two resets of the same interface. (Default: 30)
IfaceMon_RxErrorPerc	At what percentage of errors to received packets to declare a problem. (Default: 20)
IfaceMon_TxErrorPerc	At what percentage of errors to sent packets to declare a problem. (Default: 7)
IfaceMon_ErrorTime	How long a problem must persist before an interface is reset. (Default: 10)

Note

This object type does not have an identifier and is identified by the name of the type only. There can only be one instance of this type.

3.44. EventReceiverSNMP2c

Description

A SNMPv2c event receiver is used to receive SNMP events from the system.

Properties

Name	Specifies a symbolic name for the log receiver. (Identifier)
Community	A shared string between the firewall and the server, identifying them as part of the same group. (Default: public)
RepeatCount	Controls how many times an event is sent before being ignored. A value of 0 means events will never be ignored. (Default: 0)
SNMP2cIfTraps	This enables generation of SNMPv2c traps for interface up/down events. (Default: No)
IPAddress	Destination IP address.
Port	Destination port. (Default: 162)
LogSeverity	Specifies with what severity log events will be sent to the specified log receivers. (Optional; Default: Emergency,Alert,Critical,Error,Warning,Notice,Info)
Attribute	Special Attribute of the current object. (Optional)
RoutingTable	Specifies the routing table the clients host route should be added to. (Default: main)
Comments	Text describing the current object. (Optional)

3.44.1. LogReceiverMessageException

Description

A log message exception is used to override the severity filter in the log receiver.

Properties

LogCategory	The Category of the log message.
LogID	The ID number of the log message, a empty value selects all messages of this category. (Optional)
LogType	EXCLUDE or INCLUDE. (Default: EXCLUDE)
LogSeverity	Specifies with what severity log events will be sent to the specified log receivers. (Default: Default)
Attribute	Special Attribute of the current object. (Optional)

Comments Text describing the current object. (Optional)

Note

If no `Index` is specified when creating an instance of this type, the object will be placed last in the list and the `Index` will be equal to the length of the list.

3.45. EventReceiverSNMPv3

Description

A SNMPv3 event receiver is used to receive SNMP events from the system.

Properties

Name	Specifies a symbolic name for the log receiver. (Identifier)
Snmp3SecurityLevel	Enabled SNMPv3 security level. (Default: noAuthNoPriv)
Username	The user on whose behalf the message is being exchanged.
Password	The password used for both authentication and encryption.
RepeatCount	Controls how many times an event is sent before being ignored. A value of 0 means events will never be ignored. (Default: 0)
SNMP3IfTraps	This enables generation of SNMPv3 traps for interface up/down events. (Default: No)
IPAddress	Destination IP address.
Port	Destination port. (Default: 162)
LogSeverity	Specifies with what severity log events will be sent to the specified log receivers. (Optional; Default: Emergency,Alert,Critical,Error,Warning,Notice,Info)
Attribute	Special Attribute of the current object. (Optional)
RoutingTable	Specifies the routing table the clients host route should be added to. (Default: main)
Comments	Text describing the current object. (Optional)

3.45.1. LogReceiverMessageException

The definitions here are the same as in Section 3.44.1, “LogReceiverMessageException” .

3.46. FileControlPolicy

Description

A File Control Profile can be used by one or many IP Policies which has its service object configured with a protocol that supports file control scanning (HTTP, FTP, POP3, SMTP, IMAP).

Properties

Name	Specifies a symbolic name for the Profile. (Identifier)
Attribute	Special Attribute of the current object. (Optional)
FileListType	Specifies if the file list contains files to allow or deny. (Default: Block)
File	List of file types to allow or deny. (Optional)
VerifyContentMimetype	Verify that file extentions correspond to the MIME type. (Default: No)
Comments	Text describing the current object. (Optional)

3.47. FragSettings

Description

Settings related to fragmented packets.

Properties

PseudoReass_MaxConcurrent	Maximum number of concurrent fragment reassemblies. Set to 0 to drop all fragments. (Default: 1024)
IllegalFrags	Illegaly constructed fragments; partial overlaps, bad sizes, etc. (Default: DropLog)
DuplicateFragData	On receipt of duplicate fragments, verify matching data... (Default: Check8)
FragReassemblyFail	Failed packet reassembly attempts - due to timeouts or packet losses. (Default: LogSuspectSubseq)
DroppedFrags	Fragments of packets dropped due to rule base. (Default: LogSuspect)
DuplicateFrags	Duplicate fragments received. (Default: LogSuspect)
FragmentedICMP	Fragmented ICMP messages other than Ping; normally invalid. (Default: DropLog)
MinimumFragLength	Minimum allowed length of non-last fragments. (Default: 8)
ReassTimeout	Timeout of a reassembly, since previous received fragment. (Default: 65)
ReassTimeLimit	Maximum lifetime of a reassembly, since first received fragment. (Default: 90)
ReassDoneLinger	How long to remember a completed reassembly (watching for old dups). (Default: 20)
ReassIllegalLinger	How long to remember an illegal reassembly (watching for more fragments). (Default: 60)
IP6IllegalFrags	Illegaly constructed fragments; partial overlaps, bad sizes, etc. (Default: DropLog)
IP6DuplicateFragData	On receipt of duplicate fragments, verify matching data... (Default: Check8)
IP6FragReassemblyFail	Failed packet reassembly attempts - due to timeouts or packet losses. (Default: LogSuspectSubseq)
IP6DroppedFrags	Fragments of packets dropped due to rule base. (Default: LogSuspect)
IP6DuplicateFrags	Duplicate fragments received. (Default:

	LogSuspect)
IP6RejectBadFragLength	Send Parameter Problem error upon reception of fragments with bad data length. (Default: No)
IP6IgnoreStubFrags	Ignore fragments with M flag cleared and fragment offset zero. (Default: No)
IP6MinimumFragLength	Minimum allowed length of non-last fragments. (Default: 8)
IP6ReassTimeout	Timeout of a reassembly, since previous received fragment. (Default: 65)
IP6ReassTimeLimit	Maximum lifetime of a reassembly, since first received fragment. (Default: 90)
IP6ReassDoneLinger	How long to remember a completed reassembly (watching for old dups). (Default: 20)
IP6ReassIllegalLinger	How long to remember an illegal reassembly (watching for more fragments). (Default: 60)
IP6SendErrorOnTimeout	Send ICMPv6 error when a fragment reassembly time out. (Default: No)

Note

This object type does not have an identifier and is identified by the name of the type only. There can only be one instance of this type.

3.48. GeolocationFilter

Description

The Geolocation Filter allows the system to filter IP addresses based on region.

Properties

Name	Specifies a symbolic name for the rule. (Identifier)
Regions	Specifies matching regions for this filter. (Optional)
MatchPrivate	Specify if filter should match private networks (10.0.0.0/8, 172.16.0.0/12, 192.168.0.0/16, fd00::/8). (Default: No)
MatchUnknown	Specify if filter should match unclassified networks. (Default: No)
Attribute	Special Attribute of the current object. (Optional)
Comments	Text describing the current object. (Optional)

3.49. GotoRule

Description

A goto rule specifies what IP rule set to match IP rules in for traffic that matches the specified filter criteria.

Properties

Index	The index of the object, starting at 1. (Identifier)
Name	Specifies a symbolic name for the rule. (Optional)
Action	Goto Action. (Default: Goto)
RuleSet	Where to redirect rule lookup.
SourceInterface	Specifies the name of the receiving interface to be compared to the received packet.
DestinationInterface	Specifies the destination interface to be compared to the received packet.
SourceNetwork	Specifies the sender span of IP addresses to be compared to the received packet.
DestinationNetwork	Specifies the span of IP addresses to be compared to the destination IP of the received packet.
Service	Specifies a service that will be used as a filter parameter when matching traffic with this rule.
Schedule	By adding a schedule to a rule, the firewall will only allow that rule to trigger at those designated times. (Optional)
Attribute	Special Attribute of the current object. (Optional)
LogEnabled	Enable logging. (Default: Yes)
LogSeverity	Specifies with what severity log events will be sent to the specified log receivers. (Default: Default)
Comments	Text describing the current object. (Optional)

Note

If no `Index` is specified when creating an instance of this type, the object will be placed last in the list and the `Index` will be equal to the length of the list.

3.50. GRETunnel

Description

A GRE interface is a Generic Routing Encapsulation (no encryption, no authentication, only encapsulation) tunnel over an existing IP network.

Properties

Name	Specifies a symbolic name for the interface. (Identifier)
IP	Specifies the IP address of the GRE interface.
Network	Specifies the network address of the GRE interface.
RemoteEndpoint	Specifies the IP address of the remote endpoint.
EncapsulationChecksum	Add an extra level of checksum above the one provided by the IPv4 layer. (Default: No)
OriginatorIPType	Specifies what IP address to use as source IP in e.g. NAT. (Default: LocalInterface)
OriginatorIP	Manually specified originator IP address to use as source IP in e.g. NAT.
Metric	Specifies the metric for the auto-created route. (Default: 90)
AutoInterfaceNetworkRoute	Automatically add a route for this interface using the given remote network. (Default: Yes)
OutgoingRoutingTable	The outer PBR Table to use. (Default: main)
UseSessionKey	Specify whether or not to use a session key. (Default: No)
SessionKey	Session key. (Default: 0)
SNMPIndex	Interface index assigned by the system when persistent interface indexes are enabled. (Default: 0)
Attribute	Special Attribute of the current object. (Optional)
MemberOfRoutingTable	All or Specific. (Default: All)
RoutingTable	Specifies the PBR table to insert the interface IP route into. It also means that the specified routing table will be used for all routing lookups, unless overridden by a PBR rule. (Default: main)
Comments	Text describing the current object. (Optional)

3.51. HighAvailability

Description

Configure the High Availability cluster parameters for this system.

Properties

Enabled	Enable high availability. (Default: No)
ClusterID	A (locally) unique cluster ID to use in identifying this group of HA firewalls. (Default: 0)
SyncIface	Specifies the interface used for state synchronization.
NodeID	Master or Slave. (Default: Master)
HASyncBufSize	How much sync data, in KB, to buffer while waiting for acknowledgments from the cluster peer. (Default: 4096)
HASyncMaxPktBurst	The maximum number of state sync packets to send in a burst. (Default: 100)
HAInitialSilence	The number of seconds to stay silent on startup or after reconfiguration. (Default: 5)
UseUniqueSharedMac	Use a unique shared mac address for each interface. (Default: Yes)
HADeactivateBeforeReconf	Deactivate(hand over) before Reconfiguration if Active. (Default: Yes)
ReconfFailoverTime	Number of non-responsive seconds before failover at HA reconf (0=immediate failover). (Default: 0)
HAFailoverTime	Number of milliseconds before failover when active HA node becomes non-responsive. (Default: 750)

Note

This object type does not have an identifier and is identified by the name of the type only. There can only be one instance of this type.

3.52. HTTPALGBanners

Description

HTTP banner files specifies the look and feel of HTTP ALG restriction web pages.

Properties

Name	Specifies a symbolic name for the HTTP Banner Files. (Identifier)
CompressionForbidden	HTML for the CompressionForbidden.html web page.
ContentForbidden	HTML for the ContentForbidden.html web page.
URLForbidden	HTML for the URLForbidden.html web page.
RestrictedSiteNotice	HTML for the RestrictedSiteNotice.html web page.
ReclassifyURL	HTML for the ReclassifyURL.html web page.
Attribute	Special Attribute of the current object. (Optional)
Comments	Text describing the current object. (Optional)

3.53. HTTPAuthBanners

Description

HTTP banner files specifies the look and feel of HTML authentication web pages.

Properties

Name	Specifies a symbolic name for the HTTP Banner Files. (Identifier)
FormLogin	HTML for the FormLogin.html web page.
LoginSuccess	HTML for the LoginSuccess.html web page.
LoginFailure	HTML for the LoginFailure.html web page.
LoginAlreadyDone	HTML for the LoginAlreadyDone.html web page.
LoginChallenge	HTML for the LoginChallenge.html web page.
LoginChallengeTimeout	HTML for the LoginChallenge.html Timeout' web page.
LogoutSuccess	HTML for the LogoutSuccess.html web page.
LogoutSuccessBasicAuth	HTML for the LogoutSuccessBasicAuth.html web page.
LogoutFailure	HTML for the LogoutFailure.html web page.
FileNotFound	HTML for the FileNotFound.html web page.
Attribute	Special Attribute of the current object. (Optional)
Comments	Text describing the current object. (Optional)

3.54. HTTPPoster

Description

Use the HTTP poster for dynamic DNS or automatic logon to services using web-based authentication.

Properties

URL	The URL that will be posted when the firewall is loaded.
RepostDelay	Delay in seconds until the URL is refetched. (Default: 1200)
AlwaysRepost	Repost on each reconfiguration. (Default: No)
PostValues	HTTP POST the values. (Default: No)
Attribute	Special Attribute of the current object. (Optional)
Comments	Text describing the current object. (Optional)

Note

If no `Index` is specified when creating an instance of this type, the object will be placed last in the list and the `Index` will be equal to the length of the list.

3.55. HWM

Description

Hardware Monitoring allows monitoring of hardware sensors.

Properties

Name	Specifies a symbolic name for the object.
Type	Type of monitoring.
Sensor	Sensor index.
MinLimit	Lower limit. (Optional)
MaxLimit	Upper limit. (Optional)
EnableMonitoring	Enable/disable monitoring. (Default: No)
Attribute	Special Attribute of the current object. (Optional)
Comments	Text describing the current object. (Optional)

Note

If no `Index` is specified when creating an instance of this type, the object will be placed last in the list and the `Index` will be equal to the length of the list.

3.56. HWMSettings

Description

General settings for Hardware Monitoring

Properties

EnableSensors	Enable/disable all HWM functionality. (Default: No)
SensorPollInterval	Sensor polling interval. (Default: 500)
MemoryPollInterval	Memory polling interval in minutes. (Default: 15)
MemoryUsePercent	Should mem monitor use percentage as unit for monitoring, else it is megabyte. (Default: Yes)
MemoryLogRepetition	Should a log message be sent for each poll result that is in the Alert, Critical or Warning level, or should a log message only be sent when a new level is reached. (Default: No)
MemoryAlertLevel	Alert log message if free memory is below this value, disable by using 0. (Default: 0)
MemoryCriticalLevel	Critical log message if free memory is below this value, disable by using 0. (Default: 0)
MemoryWarningLevel	Warning log message if free memory is below this value, disable by using 0. (Default: 0)

Note

This object type does not have an identifier and is identified by the name of the type only. There can only be one instance of this type.

3.57. ICMPSettings

Description

Settings related to the ICMP protocol.

Properties

ICMPSendPerSecLimit	Maximum number of ICMP responses that will be sent each second. (Default: 500)
SilentlyDropStateICMPErrors	Silently drop ICMP errors regarding statefully tracked open connections. (Default: Yes)
ICMP6MaxOptND	Total number of options allowed per ICMP6 ND header. (Default: 32)
ICMP6NDOnMaxOptND	Validate the number of options per extension header when it goes beyond ICMP6MaxOptND. (Default: DropLog)

Note

This object type does not have an identifier and is identified by the name of the type only. There can only be one instance of this type.

3.58. IDList

Description

An ID list contains IDs, which are used within the authentication process when establishing an IPsec tunnel.

Properties

Name	Specifies a symbolic name for the ID list. (Identifier)
Attribute	Special Attribute of the current object. (Optional)
Comments	Text describing the current object. (Optional)

3.58.1. ID

Description

An ID is used to define parameters that are matched against the subject field in an X.509 certificate when establishing an IPsec tunnel.

Properties

Name	Specifies a symbolic name for the object. (Identifier)
Type	IP, DNS, E-Mail or Distinguished name.
IP	IP address.
Hostname	Host name.
CommonName	Common name of the owner of the certificate. (Optional)
OrganizationName	Organization name of the owner of the certificate. (Optional)
OrganizationalUnit	Organizational unit of the owner of the certificate. (Optional)
Country	Specifies the country. (Optional)
LocalityName	Locality. (Optional)
EMailAddress	E-mail address. (Optional)
DNTuples	Use the most common DN types, or add tuples as a comma separated list of types. E.g. 'DNTuples={SN;12345}, {S;Smith}' for serial number and surname. (Optional)
Attribute	Special Attribute of the current object. (Optional)
Comments	Text describing the current object. (Optional)

3.59. IDPRule

Description

An IDP Rule defines a filter for matching specific network traffic. When the filter criterion is met, the IDP Rule Actions are evaluated and possible actions taken.

Properties

Index	The index of the object, starting at 1. (Identifier)
Name	Specifies a symbolic name for the rule. (Optional)
SourceInterface	Specifies the name of the receiving interface to be compared to the received packet.
SourceNetwork	Specifies the sender span of IP addresses to be compared to the received packet.
DestinationInterface	Specifies the destination interface to be compared to the received packet.
DestinationNetwork	Specifies the span of IP addresses to be compared to the destination IP of the received packet.
Service	Specifies a service that will be used as a filter parameter when matching traffic with this rule.
Schedule	By adding a schedule to a rule, the firewall will only allow that rule to trigger at those designated times. (Optional)
InsertionEvasion	Protect against insertion/evastion attacks. (Default: Yes)
URIIllegalUTF8	Specifies what action to take if invalid UTF-8 characters are seen in a HTTP URI. (Default: Log)
URIIllegalHex	Specifies what action to take when invalid hexencoding (%xx) is seen in a HTTP URI. (Default: DropLog)
URIDoubleEncode	Specifies what action to take when seeing double encoded characters in a HTTP URI. (Default: Ignore)
Attribute	Special Attribute of the current object. (Optional)
Comments	Text describing the current object. (Optional)

Note

If no `Index` is specified when creating an instance of this type, the object will be placed last in the list and the `Index` will be equal to the length of the list.

3.59.1. IDPRuleAction

Description

An IDP Rule Action specifies what signatures to search for in the network traffic, and what action to take if those signatures are found.

Properties

Action	Specifies what action to take if the given signature is found. (Default: Audit)
Signatures	Specifies what signature(s) to search for in the network traffic. (Optional)
ZoneDefense	Activate ZoneDefense. (Default: No)
BlackList	Activate BlackList. (Default: No)
BlackListTimeToBlock	The number of seconds that the dynamic black list should remain. (Optional)
BlackListBlockOnlyService	Only block the service that triggered the blacklisting. (Default: No)
BlackListIgnoreEstablished	Do not drop existing connection. (Default: No)
PipeLimit	Specifies the bandwidth limit in kbps for hosts triggered by this action.
PipeNetwork	Traffic shaping will only apply to hosts that are within this network. (Default: 0/0)
PipeNewConnections	Enable piping of new connections from and to the same host. (Default: No)
PipeTimeWindow	Throttling of new connections to and from the triggering host will stop after the configured amount of time. (Default: 10)
Attribute	Special Attribute of the current object. (Optional)
LogEnabled	Enable logging. (Default: Yes)
LogSeverity	Specifies with what severity log events will be sent to the specified log receivers. (Default: Default)
Comments	Text describing the current object. (Optional)

Note

If no `Index` is specified when creating an instance of this type, the object will be placed last in the list and the `Index` will be equal to the length of the list.

3.60. IGMPRule

Description

An IGMP rule specifies how to handle inbound IGMP reports and outbound IGMP queries.

Properties

Index	The index of the object, starting at 1. (Identifier)
Name	Specifies a symbolic name for the rule. (Optional)
Type	The type of IGMP messages the rule applies to. (Default: Report)
Action	Drop, Snoop, Proxy or PIM. (Default: Drop)
SourceInterface	Specifies the name of the receiving interface to be compared to the received packet.
SourceNetwork	Specifies the sender span of IP addresses to be compared to the received packet.
DestinationInterface	Specifies the destination interface to be compared to the received packet. (Default: core)
MulticastGroup	Specifies the multicast group to be compared to the received packet.
MulticastSource	Specifies the multicast source to be compared to the received packet.
RelayInterface	Specifies the interface via which to relay IGMP messages.
TranslateMGroup	Translate the multicast group for packets matching this rule. (Default: No)
GrpAllToOne	Rewrite all multicast groups to a single IP. (Default: No)
NewGrpIP	Translate the multicast group to this address.
TranslateMSource	Translate the multicast source for packets matching this rule. (Default: No)
SrcAllToOne	Rewrite all multicast sources to a single IP. (Default: No)
NewSrcIP	Translate the multicast source to this address.
Filter	Pass IGMP data not matching this rule to the next rule. (Default: Yes)
Attribute	Special Attribute of the current object. (Optional)
LogEnabled	Enable logging. (Default: Yes)
LogSeverity	Specifies with what severity log events will be sent to the specified log receivers. (Default: Default)

Comments Text describing the current object. (Optional)

Note

If no `Index` is specified when creating an instance of this type, the object will be placed last in the list and the `Index` will be equal to the length of the list.

3.61. IGMPSetting

Description

IGMP parameters can be tuned for one, or a group of interfaces in order to match the characteristics of a network.

Properties

Name	Specifies a symbolic name for the object. (Identifier)
Interface	The interfaces that these settings should apply to.
RobustnessVariable	IGMP is robust to (Robustness Variable - 1) packet losses. (Default: 2)
MaxRequestsPerSecond	Maximum number of IGMP requests to process each second and interface. (Default: 100)
RouterVersion	Multiple IGMP querying routers on a network must use the same IGMP version. (Default: IGMPv3)
LowestCompatibleVersion	The lowest IGMP version to allow on incoming requests. (Default: IGMPv1)
QueryInterval	The interval between general queries sent by the firewall. (Default: 125000)
QueryResponseInterval	The maximum time until a host (client) has to send an answer to a query. (Default: 10000)
LastMemberQueryInterval	The maximum time until a host (client) has to send an answer to a group and group-and-source specific query. (Default: 10000)
LastMemberQueryCount	The number of group and group-and-source specific queries sent until the firewall decides there are no more subscribers to a specific multicast group. (Default: 2)
StartupQueryInterval	The general query interval to use during the startup phase. (Default: 30000)
StartupQueryCount	The number of startup queries to send during the startup phase. (Default: 2)
UnsolicatedReportInterval	The time between repetitions of a host's initial membership reports to a group. (Default: 1000)
ReactToOwnQueries	Should the system respond to Member Report Queries orginating from itself. (Default: No)
Attribute	Special Attribute of the current object. (Optional)
Comments	Text describing the current object. (Optional)

3.62. IKEAlgorithms

Description

Configure algorithms which are used in the IKE phase of an IPsec session.

