

## SRC Configuration Wizards



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*SRC Configuration Wizards*

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## Documentation and Release Notes

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To obtain the most current version of all Juniper Networks® technical documentation, see the product documentation page on the Juniper Networks website at <http://www.juniper.net/techpubs/>.

If the information in the latest release notes differs from the information in the documentation, follow the product Release Notes.

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## Supported Platforms

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For the features described in this document, the following platforms are supported:

- C Series

## Documentation Conventions

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Table 1 on page x defines notice icons used in this guide.

Table 1: Notice Icons

Icon	Meaning	Description
	Informational note	Indicates important features or instructions.
	Caution	Indicates a situation that might result in loss of data or hardware damage.
	Warning	Alerts you to the risk of personal injury or death.
	Laser warning	Alerts you to the risk of personal injury from a laser.

## Documentation Conventions

Table 1 on page x defines the notice icons used in this guide. Table 3 on page x defines text conventions used throughout this documentation.

Table 2: Notice Icons





Icon	Meaning	Description
	Informational note	Indicates important features or instructions.
	Caution	Indicates a situation that might result in loss of data or hardware damage.
	Warning	Alerts you to the risk of personal injury or death.
	Laser warning	Alerts you to the risk of personal injury from a laser.

Table 3: Text Conventions

Convention	Description	Examples
<b>Bold text like this</b>	<ul style="list-style-type: none"> <li>Represents keywords, scripts, and tools in text.</li> <li>Represents a GUI element that the user selects, clicks, checks, or clears.</li> </ul>	<ul style="list-style-type: none"> <li>Specify the keyword <b>exp-msg</b>.</li> <li>Run the <b>install.sh</b> script.</li> <li>Use the <b>pkgadd</b> tool.</li> <li>To cancel the configuration, click <b>Cancel</b>.</li> </ul>

Table 3: Text Conventions (*continued*)

<b>Bold text like this</b>	Represents text that the user must type.	<b>user@host# set cache-entry-age</b> <i>cache-entry-age</i>
Fixed-width text like this	Represents information as displayed on your terminal's screen, such as CLI commands in output displays.	<pre> nic-locators {   login {     resolution {       resolver-name /realms/       login/A1;       key-type LoginName;       value-type SaeId;     }   } </pre>
Regular sans serif typeface	<ul style="list-style-type: none"> <li>Represents configuration statements.</li> <li>Indicates SRC CLI commands and options in text.</li> <li>Represents examples in procedures.</li> <li>Represents URLs.</li> </ul>	<ul style="list-style-type: none"> <li><b>system ldap server{</b> <b>stand-alone;</b></li> <li>Use the <b>request sae modify device failover</b> <b>command</b> with the force option</li> <li><b>user@host# ...</b></li> <li><a href="http://www.juniper.net/techpubs/software/management/sdx/api-index.html">http://www.juniper.net/techpubs/software/management/sdx/api-index.html</a></li> </ul>
<i>Italic sans serif typeface</i>	Represents variables in SRC CLI commands.	<b>user@host# set local-address</b> <i>local-address</i>
Angle brackets	In text descriptions, indicate optional keywords or variables.	Another runtime variable is <gfwif>.
Key name	Indicates the name of a key on the keyboard.	Press Enter.
Key names linked with a plus sign (+)	Indicates that you must press two or more keys simultaneously.	Press Ctrl + b.
<i>Italic typeface</i>	<ul style="list-style-type: none"> <li>Emphasizes words.</li> <li>Identifies book names.</li> <li>Identifies distinguished names.</li> <li>Identifies files, directories, and paths in text but not in command examples.</li> </ul>	<ul style="list-style-type: none"> <li>There are two levels of access: <i>user</i> and <i>privileged</i>.</li> <li><i>SRC-PE Getting Started Guide</i>.</li> <li><i>o=Users, o=UMC</i></li> <li>The <i>/etc/default.properties</i> file.</li> </ul>
Backslash	At the end of a line, indicates that the text wraps to the next line.	<pre> Plugin.radiusAcct-1.class=\ net.juniper.smgmt.sae.plugin\ RadiusTrackingPluginEvent </pre>
Words separated by the   symbol	Represent a choice to select one keyword or variable to the left or right of this symbol. (The keyword or variable may be either optional or required.)	diagnostic   line

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- Document or topic name
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- JTAC policies—For a complete understanding of our JTAC procedures and policies, review the *JTAC User Guide* located at <http://www.juniper.net/us/en/local/pdf/resource-guides/7100059-en.pdf> .
- Product warranties—For product warranty information, visit <http://www.juniper.net/support/warranty/> .
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- Find product documentation: <http://www.juniper.net/techpubs/>
- Find solutions and answer questions using our Knowledge Base: <http://kb.juniper.net/>
- Download the latest versions of software and review release notes: <http://www.juniper.net/customers/csc/software/>
- Search technical bulletins for relevant hardware and software notifications: <https://www.juniper.net/alerts/>
- Join and participate in the Juniper Networks Community Forum: <http://www.juniper.net/company/communities/>
- Open a case online in the CSC Case Management tool: <http://www.juniper.net/cm/>

To verify service entitlement by product serial number, use our Serial Number Entitlement (SNE) Tool: <https://tools.juniper.net/SerialNumberEntitlementSearch/>

## Opening a Case with JTAC

You can open a case with JTAC on the Web or by telephone.

