

Chapter 9

Summary of Network Address Translation Configuration Statements

The following sections explain each of the Network Address Translation (NAT) statements. The statements are organized alphabetically.

address

Syntax	address (<i>address</i> address-range low <i>minimum-value</i> high <i>maximum-value</i>);
Hierarchy Level	[edit services nat pool <i>nat-pool-name</i>]
Description	Specify the NAT pool address, prefix, or range. You can configure either a specific address or prefix value, or a range with minimum and maximum values. You must configure one or the other.
Options	<i>address</i> —Specific address or prefix value. <i>minimum-value</i> —Lower boundary for the address range. <i>maximum-value</i> —Upper boundary for the address range.
Usage Guidelines	See “Configure Address and Port Information” on page 70.
Required Privilege Level	interface—To view this statement in the configuration. interface-control—To add this statement to the configuration.

application-sets

Syntax	applications-sets [<i>set-names</i>];
Hierarchy Level	[edit services nat rule <i>rule-name</i> term <i>term-name</i> from]
Description	Defines one or more target application sets.
Options	<i>set-name</i> —Name of the target application set.
Usage Guidelines	See “Configure NAT Match Conditions” on page 73.
Required Privilege Level	interface—To view this statement in the configuration. interface-control—To add this statement to the configuration.

applications

Syntax	<code>applications [<i>application-names</i>];</code>
Hierarchy Level	[edit services nat rule <i>rule-name</i> term <i>term-name</i> from]
Description	Defines one or more application protocols to which the network address translation services apply.
Options	<i>application-name</i> —Name of the target application.
Usage Guidelines	See “Configure NAT Match Conditions” on page 73.
Required Privilege Level	interface—To view this statement in the configuration. interface-control—To add this statement to the configuration.

destination-address

Syntax	<code>destination-address <i>address</i>;</code>
Hierarchy Level	[edit services nat rule <i>rule-name</i> term <i>term-name</i> from]
Description	Destination address for rule matching.
Options	<i>address</i> —Destination IP address.
Usage Guidelines	See “Configure NAT Match Conditions” on page 73.
Required Privilege Level	interface—To view this statement in the configuration. interface-control—To add this statement to the configuration.

destination-pool

Syntax	<code>destination-pool <i>nat-pool-name</i>;</code>
Hierarchy Level	[edit services nat rule <i>rule-name</i> term <i>term-name</i> then translated]
Description	Destination address pool for translated traffic.
Options	<i>nat-pool-name</i> —Destination pool name.
Usage Guidelines	See “Configure NAT Actions” on page 73.
Required Privilege Level	interface—To view this statement in the configuration. interface-control—To add this statement to the configuration.

from

Syntax	from { application-sets [<i>set-names</i>]; applications [<i>application-names</i>]; destination-address <i>address</i> ; source-address <i>address</i> ; }
Hierarchy Level	[edit services nat rule <i>rule-name</i> term <i>term-name</i>]
Description	Specify input conditions for the NAT term.
Options	For information on match conditions, see the description of firewall filter match conditions in the <i>JUNOS Internet Software Policy Framework Configuration Guide</i> . The remaining statements are explained separately.
Usage Guidelines	See “Configure NAT Rule Content” on page 72.
Required Privilege Level	interface—To view this statement in the configuration. interface-control—To add this statement to the configuration.

match-direction

Syntax	match-direction (input output);
Hierarchy Level	[edit services nat rule <i>rule-name</i>]
Description	Specify the direction in which the rule match is applied.
Options	input—Apply the rule match on input. output—Apply the rule match on output.
Usage Guidelines	See “Configure NAT Rule Content” on page 72.
Required Privilege Level	interface—To view this statement in the configuration. interface-control—To add this statement to the configuration.

pool

Syntax	pool <i>nat-pool-name</i> { address (<i>address</i> address-range low <i>minimum-value</i> high <i>maximum-value</i>); port (automatic range low <i>minimum-value</i> high <i>maximum-value</i>); }
Hierarchy Level	[edit services nat]
Description	Specify the Network Address Translation name and properties.
Options	<i>nat-pool-name</i> —Identifier for the NAT address pool. The remaining statements are explained separately.
Usage Guidelines	See “Configure Address and Port Information” on page 70.
Required Privilege Level	interface—To view this statement in the configuration. interface-control—To add this statement to the configuration.

port

Syntax	port (automatic range low <i>minimum-value</i> high <i>maximum-value</i>);
Hierarchy Level	[edit services nat pool <i>nat-pool-name</i>]
Description	Specify the NAT pool port or range. You can configure an automatically assigned port or specify a range with minimum and maximum values.
Options	automatic—Router-assigned port. <i>minimum-value</i> —Lower boundary for the port range. <i>maximum-value</i> —Upper boundary for the port range.
Usage Guidelines	See “Configure Address and Port Information” on page 70.
Required Privilege Level	interface—To view this statement in the configuration. interface-control—To add this statement to the configuration.