Properties

Name	Specifies a symbolic name for the object. (Identifier)
DESEnabled	Enable DES encryption algorithm. (Default: No)
DES3Enabled	Enable 3DES encryption algorithm. (Default: No)
AESEnabled	Enable AES encryption algorithm. (Default: No)
BlowfishEnabled	Enable Blowfish encryption algorithm. (Default: No)
TwofishEnabled	Enable Twofish encryption algorithm. (Default: No)
CAST128Enabled	Enable CAST128 encryption algorithm. (Default: No)
BlowfishMinKeySize	Specifies the minimum Blowfish key size in bits. (Default: 128)
BlowfishKeySize	Specifies the Blowfish preferred key size in bits. (Default: 128)
BlowfishMaxKeySize	Specifies the maximum Blowfish key size in bits. (Default: 448)
TwofishMinKeySize	Specifies the minimum Twofish key size in bits. (Default: 128)
TwofishKeySize	Specifies the Twofish preferred key size in bits. (Default: 128)
TwofishMaxKeySize	Specifies the maximum Twofish key size in bits. (Default: 256)
AESMinKeySize	Specifies the minimum AES key size in bits. (Default: 128)
AESKeySize	Specifies the preferred AES key size in bits. (Default: 128)
AESMaxKeySize	Specifies the maximum AES key size in bits. (Default: 256)
MD5Enabled	Enable MD5 integrity algorithm. (Default: No)
SHA1Enabled	Enable SHA1 integrity algorithm. (Default: No)
SHA256Enabled	Enable SHA256 integrity algorithm. (Default: No)
SHA512Enabled	Enable SHA512 integrity algorithm. (Default: No)

XCBCEnabled	Enable AES-XCBC integrity algorithm. (Default: No)
Attribute	Special Attribute of the current object. (Optional)
Comments	Text describing the current object. (Optional)

3.63. InterfaceGroup

Description

Use an interface group to combine several interfaces for a simplified security policy.

Properties

Name	Specifies a symbolic name for the interface. (Identifier)
Equivalent	Specifies if the interfaces should be considered security equivalent, that means that if enabled the interface group can be used as a destination interface in rules where connections might need to be moved between the two interfaces. (Default: No)
Members	Specifies the interfaces that are included in the interface group.
Attribute	Special Attribute of the current object. (Optional)
Comments	Text describing the current object. (Optional)

3.64. IP6in4Tunnel

Description

A 6in4 tunnel (no encryption, no authentication, only encapsulation) allows tunneling of IPv6 packets over an existing IPv4 network.

Properties

Name	Specifies a symbolic name for the interface. (Identifier)
IP	Specifies the IPv6 address of the 6in4 tunnel interface.
Network	Specifies the remote IPv6 network of the 6in4 interface.
RemoteEndpoint	Specifies the IPv4 address of the remote endpoint.
OriginatorIPType	Specifies what IPv4 address to use as source IP for the encapsulated IPv6 packets. (Default: LocalInterface)
OriginatorIP	Manually specified IPv4 address to use as source IP for the encapsulated IPv6 packets.
Metric	Specifies the metric for the auto-created route. (Default: 90)
AutoInterfaceNetworkRoute	Automatically add a route for this interface using the given remote network. (Default: Yes)
MTU	Specify the Maximum Transmission Unit for IPv6 packets entering this tunnel. (Default: 1280)
OutgoingRoutingTable	The outer PBR Table to use when communicating with the remote endpoint. (Default: main)
SNMPIndex	Interface index assigned by the system when persistent interface indexes are enabled. (Default: 0)
Attribute	Special Attribute of the current object. (Optional)
MemberOfRoutingTable	All or Specific. (Default: All)
RoutingTable	Specifies the PBR table to insert the interface IP route into. It also means that the specified routing table will be used for all routing lookups, unless overridden by a PBR rule. (Default: main)
Comments	Text describing the current object. (Optional)

3.65. IPPolicy

Description

An IP Policy specifies what action to perform on network traffic that matches the specified filter criteria.

Properties

Index	The index of the object, starting at 1. (Identifier)
Name	Specifies a symbolic name for the policy.
Action	Allow or Deny. (Default: Allow)
Reject	Drop the packet and respond with an ICMP error or TCP reset. (Default: No)
SourceAddressTranslation	Action to take on source address. (Default: Auto)
NATSourceAddressAction	Specify method to determine which sender address to use. (Default: OutgoingInterfaceIP)
SATSourceAddressAction	Specify method to determine which sender address to use.
SourceNewIP	Specifies which sender address will be used.
SourceBaseIP	Specifies base address for sender address.
SourceNATPool	Specifies NAT Pool to fetch sender address to be used.
SourcePortAction	Specify method to determine which port action to use. (Default: None)
SourceNewSinglePort	Translate to this port. (Optional)
SourceBasePort	Transpose using this port as base. (Optional)
DestAddressTranslation	Action to take on destination address. (Default: None)
DestAddressAction	Specify method to determine which destination address to use.
DestNewIP	Specifies which destination address will be used.
DestBaseIP	Specifies base address for destination address.
DestPortAction	Specify method to determine which port action to use. (Default: None)
DestNewSinglePort	Translate to this port. (Optional)
DestBasePort	Transpose using this port as base. (Optional)
AntiVirus	Anti-Virus scanning. (Default: No)
AV_Mode	Anti-Virus mode. (Default: UsePolicy)

AV_Policy	Selects preconfigured Anti-Virus Profile.
AV_AuditMode	Anti-Virus audit mode. (Default: No)
AV_ScanExclude	List of files to exclude from antivirus scanning. (Optional)
AV_CompressionRatio	A compression ratio higher than this value will trigger the action in Compression Ratio Action, a value of zero will disable all compression checks. (Default: 20)
AV_CompressionRatioAction	The action to take when high compression threshold is violated, all actions are logged. (Default: Drop)
AV_AllowEncryptedZip	Allow encrypted zip files, even though the contents can not be scanned. (Default: No)
AV_MaxArchiveDepth	The maximum number of archive file "layers" that the antivirus engine will extract. (Default: 5)
AV_ZDEnabled	Enable ZoneDefense Block. (Default: No)
AV_ZDNetwork	Hosts within this network will be blocked at switches if a virus is found.
AV_FailModeBehavior	General behavior when anti-virus scanning fails. The data can either be allowed or denied. (Default: Deny)
WebControl	Web Control. (Default: No)
Web_Policy	Selects preconfigured Web Profile.
FileControl	File Control. (Default: No)
FC_Mode	File Control mode. (Default: UsePolicy)
FC_Policy	Selects preconfigured File Control Profile.
FC_ListType	Specifies if the file list contains files to allow or deny. (Default: Block)
FC_FileExtension	List of file types to allow or deny. (Optional)
FC_VerifyContentMimetype	Verify that file extentions correspond to the MIME type. (Default: No)
AppControl	Application Control. (Default: No)
AC_Mode	Application Control mode. (Default: UsePolicy)
AC_RuleSet	Selects preconfigured Application Rule.
AC_AppAction	Allow or Deny selected applications. (Default: Allow)
AC_Applications	List of applications to match.
EmailControl	Email Control. (Default: No)
EC_Policy	Selects preconfigured Email Control Profile.

VoIP	Voice over IP. (Default: No)
VoIP_Policy	Selects preconfigured VoIP Profile.
DNS	DNS. (Default: No)
DNS_Policy	Selects preconfigured DNS Profile.
FTPControl	Enables FTP protocol specific settings. (Default: No)
FTPAllowServerPassive	Allow server to use passive mode (unsafe for server). (Default: Yes)
FTPServerPorts	Server data ports. (Default: 1024-65535)
FTPAllowClientActive	Allow client to use active mode (unsafe for client). (Default: Yes)
FTPClientPorts	Client data ports. (Default: 1024-65535)
FTPAllowUnknownCommands	Allow unknown commands. (Default: No)
FTPAllowSITEEXEC	Allow SITE EXEC. (Default: No)
FTPMaxLineLength	Maximum line length in control channel. (Default: 256)
FTPMaxCommandRate	Maximum number of commands per second. (Default: 20)
FTPAllow8BitStrings	Allow 8-bit strings in control channel. (Default: Yes)
FTPAllowResumeTransfer	Allow RESUME even in case of content scanning. (Default: No)
TFTPControl	Enables TFTP protocol specific settings. (Default: No)
TFTPAllowedCommands	Specifies allowed commands. (Default: ReadWrite)
TFTPRemoveOptions	Remove option part from request packet. (Default: No)
TFTPAllowUnknownOptions	Allow unknown options in request packet. (Default: No)
TFTPMaxBlocksize	Max value for the blksize option. (Optional)
TFTPMaxFileTransferSize	Max size for transferred file. (Optional)
TFTPBlockDirectoryTraversal	Prevent directory traversal (consecutive dots in filenames). (Default: No)
PPTPControl	Enables PPTP protocol specific settings. (Default: No)
PPTPEchoTimeout	Specifies idle timeout for Echo messages in the PPTP tunnel. (Default: 0)
PPTPIdleTimeout	SPecifies idle timeout for user traffic in the PPTP tunnel. (Default: 0)
TLSControl	Enables TLS protocol specific settings. (Default: No)

TLSHostCert	Specifies the host certificate.
TLSRootCert	Specifies the root certificates. (Optional)
HTTPInspection	Enables HTTP protocol validation and logging of URLs. (Default: No)
HTTPAllowUnknownProtocols	Allow non-HTTP protocols to pass through without inspection. (Default: No)
SyslogControl	Syslog Protection. (Default: No)
Syslog_Policy	Selects preconfigured Syslog Profile.
SourceInterface	Specifies the name of the receiving interface to be compared to the received packet.
DestinationInterface	Specifies the destination interface to be compared to the received packet.
SourceNetwork	Specifies the sender span of IP addresses to be compared to the received packet.
DestinationNetwork	Specifies the span of IP addresses to be compared to the destination IP of the received packet.
SourceGeoFilter	Specifies the region filter to be compared against the sender Geolocation of the received packet. (Optional)
DestinationGeoFilter	Specifies the region filter to be compared against the destination Geolocation of the received packet. (Optional)
Service	Specifies a service that will be used as a filter parameter when matching traffic with this rule.
Schedule	By adding a schedule to a rule, the firewall will only allow that rule to trigger at those designated times. (Optional)
Attribute	Special Attribute of the current object. (Optional)
LogEnabled	Enable logging. (Default: Yes)
LogSeverity	Specifies with what severity log events will be sent to the specified log receivers. (Default: Default)
Comments	Text describing the current object. (Optional)

Note

If no `Index` is specified when creating an instance of this type, the object will be placed last in the list and the `Index` will be equal to the length of the list.

3.66. IPPool

Description

An IP Pool is a dynamic object which consists of IP leases that are fetched from a DHCP Server. The IP Pool is used as an address source by subsystems that may need to distribute addresses, e.g. by IPsec in Configuration mode.

Properties

Name	Specifies a symbolic name for the IP Pool. (Identifier)
DHCPServerType	Should server address be specified or should broadcast on a interface be used. (Default: Interface)
ServerIP	DHCP Server Address.
ServerFilter	Specifies which DHCP server that leases should be accepted from. (Optional)
Interface	Specifies the interface which has the DHCP server that leases are accepted from.
IPFilter	Specifies which IP addresses that are accepted from the DHCP server. (Optional)
RoutingTable	The routing table to use in communication with the DHCP server. (Default: main)
ReceiveInterface	Which interface to use when communicating with the DHCP server. (Optional)
PrefetchLeases	Specifies the number of leases an IP Pool will keep prefetched. (Default: 3)
MaxFree	Maximum number of free address that the IP pool will keep, others will be returned back to DCHP server. (Optional)
MaxClients	Maximum number clients that the IP pool is allowed to contain. (Optional)
MacRangeStart	Specifies the lower boundary of MAC addresses that DCHP Clients will use in communication with a server. (Optional)
MacRangeEnd	Specifies the upper boundary of MAC addresses that DCHP Clients will use in communication with a server. (Optional)
SenderIP	The local IP that should be used when communication with the DHCP server. (Optional)
AscendingFreeList	Enabling this will result in the IPs being fetched in a predictable manner from the free list. (Default: No)
Attribute	Special Attribute of the current object. (Optional)

Comments	Text describing the current object. (Optional)

3.67. IPRule

Description

An IP rule specifies what action to perform on network traffic that matches the specified filter criteria.

Properties

Index	The index of the object, starting at 1. (Identifier)
Name	Specifies a symbolic name for the rule. (Optional)
Action	Reject, Drop, FwdFast, Allow, NAT, SAT or SLB_SAT.
SourceInterface	Specifies the name of the receiving interface to be compared to the received packet.
DestinationInterface	Specifies the destination interface to be compared to the received packet.
SourceNetwork	Specifies the sender span of IP addresses to be compared to the received packet.
DestinationNetwork	Specifies the span of IP addresses to be compared to the destination IP of the received packet.
Service	Specifies a service that will be used as a filter parameter when matching traffic with this rule.
Schedule	By adding a schedule to a rule, the firewall will only allow that rule to trigger at those designated times. (Optional)
NATAction	Specify sender address or Use interface address. (Default: UseInterfaceAddress)
NATSenderAddress	Specifies which sender address will be used.
NATPool	Specifies the NATPool object to use.
SATTranslate	Specifies whether to translate source IP or destination IP. (Default: DestinationIP)
SATTranslateToIP	Translate to this IP address.
SATTranslateToPort	Translate to this port. (Optional)
SATAllToOne	Rewrite all destination IPs to a single IP. (Default: No)
SLBAddresses	The IP addresses of the servers in the server farm.
SLBStickiness	Specifies stickiness mode. (Default: None)
SLBIdleTimeOut	New connections that arrive within the idle timeout are assigned to the same real server as previous connections from that address. The timeout is refreshed after each new connection. (Default: 30)

SLBMaxSlots	Specifies maximum number of slots for IP and network stickiness. (Default: 2048)
SLBNetSize	Specifies network size for network stickiness. (Default: 24)
SLBNewPort	Rewrite destination port to this port. (Optional)
SLBMonitorRoutingTable	Routing table used for server monitoring. (Default: main)
SLBMonitorPing	Enable monitoring using ICMP Ping packets. (Default: No)
SLBPingPollingInterval	Delay in milliseconds between each ping interval. (Default: 5000)
SLBPingSamples	Specifies the number of attempts to use for statistical calculations. (Default: 10)
SLBPingMaxPollFails	Specifies the maximum number of failed ping attempts until host is considered to be unreachable. (Default: 2)
SLBPingMaxAverageLatency	Specifies the max average latency for the sample attempts. (Default: 800)
SLBMonitorTCP	Enable monitoring using TCP handshakes. (Default: No)
SLBTCPPorts	Specifies the ports that will be monitored.
SLBTCPPollingInterval	Delay in milliseconds between each TCP handshake. (Default: 10000)
SLBTCPSamples	Specifies the number of attempts to use for statistical calculations. (Default: 10)
SLBTCPMaxPollFails	Specifies the maximum number of failed TCP attempts until host is considered to be unreachable. (Default: 2)
SLBTCPMaxAverageLatency	Specifies the max average latency for the sample attempts. (Default: 800)
SLBMonitorHTTP	Enable monitoring using HTTP requests. (Default: No)
SLBHTTPPorts	Specifies the ports that will be monitored. (Default: 80)
SLBHTTPPollingInterval	Delay in milliseconds between each monitor interval. (Default: 10000)
SLBHTTPSamples	Specifies the number of attempts to use for statistical calculations. (Default: 10)
SLBHTTPMaxPollFails	Specifies the maximum number of failed HTTP attempts until host is considered to be unreachable. (Default: 2)
SLBHTTPMaxAverageLatency	Specifies the max average latency for the sample

	attempts. (Default: 800)
SLBHTTPURLType	Defines how the request URL should be interpreted. (Default: FQDN)
SLBHTTPRequestURL	Specifies the HTTP URL to monitor.
SLBHTTPExpectedResponse	Expected HTTP response. (Optional)
SLBMonitorReset	Reset active connections when monitor fail. Uses additional resources to track all connections. (Default: No)
SLBDistribution	Specifies the algorithm used for the load distribution tasks. (Default: RoundRobin)
SLBWindowTime	Specifies the window time used for counting the number of seconds back in time to summarize the number of new connections for connection-rate algorithm. (Default: 10)
SLBServerId	Identifier used when uploading server state.
RequireIGMP	Multicast traffic must have been requested using IGMP before it is forwarded. (Default: Yes)
MultiplexArgument	Specifies how the traffic should be forwarded and translated.
MultiplexAllToOne	Rewrite all destination IPs to a single IP. (Default: No)
AppControl	Application Control. (Default: No)
AC_Mode	Application Control mode. (Default: UsePolicy)
AC_RuleSet	Selects preconfigured Application Rule.
AC_AppAction	Allow or Deny selected applications. (Default: Allow)
AC_Applications	List of applications to match.
Attribute	Special Attribute of the current object. (Optional)
LogEnabled	Enable logging. (Default: Yes)
LogSeverity	Specifies with what severity log events will be sent to the specified log receivers. (Default: Default)
Comments	Text describing the current object. (Optional)

Note

If no `Index` is specified when creating an instance of this type, the object will be placed last in the list and the `Index` will be equal to the length of the list.

3.68. IPRuleFolder

Description

An IP Rule Folder can be used to group IP Rules into logical groups for better overview and simplified management.

Properties

Index	The index of the object, starting at 1. (Identifier)
Name	Specifies the name of the folder.
Attribute	Special Attribute of the current object. (Optional)
Comments	Text describing the current object. (Optional)

Note

If no `Index` is specified when creating an instance of this type, the object will be placed last in the list and the `Index` will be equal to the length of the list.

3.68.1. IPPolicy

The definitions here are the same as in Section 3.65, “IPPolicy” .

3.68.2. SLBPolicy

Description

Server Load Balancing using Static Address Translation. Allows distribution of client requests over a number of servers.

Properties

Index	The index of the object, starting at 1. (Identifier)
Name	Specifies a symbolic name for the policy.
SLBAddresses	The IP addresses of the servers in the server farm.
SLBStickiness	Specifies stickiness mode. (Default: None)
SLBIdleTimeOut	New connections that arrive within the idle timeout are assigned to the same real server as previous connections from that address. The timeout is refreshed after each new connection. (Default: 30)
SLBMaxSlots	Specifies maximum number of slots for IP and network stickiness. (Default: 2048)
SLBNetSize	Specifies network size for network stickiness.

	(Default: 24)
SLBNewPort	Rewrite destination port to this port. (Optional)
SLBMonitorRoutingTable	Routing table used for server monitoring. (Default: main)
SLBMonitorPing	Enable monitoring using ICMP Ping packets. (Default: No)
SLBPingPollingInterval	Delay in milliseconds between each ping interval. (Default: 5000)
SLBPingSamples	Specifies the number of attempts to use for statistical calculations. (Default: 10)
SLBPingMaxPollFails	Specifies the maximum number of failed ping attempts until host is considered to be unreachable. (Default: 2)
SLBPingMaxAverageLatency	Specifies the max average latency for the sample attempts. (Default: 800)
SLBMonitorTCP	Enable monitoring using TCP handshakes. (Default: No)
SLBTCPPorts	Specifies the ports that will be monitored.
SLBTCPPollingInterval	Delay in milliseconds between each TCP handshake. (Default: 10000)
SLBTCPSamples	Specifies the number of attempts to use for statistical calculations. (Default: 10)
SLBTCPMaxPollFails	Specifies the maximum number of failed TCP attempts until host is considered to be unreachable. (Default: 2)
SLBTCPMaxAverageLatency	Specifies the max average latency for the sample attempts. (Default: 800)
SLBMonitorHTTP	Enable monitoring using HTTP requests. (Default: No)
SLBHTTPPorts	Specifies the ports that will be monitored. (Default: 80)
SLBHTTPPollingInterval	Delay in milliseconds between each monitor interval. (Default: 10000)
SLBHTTPSamples	Specifies the number of attempts to use for statistical calculations. (Default: 10)
SLBHTTPMaxPollFails	Specifies the maximum number of failed HTTP attempts until host is considered to be unreachable. (Default: 2)
SLBHTTPMaxAverageLatency	Specifies the max average latency for the sample attempts. (Default: 800)
SLBHTTPURLType	Defines how the request URL should be interpreted. (Default: FQDN)

SLBHTTPRequestURL	Specifies the HTTP URL to monitor.
SLBHTTPExpectedResponse	Expected HTTP response. (Optional)
SLBMonitorReset	Reset active connections when monitor fail. Uses additional resources to track all connections. (Default: No)
SLBDistribution	Specifies the algorithm used for the load distribution tasks. (Default: RoundRobin)
SLBWindowTime	Specifies the window time used for counting the number of seconds back in time to summarize the number of new connections for connection-rate algorithm. (Default: 10)
SLBServerId	Server identifier (max 32 characters) used when uploading server state to firewall.
SyslogControl	Syslog Protection. (Default: No)
Syslog_Policy	Selects preconfigured Syslog Profile.
SourceInterface	Specifies the name of the receiving interface to be compared to the received packet.
DestinationInterface	Specifies the destination interface to be compared to the received packet.
SourceNetwork	Specifies the sender span of IP addresses to be compared to the received packet.
DestinationNetwork	Specifies the span of IP addresses to be compared to the destination IP of the received packet.
SourceGeoFilter	Specifies the region filter to be compared against the sender Geolocation of the received packet. (Optional)
DestinationGeoFilter	Specifies the region filter to be compared against the destination Geolocation of the received packet. (Optional)
Service	Specifies a service that will be used as a filter parameter when matching traffic with this rule.
Schedule	By adding a schedule to a rule, the firewall will only allow that rule to trigger at those designated times. (Optional)
Attribute	Special Attribute of the current object. (Optional)
SourceAddressTranslation	Action to take on source address. (Default: Auto)
NATSourceAddressAction	Specify method to determine which sender address to use. (Default: OutgoingInterfaceIP)
SATSourceAddressAction	Specify method to determine which sender address to use.
SourceNewIP	Specifies which sender address will be used.

SourceBaseIP	Specifies base address for sender address.
SourceNATPool	Specifies NAT Pool to fetch sender address to be used.
SourcePortAction	Specify method to determine which port action to use. (Default: None)
SourceNewSinglePort	Translate to this port. (Optional)
SourceBasePort	Transpose using this port as base. (Optional)
LogEnabled	Enable logging. (Default: Yes)
LogSeverity	Specifies with what severity log events will be sent to the specified log receivers. (Default: Default)
Comments	Text describing the current object. (Optional)

Note

If no `Index` is specified when creating an instance of this type, the object will be placed last in the list and the `Index` will be equal to the length of the list.

3.68.3. MulticastPolicy

Description

Multiplex Static Address Translation. The Multicast rule is used to achieve duplication and forwarding of packets through more than one interface.

Properties

Index	The index of the object, starting at 1. (Identifier)
Name	Specifies a symbolic name for the policy.
RequireIGMP	Multicast traffic must have been requested using IGMP before it is forwarded. (Default: Yes)
MultiplexArgument	Specifies how the traffic should be forwarded and translated.
MultiplexAllToOne	Rewrite all destination IPs to a single IP. (Default: No)
SourceInterface	Specifies the name of the receiving interface to be compared to the received packet.
DestinationInterface	Specifies the destination interface to be compared to the received packet.
SourceNetwork	Specifies the sender span of IP addresses to be compared to the received packet.
DestinationNetwork	Specifies the span of IP addresses to be compared

	to the destination IP of the received packet.
SourceGeoFilter	Specifies the region filter to be compared against the sender Geolocation of the received packet. (Optional)
DestinationGeoFilter	Specifies the region filter to be compared against the destination Geolocation of the received packet. (Optional)
Service	Specifies a service that will be used as a filter parameter when matching traffic with this rule.
Schedule	By adding a schedule to a rule, the firewall will only allow that rule to trigger at those designated times. (Optional)
Attribute	Special Attribute of the current object. (Optional)
SourceAddressTranslation	Action to take on source address. (Default: Auto)
NATSourceAddressAction	Specify method to determine which sender address to use. (Default: OutgoingInterfaceIP)
SATSourceAddressAction	Specify method to determine which sender address to use.
SourceNewIP	Specifies which sender address will be used.
SourceBaseIP	Specifies base address for sender address.
SourceNATPool	Specifies NAT Pool to fetch sender address to be used.
SourcePortAction	Specify method to determine which port action to use. (Default: None)
SourceNewSinglePort	Translate to this port. (Optional)
SourceBasePort	Transpose using this port as base. (Optional)
LogEnabled	Enable logging. (Default: Yes)
LogSeverity	Specifies with what severity log events will be sent to the specified log receivers. (Default: Default)
Comments	Text describing the current object. (Optional)

Note

If no `Index` is specified when creating an instance of this type, the object will be placed last in the list and the `Index` will be equal to the length of the list.

3.68.4. StatelessPolicy

Description

No state is kept between packets which means it is less secure and slower than stateful forwarding.

Properties

Index	The index of the object, starting at 1. (Identifier)
Name	Specifies a symbolic name for the policy.
Action	Allow or Deny. (Default: Allow)
Reject	Drop the packet and respond with an ICMP error or TCP reset. (Default: No)
SourceAddressTranslation	Action to take on source address. (Default: None)
SATSourceAddressAction	Specify method to determine which sender address to use.
SourceNewIP	Specifies which sender address will be used.
SourceBaseIP	Specifies base address for sender address.
SourcePortAction	Specify method to determine which port action to use. (Default: None)
SourceNewSinglePort	Translate to this port. (Optional)
SourceBasePort	Transpose using this port as base. (Optional)
DestAddressTranslation	Action to take on destination address. (Default: None)
DestAddressAction	Specify method to determine which destination address to use.
DestNewIP	Specifies which destination address will be used.
DestBaseIP	Specifies base address for destination address.
DestPortAction	Specify method to determine which port action to use. (Default: None)
DestNewSinglePort	Translate to this port. (Optional)
DestBasePort	Transpose using this port as base. (Optional)
SourceInterface	Specifies the name of the receiving interface to be compared to the received packet.
DestinationInterface	Specifies the destination interface to be compared to the received packet.
SourceNetwork	Specifies the sender span of IP addresses to be compared to the received packet.
DestinationNetwork	Specifies the span of IP addresses to be compared to the destination IP of the received packet.
SourceGeoFilter	Specifies the region filter to be compared against the sender Geolocation of the received packet. (Optional)

DestinationGeoFilter	Specifies the region filter to be compared against the destination Geolocation of the received packet. (Optional)
Service	Specifies a service that will be used as a filter parameter when matching traffic with this rule.
Schedule	By adding a schedule to a rule, the firewall will only allow that rule to trigger at those designated times. (Optional)
Attribute	Special Attribute of the current object. (Optional)
LogEnabled	Enable logging. (Default: Yes)
LogSeverity	Specifies with what severity log events will be sent to the specified log receivers. (Default: Default)
Comments	Text describing the current object. (Optional)

Note

If no `Index` is specified when creating an instance of this type, the object will be placed last in the list and the `Index` will be equal to the length of the list.

3.68.5. GotoRule

The definitions here are the same as in Section 3.49, “GotoRule” .

3.68.6. ReturnRule

Description

A return rule makes the IP rule scan resume from the goto rule that led to the current IP rule set. If there was no goto rule leading to the current IP rule set the connection is dropped and rule scanning stops.

Properties

Name	Specifies a symbolic name for the rule. (Optional)
Action	Return Action. (Default: Return)
SourceInterface	Specifies the name of the receiving interface to be compared to the received packet.
DestinationInterface	Specifies the destination interface to be compared to the received packet.
SourceNetwork	Specifies the sender span of IP addresses to be compared to the received packet.
DestinationNetwork	Specifies the span of IP addresses to be compared to the destination IP of the received packet.

Service	Specifies a service that will be used as a filter parameter when matching traffic with this rule.
Schedule	By adding a schedule to a rule, the firewall will only allow that rule to trigger at those designated times. (Optional)
Attribute	Special Attribute of the current object. (Optional)
LogEnabled	Enable logging. (Default: Yes)
LogSeverity	Specifies with what severity log events will be sent to the specified log receivers. (Default: Default)
Comments	Text describing the current object. (Optional)

Note

If no `Index` is specified when creating an instance of this type, the object will be placed last in the list and the `Index` will be equal to the length of the list.

3.68.7. IPRule

The definitions here are the same as in Section 3.67, “IPRule” .

3.69. IPRuleSet

Description

An IP Rule Set is a self-contained set of IP Rules. Default action is Drop.

Properties

Name	A name to uniquely identify this IPRuleSet. (Identifier)
Attribute	Special Attribute of the current object. (Optional)
Comments	Text describing the current object. (Optional)

3.69.1. IPPolicy

The definitions here are the same as in Section 3.65, “IPPolicy” .

3.69.2. SLBPolicy

The definitions here are the same as in Section 3.68.2, “SLBPolicy” .

3.69.3. MulticastPolicy

The definitions here are the same as in Section 3.68.3, “MulticastPolicy” .

3.69.4. StatelessPolicy

The definitions here are the same as in Section 3.68.4, “StatelessPolicy” .

3.69.5. GotoRule

The definitions here are the same as in Section 3.49, “GotoRule” .

3.69.6. ReturnRule

The definitions here are the same as in Section 3.68.6, “ReturnRule” .

3.69.7. IPRuleFolder

The definitions here are the same as in Section 3.68, “IPRuleFolder” .

3.69.8. IPRule

The definitions here are the same as in Section 3.67, “IPRule” .

3.70. IPsecAlgorithms

Description

Configure algorithms which are used in the IPsec phase of an IPsec session.

Properties

Name	Specifies a symbolic name for the object. (Identifier)
NULLEnabled	Enable plaintext. (Default: No)
DESEnabled	Enable DES encryption algorithm. (Default: No)
DES3Enabled	Enable 3DES encryption algorithm. (Default: No)
AESEnabled	Enable AES encryption algorithm. (Default: No)
BlowfishEnabled	Enable Blowfish encryption algorithm. (Default: No)
TwofishEnabled	Enable Twofish encryption algorithm. (Default: No)
CAST128Enabled	Enable CAST128 encryption algorithm. (Default: No)
BlowfishMinKeySize	Specifies the minimum Blowfish key size in bits. (Default: 128)
BlowfishKeySize	Specifies the Blowfish preferred key size in bits. (Default: 128)
BlowfishMaxKeySize	Specifies the maximum Blowfish key size in bits. (Default: 448)
TwofishMinKeySize	Specifies the minimum Twofish key size in bits. (Default: 128)
TwofishKeySize	Specifies the Twofish preferred key size in bits. (Default: 128)
TwofishMaxKeySize	Specifies the maximum Twofish key size in bits. (Default: 256)
AESMinKeySize	Specifies the minimum AES key size in bits. (Default: 128)
AESKeySize	Specifies the preferred AES key size in bits. (Default: 128)
AESMaxKeySize	Specifies the maximum AES key size in bits. (Default: 256)
MD5Enabled	Enable MD5 integrity algorithm. (Default: No)
SHA1Enabled	Enable SHA1 integrity algorithm. (Default: No)
SHA256Enabled	Enable SHA256 integrity algorithm. (Default: No)

SHA512Enabled	Enable SHA512 integrity algorithm. (Default: No)
XCBCEnabled	Enable AES-XCBC integrity algorithm. (Default: No)
Attribute	Special Attribute of the current object. (Optional)
Comments	Text describing the current object. (Optional)

3.71. IPsecTunnel

Description

An IPsec tunnel item is used to define IPsec endpoint and will appear as a logical interface in the system.

Properties

Name	Specifies a symbolic name for the interface. (Identifier)
LocalNetwork	The network on "this side" of the IPsec tunnel. The IPsec tunnel will be established between this network and the remote network.
RemoteNetwork	The network connected to the remote gateway. The IPsec tunnel will be established between the local network and this network.
RemoteEndpoint	Specifies the IP address of the remote endpoint. This is the address the firewall will establish the IPsec tunnel to. It also dictates from where inbound IPsec tunnels are allowed. (Optional)
ConfigMode	Use config mode to assign unique IP addresses to connecting roaming clients or act as a client. (Default: Off)
IKEConfigModePool	Selects IKE Config Mode Pool to use for the tunnel. (Optional)
IP	Netobject that will be assigned an IP when the tunnel is established. Can be used to NAT traffic into the interface. (Optional)
DNS	Netobject that will be assigned an IP of DNS when the tunnel is established. (Set only if a DNS is assigned by the remote endpoint.). (Optional)
IKEAlgorithms	Specifies the IKE Proposal list used with the tunnel. (Default: High)
IPsecAlgorithms	Specifies the IPsec Proposal list used with the tunnel. (Default: High)
IKELifeTimeSeconds	The lifetime of the IKE connection in seconds. Whenever it expires, a new phase-1 exchange will be performed. (Default: 28800)
IPsecLifeTimeSeconds	The lifetime of the IPsec connection in seconds. Whenever it's exceeded, a re-key will be initiated, providing new IPsec encryption and authentication session keys. (Default: 3600)
IPsecLifeTimeKilobytes	The lifetime of the IPsec connection in kilobytes. (Default: 0)
EncapsulationMode	Specifies if the IPsec tunnel should use Tunnel or

	Transport mode. (Default: Tunnel)
AuthMethod	Certificate or Pre-shared key. (Default: PSK)
PSK	Selects the Pre-shared key to use with this IPsec Tunnel.
LocalID	Specifies the local identity of the tunnel. (Optional)
RemoteID	Identities authorized to setup a tunnel. If not set, all authenticated peers will be authorized. (Optional)
EnforceLocalID	Enable if local identity must match any identity proposed by the IKE peer. (Default: No)
GatewayCertificate	Selects the certificate the firewall uses to authenticate itself to the other IPsec peer.
RootCertificates	Selects one or more root certificates to use with this IPsec Tunnel.
XAuth	Required for inbound or Pass to peer gateway. (Default: Off)
XAuthUsername	Specifies the username to pass to the remote gateway vie IKE XAuth.
XAuthPassword	Specifies the password to pass to the remote gateway vie IKE XAuth.
AddRouteToRemoteNet	Dynamically add route to the remote networks when a tunnel is established. (Default: No)
PlaintextMTU	Specifies the size in bytes at which to fragment plaintext packets (rather than fragmenting IPsec). (Default: 1420)
OriginatorIPType	Specifies what IP address to use as source IP in e.g. NAT. (Default: LocalInterface)
OriginatorIP	Manually specified originator IP address to use as source IP in e.g. NAT.
OriginatorHAIP	Manually specified private originator IP address for use in HA. (Optional)
TunnelMonitor	Monitor a host inside the tunnel and renegotiatie the tunnel if the host stops answering on ICMP pings. (Default: No)
MonitoredIP	IP address of the host being monitored with ICMP pings. Source address will be the OriginatorIP configured for the tunnel interface.
MaxLoss	Specifies how many consecutive ICMP pings must be lost before the tunnel is renegotiated. (Default: 10)
IKEMode	(IKEv1 only) Specifies which IKE mode to use: main or aggressive. (Default: Main)
IKEVersion	Specifies the IKE version to use for the tunnel.

	(Default: 2)
DHGroup	Specifies the Diffie-Hellman group to use when doing key exchanges in IKE. (Default: 2)
PFSDHGroup	Specifies which Diffie-Hellman group to use with PFS. (Default: None,1,2,5)
SetupSAPer	Setup security association per network, host or port. (Default: Net)
DeadPeerDetection	Enable Dead Peer Detection. (Default: Yes)
DeadPeerDetectionInterval	Specifies the interval between IKE Dead Peer Detecion messages sent if no IKE or ESP message has been received from peer since the last IKE packet sent. (Default: 30)
NATTraversal	Enable or disable NAT traversal. (Default: OnIfNeeded)
AutoEstablish	Negotiate tunnel directly after reconfiguration. (Default: No)
Metric	Specifies the metric for the auto-created route. (Default: 90)
AutoInterfaceNetworkRoute	Automatically add a route for this interface using the given remote network. (Default: Yes)
IKEIPsecPerIKELimit	Specifies the maximum number of IPsec SAs one IKE SA is allowed to create. (Default: 0)
IKEMaxIPsecPerIKELimitViolations	Specifies how many times the IPsec per IKE SA limit can be exceeded before action is taken and the IKE is removed. (Default: 0)
IKEDSField	Specifies the value of the Differentiated Services Field of the IP header in IKE packets. (Default: 0)
IPsecDSField	Specifies the value of the Differentiated Services Field of the outer IP header of IPsec packets in tunnel mode. If unspecified, the value of the inner IP header will be used instead. (Optional)
LocalEndpoint	Specifies on which local address this tunnel should accept incoming IKE/IPsec traffic. (Optional)
IncomingInterfaceFilter	Specifies which interface this tunnel should use for IKE/IPsec traffic. (Default: any)
OutgoingRoutingTable	Specifies which routing table this tunnel should use for IKE/IPsec traffic. (Default: main)
RequestEAPID	Send an EAP identity request to client. This allows the client to use different identities for the IKE and EAP negotiation. (Default: Yes)
EAP	Use EAP to authenticate either the firewall itself or the connecting peer. (Default: Off)
EAPUsername	Specifies the username to pass to the remote

	gateway via EAP.
EAPPassword	Specifies the password to pass to the remote gateway via EAP.
SNMPIndex	Interface index assigned by the system when persistent interface indexes are enabled. (Default: 0)
Attribute	Special Attribute of the current object. (Optional)
MemberOfRoutingTable	All or Specific. (Default: All)
RoutingTable	Specifies the PBR table to insert the interface IP route into. It also means that the specified routing table will be used for all routing lookups, unless overridden by a PBR rule. (Default: main)
ProxyARPAllInterfaces	Always select all interfaces, including new ones, for publishing routes via Proxy ARP. (Default: No)
ProxyARPInterfaces	Specifies the interfaces on which the firewall should publish routes via Proxy ARP. (Optional)
Comments	Text describing the current object. (Optional)

3.72. IPsecTunnelSettings

Description

Settings for the IPsec tunnel interfaces used for establishing IPsec VPN connections to and from this system.

Properties

IPsecMaxTunnels	Amount of IPsec tunnels allowed (0 = automatic). (Default: 0)
IPsecMaxRules	Amount of IPsec rules allowed (0 = automatic). (Default: 0)
IKESendInitialContact	Send 'initial contact' messages. (Default: Yes)
IKESendCRLs	Send CRLs in the IKE exchange. (Default: Yes)
IKECRLValidityTime	Maximum number of seconds a CRL is considered valid (0=obey the 'next update' field in the CRL). (Default: 86400)
IKEMaxCAPath	Maximum number of CA certificates in a certificate path. (Default: 15)
IPsecCertCacheMaxCerts	Maximum number of entries in the certificate cache. (Default: 1024)
IPsecBeforeRules	Pass IKE & IPsec (ESP/AH) traffic sent to the firewall directly to the IPsec engine without consulting the ruleset. (Default: Yes)
IPsecHardwareAcceleration	IPsec hardware acceleration. (Default: Coprocessor)
IPsecDisablePKAccel	Disable hardware acceleration for public-key operations. (Default: No)
AESNIEnable	Enable AES-NI acceleration for processors that support it. (Default: Yes)
IPsecXCBCFallbackToRFC3664	Enable fallback to XCBC RFC3664 if XCBC RFC4344 fails when using IKEv2. (Default: Yes)
IPsecDeleteSAOnIPValidationFailure	Enable tunnel deletion when decrypted source IP address doesn't match the remote net. (Default: No)
IPsecSAKeepTime	Number of seconds a SA will linger after a delete. (Default: 3)
IPsecForceRequireCookie	Force requirement of cookies. Used for test purposes only! (Default: No)
IPsecDisableCallingStationID	Disable calling station ID and called station ID in RADIUS messages. (Default: No)
IpsecUseClientCfgModeAttributes	Use client requested subnet attributes for config mode. (Default: No)

IPsecAllowIKEPortChange	Allow port change to 4500 in IKE negotiation even when no NAT is detected. (Default: No)
IPsecLogKeyMaterial	Enable logging of IPsec key material. (Default: No)
IPsecESPDetectNATChange	Use inbound ESP packets to detect that NAT mappings have changed. (Default: Yes)

Note

This object type does not have an identifier and is identified by the name of the type only. There can only be one instance of this type.

3.73. IPSettings

Description

Settings related to the IP protocol.

Properties

IP6LogOnForwardHopLimit0	Log any attempts of forwarding IPv6 packets with HopLimit=0 destined for outside the firewall; this should never happen! (Default: DropLog)
IP6AnycastSrc	Drop Log packets with anycast source address. (Default: DropLog)
HopLimitMin	The minimum IP Hop-Limit value accepted on receipt. (Default: 3)
HopLimitOnLow	What action to take on too low unicast Hop-Limit values. (Default: DropLog)
HopLimitMinMulticast	The minimum IP multicast Hop-Limit value accepted on receipt. (Default: 1)
HopLimitOnLowMulticast	What action to take on too low multicast Hop-Limit values. (Default: DropLog)
DefaultHopLimit	The default IP Hop-Limit of packets originated by the firewall (32-255). (Default: 255)
IP6Fl	Validate IPV6 Flow label header field. (Default: Ignore)
IP6TC	Validate IPV6 Traffic class header field. (Default: Ignore)
IP6MaxExtHdr	Maximum allowed size of all IP6 extension headers. (Default: 256)
IP6OnMaxExtHdr	Validate the extension header length when it goes beyond IP6MaxExtHdr. (Default: DropLog)
RejectUnorderedExtHdr	Send an ICMPv6 error when encountering extension headers out of order. (Default: No)
IP6MaxOptHdr	Total number of options allowed per IP6 extension header. (Default: 8)
IP6OnMaxOptHdr	Validate the number of options per extension header when it goes beyond IP6MaxOptHdr. (Default: DropLog)
IP6ValidateSyntax	Validate ipv6 syntax violation. (Default: ValidateLogBad)
IP6OPT_PADN	Validate when ipv6 padn option data fields are non-zero. (Default: StripLog)
IP6OPT_JUMBO	Validate jumbogram packets. (Default: ValidateLog)

IP6OPT_RA	Validate Router Alert packets. (Default: Ignore)
IP6OPT_HA	Validate Home Address option packets. (Default: Ignore)
IP6OPT_OTH	Validate unknown option types. (Default: RFC2460Log)
IP6_RH0	Validate routing header type 0 option. (Default: RFC5095NoSupportLog)
IP6_RH2	Validate routing header type 2 option. (Default: RFC2460NoSupportLog)
IP6_RHOther	Validate routing header other than type 0 or 2 option. (Default: RFC2460NoSupportLog)
IP6OnLocalUnrecognizedHdr	How to handle packets destined to the SGW with unrecognized IPV6 headers. (Default: DropLog)
LogCheckSumErrors	Log IP packets with bad checksums. (Default: Yes)
LogNonIPv4IPv6	Log occurrences of non-IPv4/IPv6 packets. (Default: Yes)
LogReceivedTTL0	Log received packets with TTL=0; this should never happen! (Default: Yes)
LogOnForwardTTL0	Log any attempts of forwarding IPv4 packets with TTL=0 destined for outside the firewall; this should never happen! (Default: DropLog)
Log0000Src	Log invalid 0.0.0.0 source address. (Default: Drop)
Block0Net	Block 0.* source addresses. (Default: DropLog)
Block127Net	Block 127.* source addresses. (Default: DropLog)
BlockMulticastSrc	Block multicast source addresses (224.0.0.0--239.255.255.255). (Default: DropLog)
TTLMin	The minimum IP Time-To-Live value accepted on receipt. (Default: 3)
TTLOnLow	What action to take on too low unicast TTL values. (Default: DropLog)
TTLMinMulticast	The minimum IP multicast Time-To-Live value accepted on receipt. (Default: 3)
TTLOnLowMulticast	What action to take on too low multicast TTL values. (Default: DropLog)
DefaultTTL	The default IP Time-To-Live of packets originated by the firewall (32-255). (Default: 255)
LayerSizeConsistency	TCP/UDP/ICMP/etc layer data and header sizes matching lower layer size information. (Default: ValidateLogBad)
SecuRemoteUDPEncapCompat	Allow IP data to contain eight bytes more than the UDP total length field specifies -- Checkpoint

	SecuRemote violates NAT-T drafts. (Default: No)
IPOptionSizes	Validity of IP header option sizes. (Default: ValidateLogBad)
IPOPT_SR	How to handle IP packets with contained source or return routes. (Default: DropLog)
IPOPT_TS	How to handle IP packets with contained Timestamps. (Default: DropLog)
IPOPT_RTRALT	How to handle IP packets with contained route alert. (Default: ValidateLogBad)
IPOPT_OTHER	How to handle IP options not specified above. (Default: DropLog)
DirectedBroadcasts	How to handle directed broadcasts being passed from one interface to another. (Default: DropLog)
TransparentBroadcastNAT	How to handle Broadcast packets matching a NAT rule in Transparent mode. (Default: DropLog)
IPRF	How to handle the IP Reserved Flag, if set; it should never be. (Default: DropLog)
StripDFOnSmall	Strip the "DontFragment" flag for packets of this size or smaller. (Default: 65535)
MulticastIPEnetOnMismatch	What action to take when ethernet and IP multicast addresses do not match. (Default: DropLog)

Note

This object type does not have an identifier and is identified by the name of the type only. There can only be one instance of this type.

3.74. L2TPClient

Description

A PPTP/L2TP client interface is a PPP (Point-to-Point Protocol) tunnel over an existing IP network. Its IP address and DNS servers are dynamically assigned.