rule

Syntax	<pre>rule <i>rule-name</i> { match-direction (input output); term <i>term-name</i> { from { applications [<i>application-names</i>]; application-sets [<i>set-names</i>]; destination-address <i>address</i>; source-address <i>address</i>; } then { translated { destination-pool <i>nat-pool-name</i>; source-pool <i>nat-pool-name</i>; translation-type (destination <i>type</i> source <i>type</i>); } syslog; } } }</pre>
Hierarchy Level	[edit services nat], [edit services nat rule-set <i>rule-set-name</i>]
Description	Specify the rule the router uses when applying this service.
Options	<i>rule-name</i> —Identifier for the collection of terms that comprise this rule.
Usage Guidelines	See “Configure NAT Rule Content” on page 72.
Required Privilege Level	interface—To view this statement in the configuration. interface-control—To add this statement to the configuration.

rule-set

Syntax	<pre>rule-set <i>rule-set-name</i> { [rule <i>rule-names</i>]; }</pre>
Hierarchy Level	[edit services nat]
Description	Specify the rule set the router uses when applying this service.
Options	<i>rule-set-name</i> —Identifier for the collection of rules that constitute this rule set.
Usage Guidelines	See “Configure the NAT Rule Set” on page 71.
Required Privilege Level	interface—To view this statement in the configuration. interface-control—To add this statement to the configuration.

services

Syntax	services nat { ... }
Hierarchy Level	[edit]
Description	Define the service rules to be applied to traffic.
Options	nat—Identifies the Network Address Translation set of rules statements.
Usage Guidelines	See “Configure Network Address Translation Properties” on page 70.
Required Privilege Level	interface—To view this statement in the configuration. interface-control—To add this statement to the configuration.

source-address

Syntax	source-address <i>address</i> ;
Hierarchy Level	[edit services nat rule <i>rule-name</i> term <i>term-name</i> from]
Description	Source address for rule matching.
Options	<i>address</i> —Source IP address.
Usage Guidelines	See “Configure NAT Match Conditions” on page 73.
Required Privilege Level	interface—To view this statement in the configuration. interface-control—To add this statement to the configuration.

source-pool

Syntax	source-pool <i>nat-pool-name</i> ;
Hierarchy Level	[edit services nat rule <i>rule-name</i> term <i>term-name</i> then translated]
Description	Source address pool for translated traffic.
Options	<i>nat-pool-name</i> —Source pool name.
Usage Guidelines	See “Configure NAT Actions” on page 73.
Required Privilege Level	interface—To view this statement in the configuration. interface-control—To add this statement to the configuration.

syslog

Syntax	syslog;
Hierarchy Level	[edit services nat rule <i>rule-name</i> term <i>term-name</i> then]
Description	Enable system logging. The system log information of the Adaptive Services PIC is passed to the kernel for logging in the /var/log directory.
Usage Guidelines	See “Configure NAT Actions” on page 73.
Required Privilege Level	interface—To view this statement in the configuration. interface-control—To add this statement to the configuration.

term

Syntax	<pre>term <i>term-name</i> { from { applications [<i>application-names</i>]; application-sets [<i>set-names</i>]; destination-address <i>address</i>; source-address <i>address</i>; } then { translated { destination-pool <i>nat-pool-name</i>; source-pool <i>nat-pool-name</i>; translation-type (destination <i>type</i> source <i>type</i>); } syslog; } }</pre>
Hierarchy Level	[edit services nat rule <i>rule-name</i>]
Description	Define the NAT term properties.
Options	<i>term-name</i> —Identifier for the term.
Usage Guidelines	See “Configure NAT Rule Content” on page 72.
Required Privilege Level	interface—To view this statement in the configuration. interface-control—To add this statement to the configuration.

then

```

Syntax  then {
            translated {
              destination-pool nat-pool-name;
              source-pool nat-pool-name;
              translation-type (destination type | source type);
            }
            syslog;
          }

```

Hierarchy Level [edit services nat rule *rule-name* term *term-name*]

Description Define the NAT term actions.

Options The remaining statements are explained separately.

Usage Guidelines See “Configure NAT Rule Content” on page 72.

Required Privilege Level interface—To view this statement in the configuration.
 interface-control—To add this statement to the configuration.

translated

```

Syntax  translated {
            destination-pool nat-pool-name;
            source-pool nat-pool-name;
            translation-type (destination type | source type);
          }

```

Hierarchy Level [edit services nat rule *rule-name* term *term-name* then]

Description Define properties for translated traffic.

Options The remaining statements are explained separately.

Usage Guidelines See “Configure NAT Actions” on page 73.

Required Privilege Level interface—To view this statement in the configuration.
 interface-control—To add this statement to the configuration.

translation-type

Syntax	translation-type (destination <i>type</i> source <i>type</i>);
Hierarchy Level	[edit services nat rule <i>rule-name</i> term <i>term-name</i> then translated]
Description	Specify the Network Address Translation types.
Options	<i>type</i> —You can specify source dynamic, source static, or destination static.
Usage Guidelines	See “Configure NAT Actions” on page 73.
Required Privilege Level	interface—To view this statement in the configuration. interface-control—To add this statement to the configuration.