Properties

Name	Specifies a symbolic name for the interface. (Identifier)
IP	The host name to store the assigned IP address in, if this network object exists and have a value other then 0.0.0.0 the PPTP/L2TP client will try to get that one from the PPTP/L2TP server as preferred IP. (Optional)
Network	The network from which traffic should be routed into the tunnel.
RemoteEndpoint	The IP address of the L2TP/PPTP server.
TunnelProtocol	Specifies if PPTP or L2TP should be used for this tunnel. (Default: PPTP)
OriginatorIPType	Specifies what IP address to use as source IP in e.g. NAT. (Default: LocalInterface)
OriginatorIP	Manually specified originator IP address to use as source IP in e.g. NAT.
DNS1	IP of the primary DNS server. (Optional)
DNS2	IP of the secondary DNS server. (Optional)
Username	Specifies the username to use for this PPTP/L2TP interface.
Password	The password to use for this PPTP/L2TP interface.
PPPAuthNoAuth	Allow no authentication for this tunnel. (Default: No)
PPPAuthPAP	Use PAP authentication protocol for this tunnel. User name and password are sent in plaintext. (Default: Yes)
PPPAuthCHAP	Use CHAP authentication protocol for this tunnel. (Default: Yes)
PPPAuthMSCHAP	Use MS-CHAP authentication protocol for this tunnel. (Default: Yes)
PPPAuthMSCHAPv2	Use MS-CHAP v2 authentication protocol for this tunnel. (Default: Yes)
MPPENone	Allow authentication without Microsoft Point-to-Point Encryption (MPPE). (Default: Yes)

MPPERC440	Use an RC4 40 bit MPPE session key with MS-CHAP or MS-CHAP v2 authentication protocol. (Default: Yes)
MPPERC456	Use an RC4 56 bit MPPE session key with MS-CHAP or MS-CHAP v2 authentication protocol. (Default: Yes)
MPPERC4128	Use an RC4 128 bit MPPE session key with MS-CHAP or MS-CHAP v2 authentication protocol. (Default: Yes)
DialOnDemand	Enable Dial-on-demand which means that the L2TP/PPTP tunnel will not be setup until traffic is sent on the interface. (Default: No)
ActivitySensing	Specifies if the dial-on-demand should trigger on inbound or outbound traffic or both. (Default: BiDirectional)
IdleTimeout	Idle timeout in seconds for dial-on-demand. (Default: 3600)
Metric	Specifies the metric for the auto-created route. (Default: 90)
MTU	Specifies the size (in bytes) of the largest packet that can be passed onward. (Default: 1456)
AutoInterfaceNetworkRoute	Automatically add a route for this interface using the given remote network. (Default: Yes)
MPPEAllowStateful	Allow usage of Stateful MPPE (less secure, use only for compatibility). (Default: No)
IPsecInterface	Use this IPsec interface to encypt the traffic to the L2TP server. (L2TP/IPsec). (Optional)
SNMPIndex	Interface index assigned by the system when persistent interface indexes are enabled. (Default: 0)
Attribute	Special Attribute of the current object. (Optional)
MemberOfRoutingTable	All or Specific. (Default: All)
RoutingTable	Specifies the PBR table to insert the interface IP route into. It also means that the specified routing table will be used for all routing lookups, unless overridden by a PBR rule. (Default: main)
Comments	Text describing the current object. (Optional)

3.75. L2TPServer

Description

A PPTP/L2TP server interface terminates PPP (Point to Point Protocol) tunnels set up over existing IP networks.

Properties

Name	Specifies a symbolic name for the interface. (Identifier)
IP	The IP address of the PPTP/L2TP server interface.
TunnelProtocol	Specifies if PPTP or L2TP should be used for this tunnel. (Default: PPTP)
Interface	The interface that the PPTP/L2TP Server should be listening on.
ServerIP	Specifies the IP that the PPTP/L2TP server should listen on, this can be an IP of a interface, or for example an ARP published IP.
UseUserAuth	Enable the use of user authentication rules on this server. (Default: Yes)
MPPENone	Allow no authentication for this tunnel. (Default: Yes)
MPPERC440	Use an RC4 40 bit MPPE session key with MS-CHAP or MS-CHAP v2 authentication protocol. (Default: Yes)
MPPERC456	Use an RC4 56 bit MPPE session key with MS-CHAP or MS-CHAP v2 authentication protocol. (Default: Yes)
MPPERC4128	Use an RC4 128 bit MPPE session key with MS-CHAP or MS-CHAP v2 authentication protocol. (Default: Yes)
IPPool	A range, group or network that the PPTP/L2TP server will use as IP address pool to give out IP addresses to the clients from.
DNS1	IP of the primary DNS server. (Optional)
DNS2	IP of the secondary DNS server. (Optional)
NBNS1	IP of the primary Windows Internet Name Service (WINS) server that is used in Microsoft environments which uses the NetBIOS Name Servers (NBNS) to assign IP addresses to NetBIOS names. (Optional)
NBNS2	IP of the primary Windows Internet Name Service (WINS) server that is used in Microsoft environments which uses the NetBIOS Name

	Servers (NBNS) to assign IP addresses to NetBIOS names. (Optional)
AllowedRoutes	Restricts networks for which routes may automatically be added. (Default: all-nets)
MPPEAllowStateful	Allow usage of Stateful MPPE (less secure, use only for compatibility). (Default: No)
SNMPIndex	Interface index assigned by the system when persistent interface indexes are enabled. (Default: 0)
Attribute	Special Attribute of the current object. (Optional)
MemberOfRoutingTable	All or Specific. (Default: All)
RoutingTable	Specifies the PBR table to insert the interface IP route into. It also means that the specified routing table will be used for all routing lookups, unless overridden by a PBR rule. (Default: main)
ProxyARPAllInterfaces	Always select all interfaces, including new ones, for publishing routes via Proxy ARP. (Default: No)
ProxyARPInterfaces	Specifies the interfaces on which the firewall should publish routes via Proxy ARP. (Optional)
Comments	Text describing the current object. (Optional)

3.76. L2TPServerSettings

Description

PPTP/L2TP server settings.

Properties

L2TPBeforeRules	Pass L2TP connections sent to the firewall directly to the L2TP engine without consulting the ruleset. (Default: Yes)
PPTPBeforeRules	Pass PPTP connections sent to the firewall directly to the PPTP engine without consulting the ruleset. (Default: Yes)

Note

This object type does not have an identifier and is identified by the name of the type only. There can only be one instance of this type.

3.77. L2TPv3Client

Description

A L2TPv3 client interface terminates L2 (Ethernet and VLAN) tunnels set up over existing IP networks.

Properties

Name	Specifies a symbolic name for the interface. (Identifier)
IP	The IP address of the L2TPv3 Client interface.
LocalNetwork	The network on "this side" of the L2TPv3 tunnel.
PseudowireType	Specifies if L2TPv3 should tunnel Ethernet or IEEE 802.1Q (VLAN) tagged Ethernet frames. (Default: Ethernet)
Protocol	Specifies if L2TPv3 should tunnel over IP or UDP. (Default: UDP)
RemoteEndpoint	The IP address of the L2TPv3 server.
OriginatorIPType	Specifies what IP address to use as source IP in e.g. NAT. (Default: LocalInterface)
OriginatorIP	Manually specified originator IP address to use as source IP in e.g. NAT.
IPsecInterface	Use this IPsec interface to encypt the traffic to the L2TPv3 server. (L2TP/IPsec). (Optional)
AutoRouteMetric	Specifies the metric for the auto-created route used by the L2TPv3 Client. (Default: 100)
HostName	The host name for this L2TPv3 Client. (Used in the Host Name AVP). (Optional)
RouterID	Router ID. (Used in the Router ID AVP). (Optional)
DHCPPassthrough	Allow DHCP to pass through transparently. (Default: No)
NonIPPassthrough	Allow non-IP protocols to pass through transparently. (Default: No)
SNMPIndex	Interface index assigned by the system when persistent interface indexes are enabled. (Default: 0)
Attribute	Special Attribute of the current object. (Optional)
MemberOfRoutingTable	All or Specific. (Default: All)
RoutingTable	Specifies the PBR table to insert the interface IP route into. It also means that the specified routing table will be used for all routing lookups, unless overridden by a PBR rule. (Default: main)

ProxyARPAllInterfaces	Always select all interfaces, including new ones, for publishing routes via Proxy ARP. (Default: No)
ProxyARPInterfaces	Specifies the interfaces on which the firewall should publish routes via Proxy ARP. (Optional)
Comments	Text describing the current object. (Optional)

3.78. L2TPv3Server

Description

A L2TPv3 server interface terminates L2 (Ethernet and VLAN) tunnels set up over existing IP networks.

Properties

Name	Specifies a symbolic name for the interface. (Identifier)
IP	The IP address of the L2TPv3 Server interface.
LocalNetwork	The network on "this side" of the L2TPv3 tunnel.
Protocol	Specifies if L2TPv3 should tunnel over IP or UDP. (Default: UDP)
Interface	The interface that the L2TPv3 Server should be listening on.
ServerIP	Specifies the IP that the L2TPv3 Server should listen on, this can be an IP of a interface, or for example an ARP published IP.
AutoRouteMetric	Specifies the metric for the auto-created route used by the L2TPv3 Server. (Default: 100)
HostName	The host name for this L2TPv3 Server. (Used in the Host Name AVP). (Optional)
RouterID	Router ID. (Used in the Router ID AVP). (Optional)
DHCPPassthrough	Allow DHCP to pass through transparently. (Default: No)
NonIPPassthrough	Allow non-IP protocols to pass through transparently. (Default: No)
SNMPIndex	Interface index assigned by the system when persistent interface indexes are enabled. (Default: 0)
Attribute	Special Attribute of the current object. (Optional)
MemberOfRoutingTable	All or Specific. (Default: All)
RoutingTable	Specifies the PBR table to insert the interface IP route into. It also means that the specified routing table will be used for all routing lookups, unless overridden by a PBR rule. (Default: main)
ProxyARPAllInterfaces	Always select all interfaces, including new ones, for publishing routes via Proxy ARP. (Default: No)
ProxyARPInterfaces	Specifies the interfaces on which the firewall should publish routes via Proxy ARP. (Optional)
Comments	Text describing the current object. (Optional)

3.79. LANtoLANVPN

Description

This type lets you setup an IPsec tunnel between gateways in an easy way with algorithms that are known to be secure. (IKEv2 tunnel with AES-128 and SHA-256. DH group 14 (2048-bits) and forward secrecy.)

Properties

Name	Specifies a symbolic name for the interface. (Identifier)
LocalNetwork	The network on "this side" of the IPsec tunnel. The IPsec tunnel will be established between this network and the remote network.
RemoteNetwork	The network connected to the remote gateway. The IPsec tunnel will be established between the local network and this network.
AuthMethod	Certificate or Pre-shared key. (Default: PSK)
PSK	Selects the Pre-shared key to use with this IPsec Tunnel.
GatewayCertificate	Selects the certificate the firewall uses to authenticate itself to the other IPsec peer.
RootCertificates	Selects one or more root certificates to use with this IPsec Tunnel.
RemoteEndpoint	Specifies the IP address of the remote endpoint. This is the address the firewall will establish the IPsec tunnel to. It also dictates from where inbound IPsec tunnels are allowed. (Optional)
AutoInterfaceNetworkRoute	Automatically add a route for this interface using the given remote network. (Default: Yes)
SNMPIndex	Interface index assigned by the system when persistent interface indexes are enabled. (Default: 0)
Attribute	Special Attribute of the current object. (Optional)
MemberOfRoutingTable	All or Specific. (Default: All)
RoutingTable	Specifies the PBR table to insert the interface IP route into. It also means that the specified routing table will be used for all routing lookups, unless overridden by a PBR rule. (Default: main)
Comments	Text describing the current object. (Optional)

3.80. LDAPDatabase

Description

External LDAP server used to verify user names and passwords.

Properties

Name	Specifies a symbolic name for the server. (Identifier)
IP	The IP address of the server.
Port	The TCP port of the server. (Default: 389)
SourceIPSelection	Which IP should be used as a source IP. (Default: Automatic)
SourceIP	The IP address to be used as source IP.
Timeout	The timeout, in milliseconds, used when processing requests. (Default: 5)
NameAttr	Specifies a name attribute in LDAP database. (Default: uid)
PassAttr	Specifies a password attribute in LDAP database. (Optional)
GroupsAttr	Specifies the group membership attribute used in the LDAP database. (Default: memberOf)
GetGroups	Retrieve group membership for users. (Default: Yes)
DomainName	The domain name of the server. (Optional)
CombinedUsername	Combine Name Attribute with given username, Optional Attribute and Base Object in LDAP bind request. (Default: No)
OptionalAttribute	Optional attribute to be used in bind request together with given username and Base Object. (Optional)
BaseObject	Specifies a base object to search. (Optional)
UserName	Specifies a user name. (Optional)
Password	Specifies a user password. (Optional)
Type	Add domain name to username. (Default: 0)
Attribute	Special Attribute of the current object. (Optional)
RoutingTable	Specifies the routing table the clients host route should be added to. (Default: main)
Comments	Text describing the current object. (Optional)

3.81. LDAPServer

Description

An LDAP server is used as a central repository of certificates and CRLs that the firewall can download when necessary.

Properties

Host	Specifies the IP address or hostname of the LDAP server.
Username	Specifies the username to use when accessing the LDAP server. (Optional)
Password	Specifies the password to use when accessing the LDAP server. (Optional)
Port	Specifies the LDAP service port number. (Default: 389)
Attribute	Special Attribute of the current object. (Optional)
Comments	Text describing the current object. (Optional)

Note

If no `Index` is specified when creating an instance of this type, the object will be placed last in the list and the `Index` will be equal to the length of the list.

3.82. LengthLimSettings

Description

Length limitations for various protocols.

Properties

MaxTCPLen	TCP; Sometimes has to be increased if tunneling protocols are used. (Default: 1480)
MaxUDPLen	UDP; Many interactive applications use large UDP packets, may otherwise be decreased to 1480. (Default: 60000)
MaxICMPLen	ICMP; May be decreased to 1480 if desired. (Default: 10000)
MaxICMPv6Len	ICMPv6; May be decreased to 1280 if desired. (Default: 10000)
MaxGRELen	Encapsulated (tunneled transport), used by PPTP. (Default: 2000)
MaxESPLen	IPsec ESP; Encrypted communication. (Default: 2000)
MaxAHLen	IPsec AH; Authenticated communication. (Default: 2000)
MaxSKIPLen	SKIP; Simple Key management for IP, VPN protocol. (Default: 2000)
MaxOSPFLen	OSPF; Open Shortest Path First, routing protocol. (Default: 1480)
MaxIPIPLen	IPIP/FWZ; Encapsulated (tunneled) transport, used by VPN-1. (Default: 2000)
MaxIPCompLen	IPsec IPComp; Compressed communication. (Default: 2000)
MaxL2TPLen	L2TP; Layer 2 Tunneling Protocol. (Default: 2000)
MaxOtherSubIPLen	Others; sometimes has to be increased if unknown tunneling protocols are used. (Default: 1480)
LogOversizedPackets	Log occurrences of oversized packets. (Default: Yes)

Note

This object type does not have an identifier and is identified by the name of the type only. There can only be one instance of this type.

3.83. LinkAggregation

Description

A Link Aggregation interface combines multiple Ethernet interfaces into a single logical endpoint.

Properties

Name	Specifies a symbolic name for the interface. (Identifier)
Members	A set of Ethernet interfaces to aggregate. (Optional)
DistributionAlgorithm	Specifies how outgoing traffic will be distributed among the active links. (Default: Combination)
Mode	Specifies the method used to aggregate links. (Default: Static)
LACPActivity	Specifies if the system should actively attempt to initiate LACP negotiations or wait for a partner system to do so. (Default: Active)
LACPTimeout	Specifies how soon the system will reselect active links if a link is broken. (Default: Long)
LACPSystemPriority	System priority value to be sent in LACP messages. (Default: 1)
MACAddress	The hardware address for the interface. (Optional)
IP	The IP address of the interface.
Network	The network of the interface.
DefaultGateway	The default gateway of the interface. (Optional)
Broadcast	The broadcast address of the connected network. (Optional)
EnableIPv6	Enable processing of IPv6 traffic on this interface. (Default: No)
IPv6IP	The IP address of the interface.
IPv6Network	The network of the interface.
IPv6DefaultGateway	The default gateway of the interface. (Optional)
RouterDiscovery	Uses Router information (ND RA) from local network to auto-configure Network and Default Gateway addresses. (Default: No)
AutoIPv6IP	Automatically configures IP Address using Network Address and EUI-64. (Default: No)
DHCPv6Enabled	Enable DHCPv6 client on this interface. (Default: No)

PrivateIP	The private IP address of this high availability node. (Optional)
PrivateIP6	The private IP6 address of this high availability node. (Default: localhost6)
NOCHB	This will disable sending Cluster Heartbeats from this interface (used by HA to detect if a node is online and working). (Optional)
MTU	Specifies the size (in bytes) of the largest packet that can be passed onward. Must be 1294 or larger when IPv6 is enabled. (Default: 1500)
Metric	Specifies the metric for the auto-created route. (Default: 100)
DHCPEnabled	Enable DHCP client on this interface. (Default: No)
DHCPHostName	Optional DHCP Host Name. Leave blank to use default name. (Optional)
AutoSwitchRoute	Allows traffic to be forwarded transparently across all interfaces with Transparent Mode enabled that belong to the same routing table. (Default: No)
DHCPPassthrough	Allow DHCP to pass through transparently. (Default: No)
NonIPPassthrough	Allow non-IP protocols to pass through transparently. (Default: No)
BroadcastFwd	By default, this traffic is dropped. (Default: No)
AutoInterfaceNetworkRoute	Automatically add a route for this interface using the given network. (Default: Yes)
AutoDefaultGatewayRoute	Automatically add a default route for this interface using the given default gateway. (Default: Yes)
DHCPDNS1	IP of the primary DNS server. (Optional)
DHCPDNS2	IP of the secondary DNS server. (Optional)
DHCPv6DNS1	IP of the primary IPv6 DNS server. (Optional)
DHCPv6DNS2	IP of the secondary IPv6 DNS server. (Optional)
EnableRouterAdvertisement	Enable Router Advertisement for this interface. (Default: No)
SNMPIndex	Interface index assigned by the system when persistent interface indexes are enabled. (Default: 0)
Attribute	Special Attribute of the current object. (Optional)
MemberOfRoutingTable	All or Specific. (Default: All)
RoutingTable	Specifies the PBR table to insert the interface IP route into. It also means that the specified routing table will be used for all routing lookups, unless

	overridden by a PBR rule. (Default: main)
Comments	Text describing the current object. (Optional)

3.84. LinkMonitor

Description

The Link Monitor allows the system to monitor one or more hosts and take action if they are unreachable.

Properties

Action	Specifies what action the system should take.
Addresses	Specifies the addresses that should be monitored.
MaxLoss	A single host is considered unreachable if this number of consecutive ping responses to that host are not replied to. (Default: 7)
PingInterval	Milliseconds between each monitor attempt. (Default: 250)
InitGracePeriod	Do not allow triggering of the link monitor for this number of seconds after the last reconfiguration. (Default: 45)
RoutingTable	Routing table used for link monitoring. (Default: main)
UseSharedIP	Use the shared IP of an HA cluster instead of the private IP of the node. (Default: No)
Attribute	Special Attribute of the current object. (Optional)
Comments	Text describing the current object. (Optional)

Note

If no `Index` is specified when creating an instance of this type, the object will be placed last in the list and the `Index` will be equal to the length of the list.

3.85. LocalReassSettings

Description

Parameters use for local fragment reassembly.

Properties

LocalReass_MaxConcurrent	Maximum number of concurrent local reassemblies. (Default: 256)
LocalReass_MaxSize	Maximum size of a locally reassembled packet. (Default: 10000)
LocalReass_NumLarge	Number of large (>2K) local reassembly buffers (of the above size). (Default: 32)

Note

This object type does not have an identifier and is identified by the name of the type only. There can only be one instance of this type.

3.86. LocalUserDatabase

Description

A local user database contains user accounts used for authentication purposes.

Properties

Name	Specifies a symbolic name for the object. (Identifier)
Attribute	Special Attribute of the current object. (Optional)
Comments	Text describing the current object. (Optional)

3.86.1. User

Description

User credentials may be used in User Authentication Rules, which in turn are used in e.g. PPP, IPsec XAuth, Web Authentication, etc

Properties

Name	Specifies the username to add into the user database. (Identifier)
Password	The password for this user.
HasStrongPassword	Specifies if the user's password is strong. (Default: No)
Groups	Specifies the user groups that this user is a member of, e.g. Administrators. (Optional)
IPPool	If the user is logging in over PPTP/L2TP or IPsec it will be assigned this static IP. (Optional)
AutoAddRouteNet	PPTP/L2TP networks behind the user. (Optional)
AutoAddRouteMetric	Metric for the network. (Optional)
SSHKeys	Public keys used to log in via SSH. (Optional)
Attribute	Special Attribute of the current object. (Optional)
Comments	Text describing the current object. (Optional)

3.87. LogReceiverMemory

Description

A memory log receiver is used to receive and keep log events in system RAM.

Properties

Name	Specifies a symbolic name for the log receiver. (Identifier)
LogSeverity	Specifies with what severity log events will be sent to the specified log receivers. (Optional; Default: Emergency,Alert,Critical,Error,Warning,Notice,Info)
Attribute	Special Attribute of the current object. (Optional)
Comments	Text describing the current object. (Optional)

3.87.1. LogReceiverMessageException

The definitions here are the same as in Section 3.44.1, “LogReceiverMessageException” .

3.88. LogReceiverSMTP

Description

Mail Alerting is used for sending important events via email.

Properties

Name	Specifies a symbolic name for the log receiver. (Identifier)
IPAddress	IP address or DNS name of an SMTP server that accepts emails for the given address(es).
Port	TCP port of the SMTP server. Changing it to 465 will NOT make the connection encrypted - it will simply not work. (Default: 25)
Recipient	Who to send email to. To send to multiple recipients, configure an alias (aka mailing list) on the server and send to that.
Sender	The sender email address to use for log event emails.
Identity	Customizes how the system identifies itself to the SMTP server when issuing the EHLO command. Preferrably, this should be the DNS name of the sending interface, as the server may be configured to require it. By default, the numeric IP address of the sending interface is used. (Optional)
XMailer	Specifies a custom X-Mailer email header string. The X-Mailer header field is typically used to identify the name and version number of the software that generated the email. (Optional)
Subject	The email Subject to use for log event emails.
Activation	Select how events trigger an alert. (Default: SingleEvent)
EventCountThreshold	How many events are required to trigger the alert?. (Default: 10)
EventCountPeriod	How far back in time to look when counting events. Events that were included in a previous email are not counted again. (Default: 60)
KeepCollectingPeriod	To provide context in the alert email, more events can be collected for a short time and included in the email. Set to 0 to not collect and send as soon as possible. (Default: 1)
MinTimeBetweenEmail	Emails will never be sent more often than this. Additional alerts will be sent in the next email. (Default: 30)
SendReportEmails	Periodically send report emails containing events

	that did not trigger the rate threshold. The report will always be sent, even if nothing occured. (Default: No)
ReportEmailInterval	How often to send report emails. (Default: 24)
ReportEmailSubject	The email Subject to use for report emails.
LogSeverity	Specifies with what severity log events will be sent to the specified log receivers. (Optional; Default: Emergency,Alert,Critical,Error,Warning,Notice,Info)
Attribute	Special Attribute of the current object. (Optional)
RoutingTable	Specifies the routing table the clients host route should be added to. (Default: main)
Comments	Text describing the current object. (Optional)

3.88.1. LogReceiverMessageException

The definitions here are the same as in Section 3.44.1, “LogReceiverMessageException” .

3.89. LogReceiverSyslog

Description

A Syslog receiver is used to receive log events from the system in the standard Syslog format.

Properties

Name	Specifies a symbolic name for the log receiver. (Identifier)
IPAddress	Specifies the IP address of the log receiver.
Port	Specifies the port number of the log service. (Default: 514)
Facility	Specifies what facility is used when logging. (Default: local0)
RFC5424	Send Syslog messages according to RFC5424. (Default: No)
Hostname	Specifies a unique hostname. If not configured, the IP address of the sending interface will be sent as hostname. (Optional)
LogSeverity	Specifies with what severity log events will be sent to the specified log receivers. (Optional; Default: Emergency,Alert,Critical,Error,Warning,Notice,Info)
Attribute	Special Attribute of the current object. (Optional)
RoutingTable	Specifies the routing table the clients host route should be added to. (Default: main)
Comments	Text describing the current object. (Optional)

3.89.1. LogReceiverMessageException

The definitions here are the same as in Section 3.44.1, “LogReceiverMessageException” .

3.90. LogSettings

Description

Advanced log settings.

Properties

LogSendPerSecLimit	Limits how many log packets the firewall may send out per second. (Default: 2000)

Note

This object type does not have an identifier and is identified by the name of the type only. There can only be one instance of this type.

3.91. LoopbackInterface

Description

Loopback interfaces will take all packets sent through them and pass them back up a different interface as newly received packets.

Properties

Name	Specifies a symbolic name for the interface. (Identifier)
LoopTo	Loopback interface. (Optional)
IP	Interface address.
Network	The network of the interface.
Broadcast	The broadcast address of the connected network. (Optional)
Metric	Specifies the metric for the auto-created route. (Default: 100)
AutoInterfaceNetworkRoute	Automatically add a route for this virtual LAN interface using the given network. (Default: Yes)
EnableIPv6	Enable processing of IPv6 traffic on this interface. (Default: No)
IPv6IP	IPv6 Interface address.
IPv6Network	The network of the interface.
SNMPIndex	Interface index assigned by the system when persistent interface indexes are enabled. (Default: 0)
Attribute	Special Attribute of the current object. (Optional)
MemberOfRoutingTable	All or Specific. (Default: All)
RoutingTable	Specifies the PBR table to insert the interface IP route into. It also means that the specified routing table will be used for all routing lookups, unless overridden by a PBR rule. (Default: main)
Comments	Text describing the current object. (Optional)

3.92. MiscSettings

Description

Miscellaneous Settings

Properties

UDPSrcPort0	How to treat UDP packets with source port 0. (Default: DropLog)
Port0	How to treat TCP/UDP packets with destination port 0 and TCP packets with source port 0. (Default: DropLog)
HighBuffers_Dynamic	Allocate the HighBuffers value dynamically. (Default: Yes)
HighBuffers	Number of packet buffers to allocate in addition to the ~200 initial buffers. (Default: 1024)
LocalUndelivered	How to treat (allowed) packets to the firewall that do not match open ports (snmp, scp, netcon, etc). (Default: DropLog)
WCFPerfLog	Enables periodical logging of Web Contentent Filtering resolving performance. (Default: Disabled)
AllowIPRules	Allow using IPRules in addition to IPPolicies. (Default: Yes)
EnablePollOffload	Enable interface poll offloading. (Default: Yes)
AVCache_Lifetime	Number of minutes that an anti-virus cache entry remains in the cache (0=cache disabled). (Default: 20)
EnforceStrongPasswords	When enabled, newly created or modified user passwords must comply to predefined complexity rules. Passwords created before enabling this setting will NOT be verified. (Default: Yes)
HTTPPipeliningMaxReq	Maximum number of pipelined requests in HTTP. (Default: 64)

Note

This object type does not have an identifier and is identified by the name of the type only. There can only be one instance of this type.

3.93. MulticastPolicy

The definitions here are the same as in Section 3.68.3, “MulticastPolicy” .

3.94. MulticastSettings

Description

Advanced Multicast Settings.

Properties

AutoAddMulticastCoreRoute	Auto generate core route for "224.0.0.1-239.255.255.255". (Default: Yes)
IGMPBeforeRules	Allows IGMP traffic to enter the firewall by default. (Default: Yes)
IGMPMaxGlobalRequestsPerSecond	Maximum number of requests per second. (Default: 1000)
IGMPMaxRequestsPerSecond	Maximum number of requests per interface per second. (Default: 100)
IGMPReactToOwnQueries	The firewall should always respond with Member Reports, even to Queries originating from itself. (Default: No)
IGMPRobustnessVariable	IGMP is robust to 'value' - 1 packet losses. (Default: 2)
IGMPQueryInterval	The interval (ms) between general queries sent by the firewall. (Default: 125000)
IGMPQueryResponseInterval	The maximum time (ms) until a host/client has to send an answer to a query. (Default: 10000)
IGMPStartupQueryInterval	The general query interval (ms) to use during the startup phase (default: 1/4 of the 'IGMP Query Interval' parameter. (Default: 30000)
IGMPStartupQueryCount	The number of startup queries to send during the startup phase. (Default: 2)
IGMPLastMemberQueryInterval	The maximum time (ms) until a host/client has to send an answer to a group and group-and-source specific query. (Default: 5000)
IGMPUnsolicatedReportInterval	The time between repetitions (ms) of an initial membership report. (Default: 1000)
IGMPRouterVersion	Multiple IGMP querying routers on a network must use the same IGMP version. (Default: IGMPv3)
IGMPLowestCompatibleVersion	Lowest IGMP compatibility mode. (Default: IGMPv1)

Note

This object type does not have an identifier and is identified by the name of the type only. There can only be one instance of this type.

3.95. NATPool

Description

A NAT Pool is used for NATing multiple concurrent connections to using different source IP addresses.

Properties

Name	Specifies a symbolic name for the NAT Pool. (Identifier)
Type	Specifies how NAT'ed connections are assigned a NAT IP address. (Default: stateful)
IPSource	Specify which IP Address source to use. (Default: IPRange)
IPPool	Specifies the IP Pool used for retrieving IP addresses for NAT translation.
IPPoolIPs	The number of IP addresses to get from the IP Pool.
IPRange	Specifies the range of IP addresses used for NAT translation.
StateKeepAlive	The number of seconds that stateful NAT state will be kept in absence of new connections. (Default: 120)
MaxStates	Maximum number of statefully tracked NATPool states. (Default: 16384)
ProxyARPAllInterfaces	Always select all interfaces, including new ones, for publishing routes needed for receiving traffic on NATPool addresses. (Default: No)
ProxyARPInterfaces	Specifies the interface/interfaces on which the firewall should publish routes needed for the relay via Proxy ARP. (Optional)
Attribute	Special Attribute of the current object. (Optional)
Comments	Text describing the current object. (Optional)

3.96. OSPFProcess

Description

An OSPF Router Process defines a group of routers exchanging routing information via the Open Shortest Path First routing protocol.

Properties

Name	Specifies a symbolic name for the OSPF process. (Identifier)
RouterID	Specifies the IP address that is used to identify the router. If no router ID is configured, it will be computed automatically based on the highest IP address of any interface participating in the OSPF process. (Optional)
PrivRouterID	The private router ID of this high availability node. (Optional)
RFC1583	Enable this if the firewall will be used in a environment that consists of routers that only support RFC 1583. (Default: No)
SPFHoldTime	Specifies the minimum time, in seconds, between two SPF calculations. (Default: 10)
SPFDelayTime	Specifies the delay time, in seconds, between when OSPF receives a topology change and when it starts a SPF calculation. (Default: 5)
LSAGroupPacing	This specifies the time in seconds at which interval the OSPF LSAs are collected into a group and refreshed. (Default: 10)
RoutesHoldtime	This specifies the time in seconds that the routing table will be kept unchanged after a reconfiguration of OSPF entries or a HA failover. (Default: 45)
RefBandwidthValue	Set the reference bandwidth that is used when calculating the default interface cost for routes. (Default: 1)
RefBandwidthUnit	Sets the reference bandwidth unit. (Default: Gbps)
MemoryMaxUsage	Maximum amount in bytes of RAM that the OSPF process is allowed to use. The default is one percent of installed RAM. Specifying 0 indicates that the OSPF process is allowed to use all available RAM. (Optional)
DebugPacket	Enables or disabled logging of general packet parsing events and also specifies the details of the log. (Default: Off)
DebugHello	Enables or disabled logging of hello packets and also specifies the details of the log. (Default: Off)

DebugDDesc	Enables or disabled logging of database description packets and also specifies the details of the log. (Default: Off)
DebugExchange	Enables or disabled logging of exchange packets and also specifies the details of the log. (Default: Off)
DebugLSA	Enables or disabled logging of LSA events and also specifies the details of the log. (Default: Off)
DebugSPF	Enables or disabled logging of SPF calculation events and also specifies the details of the log. (Default: Off)
DebugRoute	Enables or disabled logging of routing table manipulation events and also specifies the details of the log. (Default: Off)
AuthType	Specifies the authentication type for the OSPF protocol exchanges. (Default: None)
AuthPassphrase	Specifies the passphrase used for authentication. (Optional)
AuthMD5ID	Specifies the MD5 key ID used for MD5 digest authentication.
AuthMD5Key	A 128-bit key used to produce the MD5 digest. (Optional)
Attribute	Special Attribute of the current object. (Optional)
LogEnabled	Enable logging. (Default: Yes)
LogSeverity	Specifies with what severity log events will be sent to the specified log receivers. (Default: Default)
Comments	Text describing the current object. (Optional)

3.96.1. OSPFArea

Description

An OSPF area is a sub-domain within the OSPF process which collects OSPF interfaces, neighbors, aggregates and virtual links.

Properties

Name	Specifies a symbolic name for the area. (Identifier)
AreaID	Specifies the area id, if 0.0.0.0 is specified this is the backbone area.
Stub	Enable to make the router automatically advertises a default route so that routers in the stub area can reach destinations outside the area. (Default: No)

StubSummarize	Become a default router for stub area (Summarize). (Default: Yes)
StubMetric	Route metric for stub area. (Optional)
FilterExternal	Specifies the network addresses allowed to be imported into this area from external routing sources. (Optional)
FilterInterArea	Specifies the network addresses allowed to be imported from other routers inside the area. (Optional)
Attribute	Special Attribute of the current object. (Optional)
Comments	Text describing the current object. (Optional)

3.96.1.1. OSPFInterface

Description

Select and define the properties of an interface that should be made a member of the Router Process.

Properties

Interface	Specifies which interface in the firewall will be used for this OSPF interface. (Identifier)
Type	Auto, Broadcast, Point-to-point or Point-to-multipoint. (Default: Auto)
Network	Specifies the network related to the configured OSPF interface. (Optional)
MetricType	Metric value or Bandwidth. (Default: MetricValue)
Metric	Specifies the routing metric for this OSPF interface. (Default: 10)
BandwidthValue	Specifies the bandwidth for this OSPF interface.
BandwidthUnit	Specifies the bandwidth unit. (Default: Mbps)
UseDefaultAuth	Use the authentication configuration specified in the OSPF process. (Default: Yes)
AuthType	Specifies the authentication type for the OSPF protocol exchanges. (Default: None)
AuthPassphrase	Specifies the passphrase used for authentication. (Optional)
AuthMD5ID	Specifies the MD5 key ID used for MD5 digest authentication.
AuthMD5Key	A 128-bit key used to produce the MD5 digest. (Optional)

HelloInterval	Specifies the number of seconds between HELLO packets sent from the interface. (Default: 10)
RtrDeadInterval	If no HELLO packets are received from a neighbor within this interval (in seconds), that neighbor router will be declared to be down. (Default: 40)
RxmtInterval	Specifies the number of seconds between retransmissions of LSAs to neighbors on this interface. (Default: 5)
RtrPrio	Specifies the router priority, a higher number increases this routers chance of becoming DR or BDR, if 0 is specified this router will not be eligible in the DR/BDR election. (Default: 1)
InfTransDelay	Specifies the estimated transmit delay for the interface in seconds. This value represents the maximum time it takes to forward a LSA packet trough the router. (Default: 1)
WaitInterval	Specifies the number of seconds between the time when the interface brought up and the election of the DR and BDR. This value should be higher than the hello interval. (Default: 40)
Passive	Enable to make it possible to include networks into the OSPF routing process, without running OSPF on the interface connected to that network. (Default: No)
IgnoreMTU	Enable to allow OSPF MTU mismatches. (Default: No)
Attribute	Special Attribute of the current object. (Optional)
Comments	Text describing the current object. (Optional)

3.96.1.2. OSPFNeighbor

Description

For point-to-point and point-to-multipoint networks, specify the IP addresses of directly connected routers.

Properties

Interface	Specifies the OSPF interface of the neighbor.
IPAddress	IP Address of the neighbor.
Metric	Specifies the metric of the neighbor. (Optional)
Attribute	Special Attribute of the current object. (Optional)
Comments	Text describing the current object. (Optional)

Note
If no `Index` is specified when creating an instance of this type, the object will be placed last in the list and the `Index` will be equal to the length of the list.

3.96.1.3. OSPFAggregate

Description

An aggregate is used to replace any number of smaller networks belonging to the local (intra) area with one contiguous network which may then be advertised or hidden.

Properties

Network	The aggregate network used to combine several small routes.
Advertise	Advertise the aggregate. (Default: Yes)
Attribute	Special Attribute of the current object. (Optional)
Comments	Text describing the current object. (Optional)

Note
If no `Index` is specified when creating an instance of this type, the object will be placed last in the list and the `Index` will be equal to the length of the list.

3.96.1.4. OSPFVLink

Description

An area that does not have a direct connection to the backbone must have at least one area border router with a virtual link to a backbone router, or to another router with a link to the backbone.

Properties

Name	Specifies a symbolic name for the virtual link. (Identifier)
RouterID	The ID of the router on the other side of the virtual link.
UseDefaultAuth	Use the authentication configuration specified in the OSPF process. (Default: Yes)
AuthType	Specifies the authentication type for the OSPF protocol exchanges. (Default: None)
AuthPassphrase	Specifies the passphrase used for authentication.

	(Optional)
AuthMD5ID	Specifies the MD5 key ID used for MD5 digest authentication.
AuthMD5Key	A 128-bit key used to produce the MD5 digest. (Optional)
Attribute	Special Attribute of the current object. (Optional)
Comments	Text describing the current object. (Optional)

3.97. Pipe

Description

A pipe defines basic traffic shaping parameters. The pipe rules then determines which traffic goes through which pipes.

Properties

Name	Specifies a symbolic name for the pipe. (Identifier)
LimitKbpsTotal	Total bandwidth limit for this pipe in kilobits per second. (Optional)
LimitPPSTotal	Total packet per second limit for this pipe. (Optional)
LimitKbps0	Specifies the bandwidth limit in kbps for precedence 0 (the lowest precedence). (Optional)
LimitPPS0	Specifies the packet per second limit for precedence 0 (the lowest precedence). (Optional)
LimitKbps1	Specifies the bandwidth limit in kbps for precedence 1. (Optional)
LimitPPS1	Specifies the packet per second limit for precedence 1. (Optional)
LimitKbps2	Specifies the bandwidth limit in kbps for precedence 2. (Optional)
LimitPPS2	Specifies the packet per second limit for precedence 2. (Optional)
LimitKbps3	Specifies the bandwidth limit in kbps for precedence 3. (Optional)
LimitPPS3	Specifies the packet per second limit for precedence 3. (Optional)
LimitKbps4	Specifies the bandwidth limit in kbps for precedence 4. (Optional)
LimitPPS4	Specifies the packet per second limit for precedence 4. (Optional)
LimitKbps5	Specifies the bandwidth limit in kbps for precedence 5. (Optional)
LimitPPS5	Specifies the packet per second limit for precedence 5. (Optional)
LimitKbps6	Specifies the bandwidth limit in kbps for precedence 6. (Optional)
LimitPPS6	Specifies the packet per second limit for precedence 6. (Optional)
LimitKbps7	Specifies the bandwidth limit in kbps for

	precedence 7 (the highest precedence). (Optional)
LimitPPS7	Specifies the packet per second limit for precedence 7 (the highest precedence). (Optional)
UserLimitKbpsTotal	Total bandwidth limit per group in the pipe in kilobits per second. (Optional)
UserLimitPPSTotal	Total throughput limit per group in the pipe in packets per second. (Optional)
UserLimitKbps0	Specifies the bandwidth limit per group in kbps for precedence 0 (the lowest precedence). (Optional)
UserLimitPPS0	Specifies the throughput limit per group in PPS for precedence 0 (the lowest precedence). (Optional)
UserLimitKbps1	Specifies the bandwidth limit per group in kbps for precedence 1. (Optional)
UserLimitPPS1	Specifies the throughput limit per group in PPS for precedence 1. (Optional)
UserLimitKbps2	Specifies the bandwidth limit per group in kbps for precedence 2. (Optional)
UserLimitPPS2	Specifies the throughput limit per group in PPS for precedence 2. (Optional)
UserLimitKbps3	Specifies the bandwidth limit per group in kbps for precedence 3. (Optional)
UserLimitPPS3	Specifies the throughput limit per group in PPS for precedence 3. (Optional)
UserLimitKbps4	Specifies the bandwidth limit per group in kbps for precedence 4. (Optional)
UserLimitPPS4	Specifies the throughput limit per group in PPS for precedence 4. (Optional)
UserLimitKbps5	Specifies the bandwidth limit per group in kbps for precedence 5. (Optional)
UserLimitPPS5	Specifies the throughput limit per group in PPS for precedence 5. (Optional)
UserLimitKbps6	Specifies the bandwidth limit per group in kbps for precedence 6. (Optional)
UserLimitPPS6	Specifies the throughput limit per group in PPS for precedence 6. (Optional)
UserLimitKbps7	Specifies the bandwidth limit per group in kbps for precedence 7 (the highest precedence). (Optional)
UserLimitPPS7	Specifies the throughput limit per group in PPS for precedence 7 (the highest precedence). (Optional)
Grouping	Grouping enables per-port/IP/network static bandwidth limits as well as dynamic balancing between groups. (Default: None)

GroupingNetworkSize	If users are grouped according to source or destination network, the size of the network has to be specified by this setting. (Default: 0)
Dynamic	Enable dynamic balancing of groups. (Default: No)
PrecedenceMin	Specifies the lowest allowed precedence for traffic in this pipe. If a packet with a lower precedence enters, its precedence is raised to this value. (Default: 0)
PrecedenceDefault	Specifies the default precedence for the pipe. If a packet enters this pipe without a set precedence, it gets assigned this value. Should be higher than or equal to the minimum precedence. (Default: 0)
PrecedenceMax	Specifies the highest allowed precedence for traffic in this pipe. If a packet with a higher precedence enters, its precedence is lowered to this value. Should be higher than or equal to the default precedence. (Default: 7)
Attribute	Special Attribute of the current object. (Optional)
Comments	Text describing the current object. (Optional)

3.98. PipeRule

Description

A Pipe Rule determines traffic shaping policy - which Pipes to use - for one or more types of traffic with the same granularity as the standard ruleset.

Properties

Index	The index of the object, starting at 1. (Identifier)
Name	Specifies a symbolic name for the object. (Optional)
SourceInterface	Specifies the name of the receiving interface to be compared to the received packet.
SourceNetwork	Specifies the sender span of IP addresses to be compared to the received packet.
DestinationInterface	Specifies the destination interface to be compared to the received packet.
DestinationNetwork	Specifies the span of IP addresses to be compared to the destination IP of the received packet.
Service	Specifies a service that will be used as a filter parameter when matching traffic with this rule.
Schedule	By adding a schedule to a rule, the firewall will only allow that rule to trigger at those designated times. (Optional)
ForwardChain	Specifies one or more pipes to be used for forward traffic. (Optional)
ReturnChain	Specifies one or more pipes to be used for return traffic. (Optional)
Precedence	Specifies what precedence should be assigned to the packets before sent into a pipe. (Default: FromPipe)
FixedPrecedence	Specifies the fixed precedence.
Attribute	Special Attribute of the current object. (Optional)
Comments	Text describing the current object. (Optional)

Note

If no `Index` is specified when creating an instance of this type, the object will be placed last in the list and the `Index` will be equal to the length of the list.

3.99. PPPoETunnel

Description

A PPPoE interface is a PPP (point-to-point protocol) tunnel over an existing physical Ethernet interface. Its IP address is dynamically assigned.

Properties

Name	Specifies a symbolic name for the interface. (Identifier)
EthernetInterface	The physical Ethernet interface that connects to the PPPoE server network.
IP	The host name to store the assigned IP address in.
Network	The network from which traffic should be routed into the tunnel.
DNS1	IP of the primary DNS server. (Optional)
DNS2	IP of the secondary DNS server. (Optional)
Username	Specifies the username to use for this PPPoE tunnel.
Password	The password to use for this PPPoE tunnel.
ServiceName	Specifies the PPPoE server service name used to distinguish between two or more PPPoE servers attached to the same network. (Optional)
PPPAuthNoAuth	Allow no authentication for this tunnel. (Default: No)
PPPAuthPAP	Use PAP authentication protocol for this tunnel. User name and password are sent in plaintext. (Default: Yes)
PPPAuthCHAP	Use CHAP authentication protocol for this tunnel. (Default: Yes)
PPPAuthMSCHAP	Use MS-CHAP authentication protocol for this tunnel. (Default: Yes)
PPPAuthMSCHAPv2	Use MS-CHAP v2 authentication protocol for this tunnel. (Default: Yes)
DialOnDemand	Enable Dial-on-demand which means that the PPPoE tunnel will not be setup until traffic is sent on the interface. (Default: No)
ActivitySensing	Specifies if the dial-on-demand should trigger on inbound or outbound traffic or both. (Default: BiDirectional)
IdleTimeout	Idle timeout in seconds for dial-on-demand. (Default: 3600)

Metric	Specifies the metric for the auto-created route. (Default: 90)
AutoInterfaceNetworkRoute	Automatically add a route for this interface using the given remote network. (Default: Yes)
Schedule	The schedule defines when the PPPoE tunnel should be active. (Optional)
ForceUnnumbered	Force the PPPoE tunnel to be unnumbered. (Default: No)
SpecifyManually	Make it possible to manually specify IP Address object. (Default: No)
MTU	Specifies the size (in bytes) of the largest packet that can be passed onward. (Default: 1492)
SNMPIndex	Interface index assigned by the system when persistent interface indexes are enabled. (Default: 0)
Attribute	Special Attribute of the current object. (Optional)
MemberOfRoutingTable	All or Specific. (Default: All)
RoutingTable	Specifies the PBR table to insert the interface IP route into. It also means that the specified routing table will be used for all routing lookups, unless overridden by a PBR rule. (Default: main)
Comments	Text describing the current object. (Optional)

3.100. PPPSettings

Description

Settings related to the PPP protocol.

Properties

InitialResendTime	Initial time in milliseconds to wait before sending a new configuration request if no server response is received. (Default: 200)

Note

This object type does not have an identifier and is identified by the name of the type only. There can only be one instance of this type.

3.101. PSK

Description

PSK (Pre-Shared Key) authentication is based on a shared secret that is known only by the parties involved.

Properties

Name	Specifies a symbolic name for the pre-shared key. (Identifier)
Type	Specifies the type of the shared key.
PSKAscii	Specifies the PSK as a passphrase.
PSKHex	Specifies the PSK as a hexadecimal key.
Attribute	Special Attribute of the current object. (Optional)
Comments	Text describing the current object. (Optional)

3.102. RadiusAccounting

Description

External RADIUS server used to collect user statistics.

Properties

Name	Specifies a symbolic name for the server. (Identifier)
IPAddress	The IP address of the server.
Port	The UDP port of the server. (Default: 1813)
RetryTimeout	The retry timeout, in seconds, used when trying to contact the RADIUS accounting server. If no response has been given after for example 2 seconds, the firewall will try again by sending a new AccountingRequest packet. (Default: 2)
SharedSecret	The shared secret phrase for the Authenticator generation.
SourceIPSelection	Which IP should be used as a source IP. (Default: Automatic)
SourceIP	The IP address to be used as source IP.
Attribute	Special Attribute of the current object. (Optional)
RoutingTable	Specifies the routing table the clients host route should be added to. (Default: main)
Comments	Text describing the current object. (Optional)

3.103. RadiusRelay

Description

RADIUS relay for intercepting packets from a user endpoint and sending packets to a remote RADIUS server.

Properties

Name	Specifies a symbolic name for the relayer. (Identifier)
SourceInterface	Specifies the name of the receive interface for RADIUS relay requests.
ClientIPFilter	Specifies the network that the AP belongs to.
ListeningIP	Specifies the local IP address on which the system receives Access Point requests. This parameter is optional and will use IP of source interface, if not set. (Optional)
ListeningPort	Specifies the listening port on which the system receives Access Point requests. (Default: 1812)
RemoteServerIP	Specifies the IP address of the remote RADIUS server.
RemoteServerPort	Specifies the port of the remote RADIUS server. (Default: 1812)
SendingIP	Specifies the local IP address from which the system sends requests to the remote Remote RADIUS server. This parameter is optional and will use IP of routed destination interface, if not set. (Optional)
IdleTimeout	A successfully authenticated user will be logged out automatically after this many seconds, if no traffic has been received from the user's IP address. (Default: 1800)
SessionTimeout	A successfully authenticated user will be logged out automatically after this many seconds, even if traffic has been received from the user's IP address. (Default: 0)
UseServerTimeouts	Use timeouts received from the authentication server. If no values are received, the manually specified values will be used. (Default: No)
DHCPServer	Specifies the DHCP server rule that is responsible for distributing leases for authenticated users.
OverrideUserDataInterface	Optionally specify the source interface for the authenticated user data. If not specified, the configured RADIUS Relay source interface will be used. (Optional)

Attribute	Special Attribute of the current object. (Optional)
LogEnabled	Enable logging. (Default: Yes)
LogSeverity	Specifies with what severity log events will be sent to the specified log receivers. (Default: Default)
RoutingTable	Specifies the routing table the clients host route should be added to. (Default: main)
Comments	Text describing the current object. (Optional)

3.104. RadiusServer

Description

External RADIUS server used to verify user names and passwords.

Properties

Name	Specifies a symbolic name for the server. (Identifier)
IPAddress	The IP address of the server.
Port	The UDP port of the server. (Default: 1812)
RetryTimeout	The retry timeout, in seconds, used when trying to contact the RADIUS server. If no response has been given after for example 2 seconds, the firewall will try again by sending a new Access-Request packet. (Default: 2)
SharedSecret	The shared secret phrase for the Authenticator generation.
SourceIPSelection	Which IP should be used as a source IP. (Default: Automatic)
SourceIP	The IP address to be used as source IP.
Attribute	Special Attribute of the current object. (Optional)
RoutingTable	Specifies the routing table the clients host route should be added to. (Default: main)
Comments	Text describing the current object. (Optional)

3.105. RealTimeMonitorAlert

Description

Monitors a statistical value. Log messages are generated if the value goes below the lower threshold or above the high threshold.

Properties

Index	The index of the object, starting at 1. (Identifier)
Monitor	Statistical value.
SampleTime	Interval in seconds between checking the statistic. (Optional)
LowThreshold	Log if statistical value goes below this threshold. (Optional)
HighThreshold	Log if statistical value goes above this threshold. (Optional)
BackoffInterval	The minimum number of seconds between consecutive log messages. (Default: 60)
Continuous	If set, generate event if the value goes from being outside the threshold values, back to within acceptable limits again. (Default: No)
LogMessageID	ID of generated log messages. (Optional)
Attribute	Special Attribute of the current object. (Optional)
Comments	Text describing the current object. (Optional)

Note

If no `Index` is specified when creating an instance of this type, the object will be placed last in the list and the `Index` will be equal to the length of the list.

3.106. RemoteMgmtHTTP

Description

Configure HTTP/HTTPS management to enable remote management to the system.

Properties

Name	Specifies a symbolic name for the object. (Identifier)
Interface	Specifies the interface for which remote access is granted.
Network	Specifies the network for which remote access is granted.
HTTP	Enable remote management via HTTP. (Default: No)
HTTPS	Enable remote management via HTTPS. (Default: No)
AuthSource	Optionally enable authentication from an external source. Note that a Local User Database must ALWAYS be configured to prevent administrative lockout in cases where the external source may not be available. (Default: LocalOnly)
AuthOrder	Specifies if the local database should be queried before or after the external database. (Default: LocalLast)
LocalUserDatabase	Specifies the local user database to use for login.
AccessLevel	Optionally restrict the access level of users authenticated by the local database. (Default: Admin)
RadiusServers	Specifies the authentication servers that will be used to authenticate users matching this rule.
RadiusMethod	Specifies the authentication method used for encrypting the user password. (Default: PAP)
ChallengeExpire	How long, in seconds, before RADIUS challenge expires. (Default: 160)
PrimaryRetryInterval	How many seconds to wait before trying to use the primary server again if it has failed. (Default: 0)
AdminGroups	Restricts administration access to specific user groups. (Optional)
AuditGroups	Restricts auditing access to specific user groups. (Optional)
Attribute	Special Attribute of the current object. (Optional)
Comments	Text describing the current object. (Optional)

3.107. RemoteMgmtREST

Description

Configure REST API management to enable API management to the system.

Properties

Name	Specifies a symbolic name for the object. (Identifier)
Interface	Specifies the interface for which remote access is granted.
Network	Specifies the network for which remote access is granted.
HTTP	Enable remote management via HTTP. (Default: No)
HTTPS	Enable remote management via HTTPS. (Default: No)
AccessLevel	Restrict access level to the REST API. (Default: ReadWrite)
BasicAUTH	Require authentication using Basic AUTH. (Default: No)
Username	Specifies the username used for Basic AUTH.
Password	Specifies the password used for Basic AUTH.
Attribute	Special Attribute of the current object. (Optional)
Comments	Text describing the current object. (Optional)

3.108. RemoteMgmtSettings

Description

Setup and configure methods and permissions for remote management of this system.

Properties

NetconBiDirTimeout	Specifies the amount of seconds to wait for the administrator to log in before reverting to the previous configuration. (Default: 30)
WebUIBeforeRules	Enable HTTP(S) traffic to the firewall regardless of configured IP Rules. (Default: Yes)
WWWSrv_HTTPPort	Specifies the HTTP port for the web user interface. (Default: 80)
WWWSrv_HTTPSPort	Specifies the HTTPS port for the web user interface. (Default: 443)
WebUIAllowLoginAutoComplete	Allow the web browser to remember the username and password on the login page. (Default: No)
SSHBeforeRules	Enable SSH traffic to the firewall regardless of configured IP Rules. (Default: Yes)
HTTPSCertificate	Specifies host certificate to use for HTTPS traffic. Only RSA certificates are supported. (Optional)
HTTPSRootCertificates	Specifies eventual root certificates to use for HTTPS traffic. (Optional)
SNMPBeforeRules	Enable SNMP traffic to the firewall regardless of configured IP Rules. (Default: Yes)
SNMPRequestLimit	Maximum number of SNMP packets that will be processed each second. (Default: 100)
SNMPSysContact	The contact person for this managed node. (Default: N/A)
SNMPSysName	The name for this managed node. (Default: N/A)
SNMPSysLocation	The physical location of this node. (Default: N/A)
SNMPIfDescription	What to display in the SNMP MIB-II ifDescr variables. (Default: Name)
SNMPIfAlias	What to display in the SNMP ifMIB ifAlias variables. (Default: Hardware)
LocalConsoleIdleTimeout	Number of seconds of inactivity until the local (serial) console user is automatically logged out. (Default: 900)
WebUIIdleTimeout	Number of seconds of inactivity until the HTTP(S) session is closed. (Default: 900)
SNMPPersistentIfIndexes	Make SNMP interface indexes persistent over

reboots. Disabling and later re-enabling this setting will trigger a re-numbering of all interfaces in the system. (Default: No)

Note

This object type does not have an identifier and is identified by the name of the type only. There can only be one instance of this type.

3.109. RemoteMgmtSNMP

Description

Configure SNMP management to enable SNMP polling.

Properties

Name	Specifies a symbolic name for the object. (Identifier)
Interface	Specifies the interface for which remote access is granted.
Network	Specifies the network for which remote access is granted.
SnmpVersion	Enabled SNMP version. (Default: SNMPv1_SNMPv2c)
Snmp3SecurityLevel	Enabled SNMPv3 security level. (Default: noAuthNoPriv)
SNMPGetCommunity	Specifies the name of the community to be granted rights to remotely monitor the firewall.
LocalUserDatabase	Specifies the local user database to use for authentication.
Attribute	Special Attribute of the current object. (Optional)
Comments	Text describing the current object. (Optional)

3.110. RemoteMgmtSSH

Description

Configure a Secure Shell (SSH) Server to enable remote management access to the system.

Properties

Name	Specifies a symbolic name for the SSH server. (Identifier)
Interface	Specifies the interface for which remote access is granted.
Network	Specifies the network for which remote access is granted.
Port	The listening port for the SSH server. (Default: 22)
Algorithms	How to choose the allowed algorithms. (Default: Recommended)
AuthMethodPassword	Allow password client authentication. (Default: Yes)
AuthMethodPublicKey	Allow public key client authentication. (Default: Yes)
AcceptedKeyTypes	Public key types allowed to be used by clients that uses public key authentication. Specified in order of preference. (Default: ecdsa-sha2-nistp256,ecdsa-sha2-nistp521)
HostKeyType	Public key types used by this host to authenticate itself to connecting clients. Specified in order of preference. (Default: ecdsa-sha2-nistp256,ecdsa-sha2-nistp521,rsa-sha2-256,rsa-sha2-512)
KexMethod	Key exchange algorithms allowed. Specified in order of preference. (Default: ecdh-sha2-nistp256,ecdh-sha2-nistp384,ecdh-sha2-nistp521,diffie-h
Ciphers	Ciphers allowed in order of preference. (Default: aes128-ctr,aes192-ctr,aes256-ctr)
IntegrityAlg	Integrity algorithms allowed and specified in order of preference. (Default: hmac-sha2-256,hmac-sha2-512)
Banner	Specifies the greeting message to display when the user logs in. (Optional)
MaxSessions	The maximum number of clients that can be connected at the same time. (Default: 5)
SessionIdleTime	The number of seconds a user can be idle before the session is closed. (Default: 1800)
LoginGraceTime	When the user has supplied the username, the

	password has to be provided within this number of seconds or the session will be closed. (Default: 30)
AuthenticationRetries	The number of retires allowed before the session is closed. (Default: 3)
AuthSource	Optionally enable authentication from an external source. Note that a Local User Database must ALWAYS be configured to prevent administrative lockout in cases where the external source may not be available. (Default: LocalOnly)
AuthOrder	Specifies if the local database should be queried before or after the external database. (Default: LocalLast)
LocalUserDatabase	Specifies the local user database to use for login.
AccessLevel	Optionally restrict the access level of users authenticated by the local database. (Default: Admin)
RadiusServers	Specifies the authentication servers that will be used to authenticate users matching this rule.
RadiusMethod	Specifies the authentication method used for encrypting the user password. (Default: PAP)
ChallengeExpire	How long, in seconds, before RADIUS challenge expires. (Default: 160)
PrimaryRetryInterval	How many seconds to wait before trying to use the primary server again if it has failed. (Default: 0)
AdminGroups	Restricts administration access to specific user groups. (Optional)
AuditGroups	Restricts auditing access to specific user groups. (Optional)
Attribute	Special Attribute of the current object. (Optional)
Comments	Text describing the current object. (Optional)

3.111. RoamingVPN

Description

This type of IPsec tunnel is used when you want to create VPN tunnels to roaming clients like mobile phones or laptops. The tunnel type is pre-configured to successfully connect with iOS, macOS and Windows clients using IKEv2 and EAP-MSCHAPv2. (IKEv2 and EAP-MSCHAPv2 is the default setting on most clients.)

Properties

Name	Specifies a symbolic name for the interface. (Identifier)
GatewayCertificate	Selects the certificate the firewall uses to authenticate itself to the other IPsec peer.
RootCertificates	Selects one or more root certificates to use with this IPsec Tunnel.
IPPoolAddress	Specifies the set of IP addresses to use for assigning IP addresses to VPN clients.
DNS	Specifies the IP address of a DNS server that a VPN client should be able to connect to. (Optional)
AuthSource	RADIUS or Local.
LocalUserDB	Specifies the local user database that will be used to authenticate users matching this rule.
RadiusServer	Specifies the authentication server that will be used to authenticate users.
SNMPIndex	Interface index assigned by the system when persistent interface indexes are enabled. (Default: 0)
Attribute	Special Attribute of the current object. (Optional)
MemberOfRoutingTable	All or Specific. (Default: All)
RoutingTable	Specifies the PBR table to insert the interface IP route into. It also means that the specified routing table will be used for all routing lookups, unless overridden by a PBR rule. (Default: main)
Comments	Text describing the current object. (Optional)

3.112. RouteBalancingInstance

Description

A route balancing instance is associated with a routingtable and defines how to make use of multiple routes to the same destination.

Properties

RoutingTable	Specify routingtable to deploy route load balancing in. (Identifier)
Algorithm	Specify which algorithm to use when balancing the routes. (Default: RoundRobin)
Attribute	Special Attribute of the current object. (Optional)
Comments	Text describing the current object. (Optional)

3.113. RouteBalancingSpilloverSettings

Description

Settings associated with the spillover algorithm.

Properties

Interface	Interface to threshold limit. (Identifier)
HoldTime	Number of consecutive seconds over/under the threshold limit to trigger state change for the affected routes. (Default: 30)
OutboundThreshold	Outbound threshold limit. (Optional)
OutboundUnit	The outbound units. (Default: kbps)
InboundThreshold	Inbound threshold limit. (Optional)
InboundUnit	The inbound units. (Default: kbps)
Attribute	Special Attribute of the current object. (Optional)
Comments	Text describing the current object. (Optional)

3.114. RouterAdvertisement

Description

Enabling Router Advertisement will answer Solicitations and periodically send out Advertisements. Stateless address autoconfiguration (SLAAC) will only work correctly if the configured network prefix is 64 (RFC4862).

Properties

Index	The index of the object, starting at 1. (Identifier)
Name	Specifies a symbolic name for the Router Advertisement.
Interface	Specifies the name of the interface to advertise on.
UseGlobalRASettings	Use global RA advanced settings. (Default: Yes)
RAMaxInterval	Maximum time between sending unsolicited multicast Router Advertisement. (Default: 600s). (Default: 600)
RAMinInterval	Minimum time between sending unsolicited multicast Router Advertisement. Will be automatically adjusted if set to less than 3 seconds or greater than .75 * Max RA Interval). (Default: 200)
RAAutoLifetime	Auto adjust the Router Lifetime field using the following formula; 3 * MaxRtrAdvInterval. (Default: Yes)
RADefaultLifetime	The value to be placed in the Router Lifetime field of Router Advertisements sent from the SGW, in seconds. (Default: 1800s). (Default: 1800)
RAReachableTime	The value to be placed in the Reachable Time field in the Router Advertisement messages SGW. The value zero means unspecified. (Default: 0s). (Default: 0)
RARetransTimer	The value to be placed in the Retrans Timer field in the Router Advertisement messages sent by the SGW. The value zero means unspecified. (Default: 0s). (Default: 0)
RAManagedFlag	Indicates that addresses are available via DHCPv6. (Default: False). (Default: No)
RAOtherConfigFlag	Indicates that other configuration information is available via DHCPv6. (Default: False). (Default: No)
RACurHopLimit	The default value to be placed in the Cur Hop Limit field in the Router Advertisement messages sent by the SGW. The value zero means unspecified. (Default: 64). (Default: 64)
RALinkMTU	The value to be placed in MTU options sent. A value of zero indicates that no MTU options are

	sent. (Default: 0). (Default: 0)
Attribute	Special Attribute of the current object. (Optional)
Comments	Text describing the current object. (Optional)

Note
If no `Index` is specified when creating an instance of this type, the object will be placed last in the list and the `Index` will be equal to the length of the list.

3.114.1. RA_PrefixInformation

Description

Specifies a Router Advertisement Prefix Information option.

Properties

Name	Specifies a symbolic name for the Prefix Information.
Prefix	Specifies the network prefix.
RAValidLifetime	The value to be placed in the Valid Lifetime in the Prefix Information option. The value of 999999999 represents infinity. (Default: 2592000s). (Default: 2592000)
RAPreferredLifetime	The value to be placed in the Preferred Lifetime in the Prefix Information option. The value of 999999999 represents infinity. (Default: 604800s). (Default: 604800)
RAOnLinkFlag	Indicates that the advertised prefix can be used for on-link determination. (Default: True). (Default: Yes)
RAAutonomousFlag	Indicates that the advertised prefix can be used for stateless address configuration. (Default: True). (Default: Yes)
Attribute	Special Attribute of the current object. (Optional)
Comments	Text describing the current object. (Optional)

Note
If no `Index` is specified when creating an instance of this type, the object will be placed last in the list and the `Index` will be equal to the length of the list.

3.115. RoutingRule

Description

A Routing Rule forces the use of a routing table in the forward and/or return direction of traffic on a connection. The ordering parameter of the routing table determines if it is consulted before or after the main routing table.

Properties

Index	The index of the object, starting at 1. (Identifier)
Name	Specifies a symbolic name for the rule. (Optional)
ForwardRoutingTable	The forward routing table will be used for packets from the connection originator to the connection endpoint.
ReturnRoutingTable	The return routing table will be used for packets traveling in the reverse direction.
SourceNetwork	Specifies the sender span of IP addresses to be compared to the received packet.
DestinationNetwork	Specifies the span of IP addresses to be compared to the destination IP of the received packet.
SourceInterface	Specifies the name of the source interface to be compared to the received packet.
DestinationInterface	Specifies the destination interface to be compared to the received packet.
Service	Specifies a service that will be used as a filter parameter when matching traffic with this rule.
Schedule	By adding a schedule to a rule, the firewall will only allow that rule to trigger at those designated times. (Optional)
Attribute	Special Attribute of the current object. (Optional)
LogEnabled	Enable logging. (Default: Yes)
LogSeverity	Specifies with what severity log events will be sent to the specified log receivers. (Default: Default)
Comments	Text describing the current object. (Optional)

Note

If no `Index` is specified when creating an instance of this type, the object will be placed last in the list and the `Index` will be equal to the length of the list.

3.116. RoutingSettings

Description

Configure the routing capabilities of the system.

Properties

RouteFailOver_IfacePollInterval	Time (ms) between polling of interface failure. (Default: 500)
RouteFailOver_ARPPollInterval	Time (ms) between ARP-lookup of gateways. May be overridden for each route. (Default: 1000)
RouteFailOver_PingPollInterval	Time (ms) between PING'ing of gateways. (Default: 1000)
RouteFailOver_GraceTime	Time (s) between startup/reconfigure and monitoring start. (Default: 30)
RouteFailOver_ConsecFails	Number of consecutive failures before route is marked as unavailable. (Default: 5)
RouteFailOver_ConsecSuccess	Number of consecutive success before route is marked as available. (Default: 5)
Transp_CAMToL3CDestLearning	Do L3 Cache learning based on destination IPs and MACs in combination with CAM table contents. (Default: Yes)
Transp_DecrementTTL	Decrement TTL on packets forwarded between transparent interfaces. (Default: No)
Transp_CAMSize_Dynamic	Allocate the CAM Size value dynamically. (Default: Yes)
Transp_CAMSize	Maximum number of entries in each CAM table. (Default: 8192)
Transp_L3CSize_Dynamic	Allocate the L3 Cache Size value dynamically. (Default: Yes)
Transp_L3CSize	Maximum number of entries in each Layer 3 Cache. (Default: 8192)
Transp_RelaySTP	Relay Spanning-Tree (STP, RSTP and MSTP) Bridge Protocol Data Units to all switch interfaces. (Default: Drop)
Transp_RelayMPLS	Forward MPLS packets to all switch interfaces. (Default: Drop)
RFO_GratuitousARPOnFail	Send gratuitous ARP on failover to alert hosts about changed interface ethernet and IP addresses. (Default: Yes)
RFO_GratuitousProxyARPOnFail	Send gratuitous ARP packets on failover to alert hosts about changed interface ethernet address of Proxy ARPed hosts in ARP cache. (Default: No)

Transparency_ATSExpire	Lifetime of an unanswered ATS entry in seconds. (Default: 3)
Transparency_ATSSize	Number of ATS entries, total. (Default: 4096)
NullEnetSender	Action to take if sender MAC in the ethernet header is the null address (0000:0000:0000). (Default: DropLog)
BroadcastEnetSender	Action to take if sender MAC in the ethernet header is the broadcast ethernet address (FFFF:FFFF:FFFF). (Default: DropLog)
MulticastEnetSender	Action to take if sender MAC in the ethernet header is a multicast ethernet address. (Default: DropLog)

Note

This object type does not have an identifier and is identified by the name of the type only. There can only be one instance of this type.

3.117. RoutingTable

Description

The system has a predefined main routing table. Alternate routing tables can be defined by the user.

Properties

Name	Specifies a symbolic name for the routing table. (Identifier)
Ordering	Specifies how a route lookup is done in a named routing table. (Default: Only)
RemoveInterfaceIPRoutes	Removes the interface routes. Makes the firewall completely transparent. (Default: No)
Attribute	Special Attribute of the current object. (Optional)
Comments	Text describing the current object. (Optional)

3.117.1. Route

Description

A route defines what interface and gateway to use in order to reach a specified network.

Properties

Name	Specifies a symbolic name for the object. (Optional)
Interface	Specifies which interface packets destined for this route shall be sent through.
Gateway	Specifies the IP address of the next router hop used to reach the destination network. If the network is directly connected to the firewall interface, no gateway address is specified. (Optional)
LocalIP	The IP address specified here will be automatically published on the corresponding interface. This address will also be used as the sender address in ARP queries. If no address is specified, the firewall's interface IP address will be used. (Optional)
Network	Specifies the network address for this route.
BroadcastFwd	By default, this traffic is dropped. (Default: No)
RouteMonitor	Specifies if this route should be monitored for route changes for route failover purposes. (Default: No)
MonitorLinkStatus	Mark the route as down if the interface link status

	changes to down. (Default: No)
MonitorGateway	Mark the route as down if the next hop does not answer on ARP lookups during a specified time. (Default: No)
MonitorGatewayARPInterval	Specifies the ARP lookup interval in milliseconds. (Default: 1000)
EnableHostMonitoring	Enables the Host Monitoring functionality. (Default: No)
Reachability	Specifies the number of hosts that are required to be reachable to consider the route to be active. (Default: ALL)
GracePeriod	Specifies the time to wait after a reconfiguration until the monitoring begins. (Default: 5)
ReachabilityCount	Minimum number of reachable hosts to consider the route to be active.
Metric	Specifies the metric for this route. (Default: 100)
Attribute	Special Attribute of the current object. (Optional)
ProxyARPAllInterfaces	Always select all interfaces, including new ones, for publishing routes via Proxy ARP. (Default: No)
ProxyARPInterfaces	Specifies the interfaces on which the firewall should publish routes via Proxy ARP. (Optional)
Comments	Text describing the current object. (Optional)

Note

If no `Index` is specified when creating an instance of this type, the object will be placed last in the list and the `Index` will be equal to the length of the list.

3.117.1.1. MonitoredHost

Description

Specify a host and a monitoring method.

Properties

Method	Monitoring method. (Default: ICMP)
IPAddress	Specifies the IP address of the host to monitor.
Port	Specifies the TCP port to monitor.
SourceIPSelection	Which IP should be used as a source IP. (Default: Automatic)
SourceIP	The IP address to be used as source IP.

PollingInterval	Delay in milliseconds between each monitor attempt. (Default: 10000)
ReachabilityRequired	Specifies if this host is required to be reachable for monitoring to be successful. (Default: No)
Samples	Specifies the number of attempts to use for statistical calculations. (Default: 10)
MaxPollFails	Specifies the maximum number of failed attempts until host is considered to be unreachable. (Default: 2)
MaxAverageLatency	Specifies the max average latency for the sample attempts. (Default: 800)
RequestURL	Specifies the HTTP URL to monitor.
ExpectedResponse	Expected HTTP response.
Attribute	Special Attribute of the current object. (Optional)
Comments	Text describing the current object. (Optional)

Note

If no `Index` is specified when creating an instance of this type, the object will be placed last in the list and the `Index` will be equal to the length of the list.

3.117.2. Route6

Description

A route defines what interface and gateway to use in order to reach a specified network.

Properties

Name	Specifies a symbolic name for the object. (Optional)
Network	Specifies the network address for this route.
Interface	Specifies which interface packets destined for this route shall be sent through.
Gateway	Specifies the IPv6 address of the next router hop used to reach the destination network. If the network is directly connected to the firewall interface, no gateway address is specified. (Optional)
LocalIP	The IPv6 address specified here will be automatically published on the corresponding interface. This address will also be used as the sender address in ARP queries. If no address is specified, the firewall's interface IPv6 address will

	be used. (Optional)
Metric	Specifies the metric for this route. (Default: 100)
Attribute	Special Attribute of the current object. (Optional)
ProxyNDAllInterfaces	Always select all interfaces, including new ones, for publishing routes via Proxy Neighbor Discovery. (Default: No)
ProxyNDInterfaces	Specifies the interfaces on which the firewall should publish routes via Proxy ARP. (Optional)
Comments	Text describing the current object. (Optional)

Note
If no `Index` is specified when creating an instance of this type, the object will be placed last in the list and the `Index` will be equal to the length of the list.

3.117.3. SwitchRoute

Description

A switch route defines which interfaces the specified network can be reached on. Proxy ARP defines between which interfaces ARP is allowed.

Properties

Name	Specifies a symbolic name for the object. (Optional)
Interface	Specifies which interface packets destined for this route shall be sent through.
Network	Specifies the network address for this route.
BroadcastFwd	By default, this traffic is dropped. (Default: No)
Metric	Specifies the metric for this route. (Default: 100)
Attribute	Special Attribute of the current object. (Optional)
ProxyARPAllInterfaces	Always select all interfaces, including new ones, for publishing routes via Proxy ARP. (Default: No)
ProxyARPInterfaces	Specifies the interfaces on which the firewall should publish routes via Proxy ARP. (Optional)
Comments	Text describing the current object. (Optional)

Note
If no `Index` is specified when creating an instance of this type, the object will be placed last in the list and the `Index` will be equal to the length of the list.

3.118. ScannerProtection

Description

Scanner Protection protects the firewall against various forms of scanning, probing and password brute force attacks. Detected scanner sources are automatically blacklisted for efficient blocking. Specific hosts can be excluded from Scanner Protection using the Whitelist.

Properties

EnableScannerBlacklist	Scanner Protection looks up source IP addresses in the IP reputation database and adds malicious sources to the Blacklist. (Default: No)
Interfaces	Interfaces to protect from attacks. Normally the interfaces towards the Internet. (Optional)
Attribute	Special Attribute of the current object. (Optional)
LogEnabled	Enable logging. (Default: Yes)
LogSeverity	Specifies with what severity log events will be sent to the specified log receivers. (Default: Default)
Comments	Text describing the current object. (Optional)

Note

This object type does not have an identifier and is identified by the name of the type only. There can only be one instance of this type.

3.119. ScheduleProfile

Description

A Schedule Profile defines days and dates and are then used by the various policies in the system.

Properties

Name	Specifies a symbolic name for the service. (Identifier)
Mon	Specifies during which intervals the schedule profile is active on Mondays. (Optional)
Tue	Specifies during which intervals the schedule profile is active on Tuesdays. (Optional)
Wed	Specifies during which intervals the schedule profile is active on Wednesdays. (Optional)
Thu	Specifies during which intervals the schedule profile is active on Thursdays. (Optional)
Fri	Specifies during which intervals the schedule profile is active on Fridays. (Optional)
Sat	Specifies during which intervals the schedule profile is active on Saturdays. (Optional)
Sun	Specifies during which intervals the schedule profile is active on Sundays. (Optional)
StartDate	The date after which this Schedule should be active. (Optional)
EndDate	The date after which this Schedule is not active anymore. (Optional)
Attribute	Special Attribute of the current object. (Optional)
Comments	Text describing the current object. (Optional)

3.120. ServiceGroup

Description

A Service Group is a collection of service objects, which can then be used by different policies in the system.

Properties

Name	Specifies a symbolic name for the service. (Identifier)
Members	Group members.
Attribute	Special Attribute of the current object. (Optional)
Comments	Text describing the current object. (Optional)

3.121. ServiceICMP

Description

An ICMP Service is an object definition representing ICMP traffic with specific parameters.

Properties

Name	Specifies a symbolic name for the service. (Identifier)
MessageTypes	Specifies the ICMP message types that are applicable to this service. (Default: All)
EchoRequest	Enable matching of Echo Request messages. (Default: No)
EchoRequestCodes	Specifies which Echo Request message codes should be matched. (Default: 0-255)
DestinationUnreachable	Enable matching of Destination Unreachable messages. (Default: No)
DestinationUnreachableCodes	Specifies which Destination Unreachable message codes should be matched. (Default: 0-255)
Redirect	Enable matching of Redirect messages. (Default: No)
RedirectCodes	Specifies which Redirect message codes should be matched. (Default: 0-255)
ParameterProblem	Enable matching of Parameter Problem messages. (Default: No)
ParameterProblemCodes	Specifies which Parameter Problem message codes should be matched. (Default: 0-255)
EchoReply	Enable matching of Echo Reply messages. (Default: No)
EchoReplyCodes	Specifies which Echo Reply message codes should be matched. (Default: 0-255)
SourceQuenching	Enable matching of Source Quenching messages. (Default: No)
SourceQuenchingCodes	Specifies which Source Quenching message codes should be matched. (Default: 0-255)
TimeExceeded	Enable matching of Time Exceeded messages. (Default: No)
TimeExceededCodes	Specifies which Time Exceeded message codes should be matched. (Default: 0-255)
ForwardICMPErrors	Allow ICMP errors for active connections to be forwarded through the system. (Default: No)
EnableIPv4PathMTUDiscovery	Path MTU Discovery allows communicating

	endpoints to negotiate optimal packet sizes. This prevents fragmentation by network equipment between the endpoints. Path MTU Discovery relies on ICMP message forwarding so ICMP forwarding must also be enabled. (Default: No)
Protocol	Protocol settings are only used by IP Policies. (Optional)
MaxSessionsProtocol	Specifies how many concurrent sessions that are permitted using this Protocol. (Default: 200)
ALG	An Application Layer Gateway (ALG), capable of managing advanced protocols, can be specified for this service. (Optional)
MaxSessions	Specifies how many concurrent sessions that are permitted using this service. (Default: 200)
UseCustomTimeouts	Specify whether or not to use custom timeouts. (Default: No)
InitialTimeout	Initial Timeout. (Optional)
EstablishTimeout	Establish Timeout. (Optional)
ClosingTimeout	Closing Timeout. (Optional)
Attribute	Special Attribute of the current object. (Optional)
Comments	Text describing the current object. (Optional)

3.122. ServiceICMPv6

Description

An ICMPv6 Service is an object definition representing ICMPv6 traffic with specific parameters.

Properties

Name	Specifies a symbolic name for the service. (Identifier)
MessageTypes	Specifies the ICMPv6 message types that are applicable to this service. (Default: All)
EchoRequest	Enable matching of Echo Request messages. (Default: No)
EchoRequestCodes	Specifies which Echo Request message codes should be matched. (Default: 0-255)
EchoReply	Enable matching of Echo Reply messages. (Default: No)
EchoReplyCodes	Specifies which Echo Reply message codes should be matched. (Default: 0-255)
DestinationUnreachable	Enable matching of Destination Unreachable messages. (Default: No)
DestinationUnreachableCodes	Specifies which Destination Unreachable message codes should be matched. (Default: 0-255)
PacketTooBig	Enable matching of Packet Too Big messages. (Default: No)
PacketTooBigCodes	Specifies which Packet Too Big message codes should be matched. (Default: 0-255)
TimeExceeded	Enable matching of Time Exceeded messages. (Default: No)
TimeExceededCodes	Specifies which Time Exceeded message codes should be matched. (Default: 0-255)
ParameterProblem	Enable matching of Parameter Problem messages. (Default: No)
ParameterProblemCodes	Specifies which Parameter Problem message codes should be matched. (Default: 0-255)
ForwardICMPErrors	Allow ICMP errors for active connections to be forwarded through the system. (Default: No)
EnableIPv4PathMTUDiscovery	Path MTU Discovery allows communicating endpoints to negotiate optimal packet sizes. This prevents fragmentation by network equipment between the endpoints. Path MTU Discovery relies on ICMP message forwarding so ICMP forwarding must also be enabled. (Default: No)

Protocol	Protocol settings are only used by IP Policies. (Optional)
MaxSessionsProtocol	Specifies how many concurrent sessions that are permitted using this Protocol. (Default: 200)
ALG	An Application Layer Gateway (ALG), capable of managing advanced protocols, can be specified for this service. (Optional)
MaxSessions	Specifies how many concurrent sessions that are permitted using this service. (Default: 200)
UseCustomTimeouts	Specify whether or not to use custom timeouts. (Default: No)
InitialTimeout	Initial Timeout. (Optional)
EstablishTimeout	Establish Timeout. (Optional)
ClosingTimeout	Closing Timeout. (Optional)
Attribute	Special Attribute of the current object. (Optional)
Comments	Text describing the current object. (Optional)

3.123. ServiceIPProto

Description

An IP Protocol Service is a definition of an IP protocol with specific parameters.

Properties

Name	Specifies a symbolic name for the service. (Identifier)
IPProto	IP protocol number or range, e.g. "1-4,7" will match the protocols ICMP, IGMP, GGP, IP-in-IP and CBT. (Default: 0-255)
ForwardICMPErrors	Allow ICMP errors for active connections to be forwarded through the system. (Default: No)
EnableIPv4PathMTUDiscovery	Path MTU Discovery allows communicating endpoints to negotiate optimal packet sizes. This prevents fragmentation by network equipment between the endpoints. Path MTU Discovery relies on ICMP message forwarding so ICMP forwarding must also be enabled. (Default: No)
Protocol	Protocol settings are only used by IP Policies. (Optional)
MaxSessionsProtocol	Specifies how many concurrent sessions that are permitted using this Protocol. (Default: 200)
ALG	An Application Layer Gateway (ALG), capable of managing advanced protocols, can be specified for this service. (Optional)
MaxSessions	Specifies how many concurrent sessions that are permitted using this service. (Default: 200)
UseCustomTimeouts	Specify whether or not to use custom timeouts. (Default: No)
InitialTimeout	Initial Timeout. (Optional)
EstablishTimeout	Establish Timeout. (Optional)
ClosingTimeout	Closing Timeout. (Optional)
Attribute	Special Attribute of the current object. (Optional)
Comments	Text describing the current object. (Optional)

3.124. ServiceTCPUDP

Description

A TCP/UDP Service is a definition of an TCP or UDP protocol with specific parameters.

Properties

Name	Specifies a symbolic name for the service. (Identifier)
DestinationPorts	Specifies the destination port or the port ranges applicable to this service.
Type	Specifies whether this service uses the TCP or UDP protocol or both. (Default: TCP)
SourcePorts	Specifies the source port or the port ranges applicable to this service. (Default: 0-65535)
SYNRelay	Enable SYN flood protection (SYN Relay). (Default: No)
ForwardICMPErrors	Allow ICMP errors for active connections to be forwarded through the system. (Default: No)
EnableIPv4PathMTUDiscovery	Path MTU Discovery allows communicating endpoints to negotiate optimal packet sizes. This prevents fragmentation by network equipment between the endpoints. Path MTU Discovery relies on ICMP message forwarding so ICMP forwarding must also be enabled. (Default: No)
Protocol	Protocol settings are only used by IP Policies. (Optional)
MaxSessionsProtocol	Specifies how many concurrent sessions that are permitted using this Protocol. (Default: 200)
ALG	An Application Layer Gateway (ALG), capable of managing advanced protocols, can be specified for this service. (Optional)
MaxSessions	Specifies how many concurrent sessions that are permitted using this service. (Default: 200)
UseCustomTimeouts	Specify whether or not to use custom timeouts. (Default: No)
InitialTimeout	Initial Timeout. (Optional)
EstablishTimeout	Establish Timeout. (Optional)
ClosingTimeout	Closing Timeout. (Optional)
Attribute	Special Attribute of the current object. (Optional)
Comments	Text describing the current object. (Optional)

3.125. SLBPolicy

The definitions here are the same as in Section 3.68.2, “SLBPolicy” .

3.126. SSHClientKey

Description

The public key of the client connecting to the SSH server.

Properties

Name	Specifies a symbolic name for the key. (Identifier)
Type	Public key type.
Subject	Value of the Subject header tag of the public key file. (Optional)
PublicKey	Specifies the public key.
Attribute	Special Attribute of the current object. (Optional)
Comments	Text describing the current object. (Optional)

3.127. SSHHostKey

Description

Key used to authenticate the gateway to connecting SSH clients.

Properties

Type	Specifies the key type. (Identifier)
Key	Specifies the key. (Optional)
FingerprintSHA256	SHA-256 hash of the public key. (Optional)
Attribute	Special Attribute of the current object. (Optional)
Comments	Text describing the current object. (Optional)

3.128. SSLSettings

Description

Settings related to SSL (Secure Sockets Layer).

Properties

SSL_ProcessingPriority	The amount of CPU time that SSL processing is allowed to use. (Default: Normal)
MinTLSVersion	Minimum allowed version. TLSv1.1 is not supported. (Default: TLSv12)
TLS_ECDHE_RSA_WITH_AES_128_CBC_SHA256	Enable cipher TLS_ECDHE_RSA_WITH_AES_128_CBC_SHA256. (Default: Yes)
TLS_ECDHE_RSA_WITH_AES_256_CBC_SHA1	Enable cipher TLS_ECDHE_RSA_WITH_AES_256_CBC_SHA1. (Default: Yes)
TLS_ECDHE_RSA_WITH_AES_128_CBC_SHA1	Enable cipher TLS_ECDHE_RSA_WITH_AES_128_CBC_SHA1. (Default: Yes)
TLS_RSA_WITH_AES_256_CBC_SHA256	Enable cipher TLS_RSA_WITH_AES_256_CBC_SHA256. (Default: Yes)
TLS_RSA_WITH_AES_256_CBC_SHA1	Enable cipher TLS_RSA_WITH_AES_256_CBC_SHA1. (Default: Yes)
TLS_RSA_WITH_AES_128_CBC_SHA256	Enable cipher TLS_RSA_WITH_AES_128_CBC_SHA256. (Default: Yes)
TLS_RSA_WITH_AES_128_CBC_SHA1	Enable cipher TLS_RSA_WITH_AES_128_CBC_SHA1. (Default: Yes)
TLS_RSA_WITH_3DES_168_SHA1	Enable cipher RSA_WITH_3DES_168_SHA1. (Default: No)
TLS_RSA_WITH_RC4_128_SHA1	Enable cipher RSA_WITH_RC4_128_SHA1. (Default: No)
TLS_RSA_WITH_RC4_128_MD5	Enable cipher TLS_RSA_WITH_RC4_128_MD5. (Default: No)
TLS_RSA_EXPORT1024_WITH_RC4_56_SHA1	Enable cipher TLS_RSA_EXPORT1024_WITH_RC4_56_SHA1. (Default: No)
TLS_RSA_EXPORT512_WITH_RC4_40_MD5	Enable cipher TLS_RSA_EXPORT1024_WITH_RC4_40_MD5. (Default: No)

TLS_RSA_EXPORT512_WITH_RC2_40_MD5	Enable cipher TLS_RSA_EXPORT1024_WITH_RC2_40_MD5. (Default: No)
TLS_RSA_EXPORT_WITH_NULL_SHA1	Enable cipher TLS_RSA_EXPORT_WITH_NULL_SHA1 (no encryption, just message validation). (Default: No)
TLS_RSA_EXPORT_WITH_NULL_MD5	Enable cipher TLS_RSA_EXPORT_WITH_NULL_MD5 (no encryption, just message validation). (Default: No)

Note

This object type does not have an identifier and is identified by the name of the type only. There can only be one instance of this type.

3.129. SSLVPNInterface

Description

An SSL VPN interface, together with the bundled client, creates an easy to use tunnel solution for roaming users.

Properties

Name	Specifies a symbolic name for the interface. (Identifier)
OuterInterface	The physical interface that the SSL VPN interface will listen on.
ServerPort	The listening port for the SSL VPN interface. (Default: 443)
ServerIP	Listening IP for the SSL VPN interface.
ServerFQDN	Optional. FQDN of the SSL VPN server given to clients, eg: (sslvpn.example.com). (Optional)
IPAddressPool	A range, group or network that will be the IP pool from which the SSL VPN clients will receive their IP addresses.
InnerIP	Local IP for the SSL VPN interface.
PrimaryDNS	IP of the primary DNS Server. (Optional)
SecondaryDNS	IP of the seconday DNS Server. (Optional)
Routing	Describes how the traffic from the client should be routed. (Default: All-Nets)
ClientRoutes	Networks to be routed through the SSL VPN tunnel in the client.
SNMPIndex	Interface index assigned by the system when persistent interface indexes are enabled. (Default: 0)
Attribute	Special Attribute of the current object. (Optional)
MemberOfRoutingTable	All or Specific. (Default: All)
RoutingTable	Specifies the PBR table to insert the interface IP route into. It also means that the specified routing table will be used for all routing lookups, unless overridden by a PBR rule. (Default: main)
ProxyARPAllInterfaces	Always select all interfaces, including new ones, for publishing routes via Proxy ARP. (Default: No)
ProxyARPInterfaces	Specifies the interfaces on which the firewall should publish routes via Proxy ARP. (Optional)
Comments	Text describing the current object. (Optional)

3.130. SSLVPNInterfaceSettings

Description

SSL VPN interface settings.

Properties

SSLVPNBeforeRules	Pass SSL VPN connections sent to the firewall directly to the SSL VPN engine without consulting the ruleset. (Default: Yes)

Note

This object type does not have an identifier and is identified by the name of the type only. There can only be one instance of this type.

3.131. StatelessPolicy

The definitions here are the same as in Section 3.68.4, “StatelessPolicy” .

3.132. StateSettings

Description

Parameters for the state engine in the system.

Properties

ConnReplace	What to do when the connection table is full. (Default: ReplaceLog)
LogOpenFails	Log packets that are neither part of open connections nor valid new connections. (Default: Yes)
LogReverseOpens	Log reverse connection attempts through an established connection. (Default: Yes)
LogStateViolations	Log packets that violate stateful tracking rules; for instance, TCP connect sequences. (Default: Yes)
LogConnections	Log connections opening and closing. (Default: Log)
IPReputationLogs	Enable reputation logging of all IPv4 addresses seen by the system. (Default: Yes)
LogConnectionUsage	Log for every packet that passes through a connection. (Default: No)
MaxConnections_Dynamic	Allocate the Max Connection value dynamically. (Default: Yes)
MaxConnections	Maximum number of simultaneous connections. (Default: 8192)

Note

This object type does not have an identifier and is identified by the name of the type only. There can only be one instance of this type.

3.133. SyslogProfile

Description

A Syslog Profile can be used for securing and modifying syslog packets.

Properties

Name	Specifies a symbolic name for the Profile. (Identifier)
AppendAuthName	Append username of authenticated user to syslog messages. (Default: No)
AuthNamePrefix	Optional text to prefix the authentication username. E.g. prefix 'uid=' would give the result uid="ida". (Optional)
RequireAuth	Close connections from unauthenticated users. (Default: No)
DenyProhibitedKeywords	Drop syslog messages containing prohibited keywords. (Default: No)
ProhibitedKeywords	List of prohibited keywords in syslog payload.
MaxSyslogLength	Maximum payload size in received syslog messages. (Default: 4096)
Attribute	Special Attribute of the current object. (Optional)
Comments	Text describing the current object. (Optional)

3.134. TCPSettings

Description

Settings related to the TCP protocol.

Properties

TCPOptionSizes	Validity of TCP header option sizes. (Default: ValidateLogBad)
TCPMSSMin	Minimum allowed TCP MSS (Maximum Segment Size). (Default: 100)
TCPMSSOnLow	How to handle too low MSS values. (Default: DropLog)
TCPMSSMax	Maximum allowed TCP MSS (Maximum Segment Size). (Default: 1460)
TCPMSSVPNMax	Limits TCP MSS for VPN connections; minimizes fragmentation. (Default: 1400)
TCPMSSOnHigh	How to handle too high MSS values. (Default: Adjust)
TCPMSSLogLevel	When to log regarding too high TCP MSS, if not logged by "TCP MSS on high". (Default: 7000)
TCPMSSAutoClamping	Automatically clamp TCP MSS according to MTU of involved interfaces - in addition to "TCP MSS max". (Default: Yes)
TCPZeroUnusedACK	Force unused ACK fields to zero; helps prevent connection spoofing. (Default: Yes)
TCPZeroUnusedURG	Force unused URG fields to zero; prevents small information leak. (Default: Yes)
TCPOPT_WSOPT	The WSOPT (Window Scale) option (common). (Default: ValidateLogBad)
TCPOPT_SACK	The SACK/SACKPERMIT (Selective ACK) options (common). (Default: ValidateLogBad)
TCPOPT_TSOPT	The TSOPT (Timestamp) option (common). (Default: ValidateLogBad)
TCPOPT_ALTCHKREQ	The ALTCHKREQ (Alternate Checksum Request) option. (Default: StripLog)
TCPOPT_ALTCHKDATA	The ALTCHKDATA (Alternate Checksum Data) option. (Default: StripLog)
TCPOPT_CC	The CC (Connection Count) option series (semi common). (Default: StripLogBad)
TCPOPT_OTHER	How to handle TCP options not specified above. (Default: StripLog)

TCPSynUrg	The TCP URG flag together with SYN; normally invalid (strip=strip URG). (Default: DropLog)
TCPSynPsh	The TCP PSH flag together with SYN; normally invalid but always used by some IP stacks (strip=strip PSH). (Default: StripSilent)
TCPSynRst	The TCP RST flag together with SYN; normally invalid (strip=strip RST). (Default: DropLog)
TCPSynFin	The TCP FIN flag together with SYN; normally invalid (strip=strip FIN). (Default: DropLog)
TCPSynFrag	Fragmented data together with SYN; not invalid but can be used for DoS attacks. (Default: DropLog)
TCPSynData	Payload data together with SYN; not invalid but can be used for DoS attacks. (Default: DropLog)
TCPFinUrg	The TCP URG flag together with FIN; normally invalid (strip=strip URG). (Default: DropLog)
TCPUrg	The TCP URG flag; many operating systems cannot handle this correctly. (Default: StripLog)
TCPECN	The Explicit Congestion Notification (ECN) flags. Previously known as "XMAS"/"YMAS" flags. Also used in OS fingerprinting. (Default: StripLog)
TCPRF	The TCP Reserved field: should be zero. Used in OS fingerprinting. Also part of ECN extension. (Default: StripLog)
TCPNULL	TCP "NULL" packets without SYN, ACK, FIN or RST; normally invalid, used by scanners. (Default: DropLog)
TCPSequenceNumbers	Validation of TCP sequence numbers. (Default: ValidateLogBad)
TCPAllowReopen	Allow clients to re-open TCP connections that are in the closed state. (Default: No)

Note

This object type does not have an identifier and is identified by the name of the type only. There can only be one instance of this type.

3.135. ThresholdRule

Description

A Threshold Rule defines a filter for matching specific network traffic. When the filter criterion is met, the Threshold Rule Actions are evaluated and possible actions taken.

Properties

Index	The index of the object, starting at 1. (Identifier)
Name	Specifies a symbolic name for the rule. (Optional)
SourceInterface	Specifies the name of the receiving interface to be compared to the received packet.
SourceNetwork	Specifies the sender span of IP addresses to be compared to the received packet.
DestinationInterface	Specifies the destination interface to be compared to the received packet.
DestinationNetwork	Specifies the span of IP addresses to be compared to the destination IP of the received packet.
Service	Specifies a service that will be used as a filter parameter when matching traffic with this rule.
Schedule	By adding a schedule to a rule, the firewall will only allow that rule to trigger at those designated times. (Optional)
Attribute	Special Attribute of the current object. (Optional)
Comments	Text describing the current object. (Optional)

Note

If no `Index` is specified when creating an instance of this type, the object will be placed last in the list and the `Index` will be equal to the length of the list.

3.135.1. ThresholdAction

Description

A Threshold Rule Action specifies what thresholds to measure, and what action to take if those thresholds are reached.

Properties

Action	Protect or Audit. (Default: Protect)
GroupBy	Specifies whether the threshold should be host- or network-based. (Default: SourceIP)

Threshold	Specifies the threshold.
ThresholdUnit	Specifies the threshold unit. (Default: ConnsSec)
ZoneDefense	Activate ZoneDefense. (Default: No)
BlackList	Activate BlackList. (Default: No)
BlackListTimeToBlock	The number of seconds that the dynamic black list should remain. (Optional)
BlackListBlockOnlyService	Only block the service that triggered the blacklisting. (Default: No)
BlackListIgnoreEstablished	Do not drop existing connection. (Default: No)
Attribute	Special Attribute of the current object. (Optional)
LogEnabled	Enable logging. (Default: Yes)
LogSeverity	Specifies with what severity log events will be sent to the specified log receivers. (Default: Default)
Comments	Text describing the current object. (Optional)

Note

If no `Index` is specified when creating an instance of this type, the object will be placed last in the list and the `Index` will be equal to the length of the list.

3.136. UpdateCenter

Description

Configure automatical updates.

Properties

AVEnabled	Automatic updates of antivirus definitions and engine. (Default: No)
IDPEnabled	Automatic updates of IDP signatures. (Default: No)
UpdateInterval	Specifies the interval at which the automatic update runs. (Default: Daily)
UpdateDate	Specifies the day of month when the automatic update is run.
UpdateWeekday	Specifies the day of week when the automatic update is run. (Default: mon)
Hourly	Specifies the number of hours between periodical updates.
UpdateHour	Specifies the hour when the update is run. (Default: 0)
UpdateMinute	Specifies the minute when the update is run. (Default: 0)
DisableUpdateAfterReconf	Only update at the specified update interval (disables updates at startup and reconfiguration). (Default: No)
Attribute	Special Attribute of the current object. (Optional)
Comments	Text describing the current object. (Optional)

Note

This object type does not have an identifier and is identified by the name of the type only. There can only be one instance of this type.

3.137. UserAuthRule

Description

The User Authentication Ruleset specifies from where users are allowed to authenticate to the system, and how.

Properties

Index	The index of the object, starting at 1. (Identifier)
Name	Specifies a symbolic name for the rule.
Agent	ARPCache, HTTP, HTTPS, XAuth, PPP or EAP. (Default: HTTP)
ChallengeExpire	How long, in seconds, before RADIUS challenge expires. (Default: 160)
AuthSource	Disallow, LDAP, RADIUS or Local.
Interface	The interface on which the connection was received. For agent type EAP or XAuth, this should be the IPsec tunnel interface the user connects through.
OriginatorIP	The network object that the incoming IP address must be a part of.
TerminatorIP	Specifies the destination IP configured on the PPTP/L2TP server configuration. Only used when agent is PPP or SSL. With SSL, this is the IP address of the listening interface.
RadiusServers	Specifies the authentication servers that will be used to authenticate users matching this rule.
PrimaryRetryInterval	How many seconds to wait before trying to use the primary server again if it has failed. (Default: 0)
ResendingSTART	If the RADIUS servers fail to respond system will retry to send a START message every Interim seconds. (Default: No)
LDAPServers	Specifies the authentication servers that will be used to authenticate users matching this rule.
RadiusMethod	Specifies the authentication method used for encrypting the user password. (Default: PAP)
LocalUserDB	Specifies the local user database that will be used to authenticate users matching this rule.
LoginType	HTML form or Basic authentication. (Default: HTMLForm)
MACAuthSecret	Password used to authenticate MAC user, if empty the MAC address will be sent as password. (Optional)

MACAllowRouter — Allow cliente connected through an Router. (Default: No)

MACSendUpperCase — Send upper cased MAC address. (Default: No)

HTTPBanners — HTTP Authentication HTML Banners. (Default: Default)

RealmString — The string that is presented as a part of the 401 - Authentication Required message. (Optional)

HostCertificate — Specifies the host certificate that the firewall sends to the client. Only RSA certificates are supported.

RootCertificate — Specifies the root certificate that was used to sign the host certificate. Only RSA certificates are supported. (Optional)

PPPAuthNoAuth — Allow no authentication. (Default: No)

PPPAuthPAP — Use PAP authentication protocol. User name and password are sent in plaintext. (Default: Yes)

PPPAuthCHAP — Use CHAP authentication protocol. (Default: Yes)

PPPAuthMSCHAP — Use MS-CHAP authentication protocol. (Default: Yes)

PPPAuthMSCHAPv2 — Use MS-CHAP v2 authentication protocol. (Default: Yes)

IdleTimeout — A successfully authenticated user will be logged out automatically after this many seconds, if no traffic has been received from the user's IP address. (Default: 1800)

SessionTimeout — A successfully authenticated user will be logged out automatically after this many seconds, even if traffic has been received from the user's IP address. (Optional)

UseServerTimeouts — Use timeouts received from the authentication server. If no values are received, the manually specified values will be used. (Default: No)

MultipleUsernameLogins — Specifies how multiple username logins will be handled. (Default: AllowMultiple)

ReplaceIdleTime — Replace existing user if idle for more than this number of seconds. (Default: 10)

AccountingServers — Specifies the accounting servers that will be used to report user usage matching this rule. (Optional)

PrimaryRetryIntervalAcc — How many seconds to wait before trying to use the primary server again if it has failed. (Default: 0)

BytesSent — Enable reporting of the number of bytes sent by the user. (Default: Yes)

PacketsSent — Enable reporting of the number of packets sent by the user. (Default: Yes)

BytesReceived	Enable reporting of the number of bytes received by the user. (Default: Yes)
PacketsReceived	Enable reporting of the number of packets received by the user. (Default: Yes)
SessionTime	Enable reporting of the number of seconds the session lasted. (Default: Yes)
SupportInterimAccounting	Enable Interim Accounting Messages to update the accounting server with the current status of an authenticated user. (Default: No)
ServerInterimControl	Let the RADIUS server determine the interval that interim accounting events should be sent. (Default: Yes)
InterimValue	The interval in seconds in which interim accounting events should be sent. (Default: 600)
Attribute	Special Attribute of the current object. (Optional)
LogEnabled	Enable logging. (Default: Yes)
LogSeverity	Specifies with what severity log events will be sent to the specified log receivers. (Default: Default)
Comments	Text describing the current object. (Optional)

Note

If no `Index` is specified when creating an instance of this type, the object will be placed last in the list and the `Index` will be equal to the length of the list.

3.138. VLAN

Description

Use a VLAN to define a virtual interface compatible with the IEEE 802.1Q / 802.1ad Virtual LAN standard.

Properties

Name	Specifies a symbolic name for the interface. (Identifier)
VLANID	The virtual LAN ID used for this virtual LAN interface. Two virtual LANs cannot have the same VLAN ID and type if they are based on the same interface. (Default: 0)
BaseInterface	Interface where this VLAN is being tunneled.
Type	VLAN type. (Default: 0x8100)
IP	The IP address of the virtual LAN interface.
Network	The network address of the virtual LAN interface.
DefaultGateway	The default gateway of the virtual LAN interface. (Optional)
Broadcast	The broadcast address of the virtual LAN interface. (Optional)
DHCPEnabled	Enable DHCP client on this interface. (Default: No)
DHCPHostName	Optional DHCP Host Name. Leave blank to use default name. (Optional)
DHCPDNS1	IP of the primary DNS server. (Optional)
DHCPDNS2	IP of the secondary DNS server. (Optional)
EnableIPv6	Enable processing of IPv6 traffic on this interface. (Default: No)
IPv6IP	The IPv6 address of the virtual LAN interface.
IPv6Network	The IPv6 network of the virtual LAN interface.
IPv6DefaultGateway	The default gateway of the virtual LAN interface. (Optional)
RouterDiscovery	Uses Router information (ND RA) from local network to auto-configure Network and Default Gateway addresses. (Default: No)
AutoIPv6IP	Automatically configures IP Address using Network Address and EUI-64. (Default: No)
DHCPv6Enabled	Enable DHCPv6 client on this interface. (Default: No)

PrivateIP	The private IP address of this high availability node. (Optional)
PrivateIP6	The private IP6 address of this high availability node. (Default: localhost6)
Metric	Specifies the metric for the auto-created route. (Default: 100)
AutoSwitchRoute	Allows traffic to be forwarded transparently across all interfaces with Transparent Mode enabled that belong to the same routing table. (Default: No)
DHCPPassthrough	Allow DHCP to pass through transparently. (Default: No)
NonIPPassthrough	Allow non-IP protocols to pass through transparently. (Default: No)
BroadcastFwd	By default, this traffic is dropped. (Default: No)
AutoInterfaceNetworkRoute	Automatically add a route for this virtual LAN interface using the given network. (Default: Yes)
AutoDefaultGatewayRoute	Automatically add a default route for this virtual LAN interface using the given default gateway. (Default: Yes)
DHCPv6DNS1	IP of the primary IPv6 DNS server. (Optional)
DHCPv6DNS2	IP of the secondary IPv6 DNS server. (Optional)
PrioCopyPolicy	Set the QoS to VLAN priority copy policy. (Default: Inherit)
EnableRouterAdvertisement	Enable Router Advertisement for this interface. (Default: No)
SNMPIndex	Interface index assigned by the system when persistent interface indexes are enabled. (Default: 0)
Attribute	Special Attribute of the current object. (Optional)
MemberOfRoutingTable	All or Specific. (Default: All)
RoutingTable	Specifies the PBR table to insert the interface IP route into. It also means that the specified routing table will be used for all routing lookups, unless overridden by a PBR rule. (Default: main)
Comments	Text describing the current object. (Optional)

3.139. VLANSettings

Description

Settings for IEEE 802.1Q based Virtual LAN interfaces.

Properties

UnknownVLANTags	VLAN packets tagged with an unknown ID. (Default: DropLog)

Note

This object type does not have an identifier and is identified by the name of the type only. There can only be one instance of this type.

3.140. VoIPProfile

Description

A VoIP Profile can be used by one or many IP Policies which has its service object configured with SIP or H.323 as protocol.

Properties

Name	Specifies a symbolic name for the Profile. (Identifier)
SIP	Enables automatic pinhole creation for SIP sessions. (Default: Yes)
SIPMaxSessionsPerId	Maximum number of sessions per SIP URI. (Default: 5)
SIPMaxRegistrationTime	The maximum allowed time in seconds between registration requests. (Default: 3600)
SIPSignalTimeout	Timeout value for last seen SIP message (in seconds). (Default: 43200)
SIPDataChannelTimeout	Specifies how many seconds a data channel may remain inactive before it is closed. (Default: 120)
SIPAllowMediaBypass	Allow clients to exchange media directly when possible. (Default: Yes)
SIPAllowTCPDataChannels	Allow data channels to be established over TCP in addition to UDP. (Default: Yes)
SIPMaxTCPDataChannels	Maximum number of TCP data channels per call. (Default: 5)
H323	Enables automatic pinhole creation for H.323 sessions. (Default: Yes)
H323AllowTCPDataChannels	Allow data channels to be established over TCP in addition to UDP. (Default: Yes)
H323MaxTCPDataChannels	Maximum number of TCP data channels per call. (Default: 10)
H323TranslateAddresses	Specifies address translation behavior. (Default: Automatic)
H323TranslateLogicalChannelAddresses	Enable address translation for logical channels. (Default: Yes)
H323MaxGKRegLifeTime	The gatekeeper registration lifetime can be controlled in order to force re-registration by clients within a certain time. A shorter time forces more frequent registration by clients with the gatekeeper and less probability of a problem if the network becomes unavailable and the client thinks it is still registered. (Default: 1800)

H323ChannelSetupMode	Channel connection setup mode. (Default: Optimistic)
Attribute	Special Attribute of the current object. (Optional)
Comments	Text describing the current object. (Optional)

3.141. WebProfile

Description

A Web Profile can be used by one or many IP Policies which has its service object configured with HTTP or HTTPS as protocol.

Properties

Name	Specifies a symbolic name for the Profile. (Identifier)
HTTPBanners	Specifies web page to present when access to a site is denied. (Default: Default)
AllowProtocolUpgrade	Allow the connection to be upgraded to another protocol e.g. a WebSocket. A protocol upgrade will disable further content inspection for the upgraded connection. (Default: Yes)
WCF	Use Web Content Filtering to monitor and/or deny access to restricted web sites based on a simple content category system. (Default: No)
WCFAuditMode	Use audit mode to allow, but still log, access to restricted sites. (Default: No)
WCFCategories	Specifies restricted web content categories. (Optional; Default: ADULT_CONTENT,BOTNETS,CHILD_ABUSE_MATERIAL,CRIME_TERROR
WCFNonManagedAction	Action to take for content that has not been classified. (Default: Allow)
WCFAllowOverride	Allows users to override the filter and gain access to blocked sites, with a warning that their actions will be logged. (Default: No)
WCFOverrideTimeToLive	Specifies how many seconds that a successful override remains in effect before the restricted site notice page reappears. (Default: 300)
WCFOverrideUpdateOnAccess	Reset the override timer on activity. (Default: Yes)
WCFAllowReclassification	Allows users to suggest new categories for blocked sites. This should under normal circumstances NEVER be enabled on profiles that affect end-users as it can be abused greatly. (Default: No)
HTTPSBlockPages	Present web page when access to a site is denied over a HTTPS connection. (Default: No)
RootCertificate	Selects the CA to use when signing HTTPS Block pages.
HTTPSCertGenLimit	The maximum number of certificates that can be generated per second. TLS alerts will be served to users if the limit is exceeded. (Default: 20)

FailModeBehavior	Standard behaviour on errors related to Web Profile features e.g. WCF. (Default: Allow)
Attribute	Special Attribute of the current object. (Optional)
Comments	Text describing the current object. (Optional)

3.141.1. URLFilterPolicy_URL

Description

Blacklist URLs to deny access to complete sites, to file types by extension, or to URLs with certain words in them.

Properties

Action	Whitelist, Blacklist or Redirect the matching URL filter. (Default: Blacklist)
URL	Specifies the URL to blacklist, whitelist or redirect.
RedirectTo	Specifies the URL to redirect requests to. Must be begin with 'http://' or 'https://'. (Default: http://)
Attribute	Special Attribute of the current object. (Optional)
Comments	Text describing the current object. (Optional)

Note

If no `Index` is specified when creating an instance of this type, the object will be placed last in the list and the `Index` will be equal to the length of the list.

3.142. ZoneDefenseBlock

Description

Manually configured blocks are used to block a host/network on the switches either by default or based on schedule.

Properties

Addresses	Specifies the addresses to block.
Protocol	All, TCP, UDP or ICMP. (Default: All)
Port	Specifies which UDP or TCP port to use. (Default: 0)
Schedule	Specifies the schedule when the given addresses should be blocked. (Optional)
Attribute	Special Attribute of the current object. (Optional)
Comments	Text describing the current object. (Optional)

Note

If no `Index` is specified when creating an instance of this type, the object will be placed last in the list and the `Index` will be equal to the length of the list.

3.143. ZoneDefenseExcludeList

Description

The exclude list is used exclude certain hosts/networks from being blocked out by IDP/Threshold rule violations.

Properties

Addresses	Specifies the addresses that should not be blocked. (Optional)
Attribute	Special Attribute of the current object. (Optional)
Comments	Text describing the current object. (Optional)

Note

This object type does not have an identifier and is identified by the name of the type only. There can only be one instance of this type.

3.144. ZoneDefenseSwitch

Description

A ZoneDefense switch will have its ACLs controlled and hosts/networks violating the IDP/Threshold rules will be blocked directly on the switch.

Properties

Name	Specifies a symbolic name for the ZoneDefense switch. (Identifier)
SwitchModel	Specifies the switch model type. (Default: DES-3226S)
IP	The IP address of the management interface of the switch.
Enabled	Enable the ZoneDefense switch. (Default: Yes)
SNMPCommunity	The SNMP community string (write access).
Attribute	Special Attribute of the current object. (Optional)
Comments	Text describing the current object. (Optional)

3.145. ZoneDefenseSwitchSettings

Description

Advanced ZoneDefense Switch Settings.

Properties

SupervisorEnabled	Enables automatic unblocking of hosts that has been blocked a configurable period of time. A host is only unblocked if the number of times it has been blocked during a supervision period (the contravention value) does not exceed the tolerance, otherwise it must be manually unblocked. (Default: Yes)
ContraventionTolerance	The maximum number of times ZoneDefense can unblock the host. Once a host exceeds this value it remains blocked until it is manually unblocked. (Default: 3)
BlockTime	A host is kept blocked this many seconds times the hosts contravention value. If the contravention value exceeds the configured tolerance it will remain blocked. (Default: 300)

Note

This object type does not have an identifier and is identified by the name of the type only. There can only be one instance of this type.

Index

Commands

Object types

T

U

V

W

Z