- Use the Case Management tool in the CSC at <http://www.juniper.net/cm/> .
- Call 1-888-314-JTAC (1-888-314-5822 toll-free in the USA, Canada, and Mexico).

For international or direct-dial options in countries without toll-free numbers, see <http://www.juniper.net/support/requesting-support.html> .



## PART 1

# Overview

- [Software Features Overview on page 3](#)





## CHAPTER 1

# Software Features Overview

- [SRC Configuration Wizards Overview on page 3](#)
- [Fair Usage on MX Series Routers Configuration Wizard Overview on page 5](#)
- [Configuration Overview of the Fair Usage on MX Series Routers Configuration Wizard on page 6](#)

## SRC Configuration Wizards Overview

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The SRC software includes configuration *wizards* to simplify configuring the most common configuration scenarios. Each configuration wizard uses an XML definition file that generates a specific configuration scenario. Most of the configuration is predefined in the definition file. However, because each configuration scenario is unique, definition files cannot predefine all options, so the wizard prompts you for input specific to your implementation.

### How Configuration Wizards Work

You can invoke a configuration wizard from the SRC CLI. At runtime, the configuration wizard processes the definition file and presents the corresponding configuration steps. The interface prompts you to enter information for any options specific to your configuration that are not predefined in the definition file. The values you enter are used for the respective parameters in the definition file. After you enter all required parameters, the interface displays a list of SRC CLI set commands corresponding to the parameters you entered. After you review the configuration, you can either select Commit to commit the configuration or you can select Back to make changes to the parameters.

### Navigating Screens in the Wizard (SRC CLI)

The wizard interface consists of buttons, which you navigate using the keyboard. [Figure 1 on page 4](#) shows a sample screen for the configuration wizard. Because each wizard configures a different scenario, each wizard is unique.

Figure 1: Sample SRC Configuration Wizard Screen

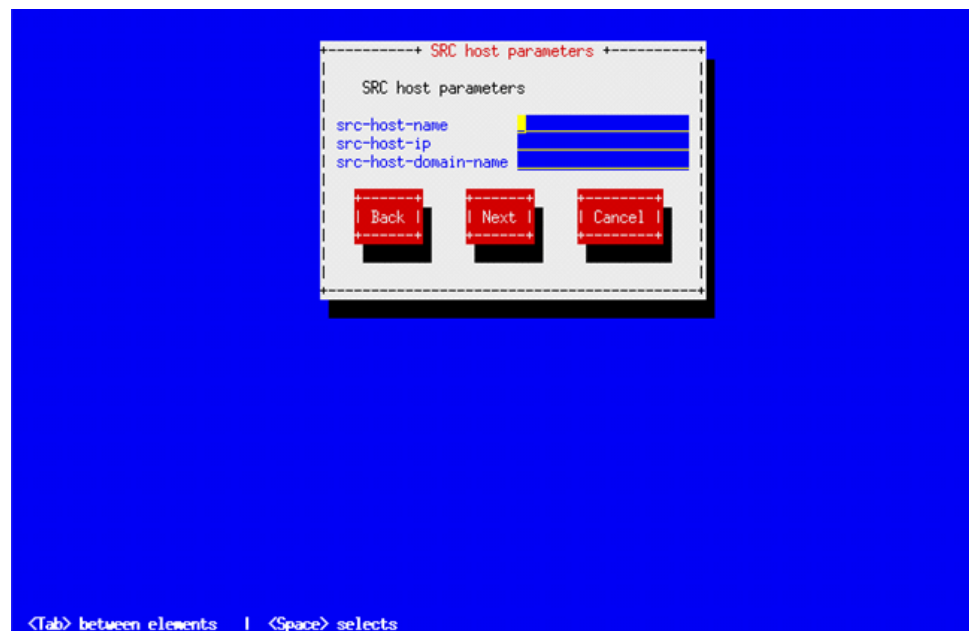


Table 4 on page 4 and Table 5 on page 4 list the buttons and navigation keys for the configuration wizard.

Table 4: Wizard Buttons

Button	Description
Back	Go to the previous step.
Next	Go to the next step.
Cancel	Stop the execution of the command <code>[configuration-wizard wizard-name]</code> .
Finish	Select this button only after you configure all arguments.
Commit	Commit the wizard configuration.

Table 5: Wizard Navigation Keys

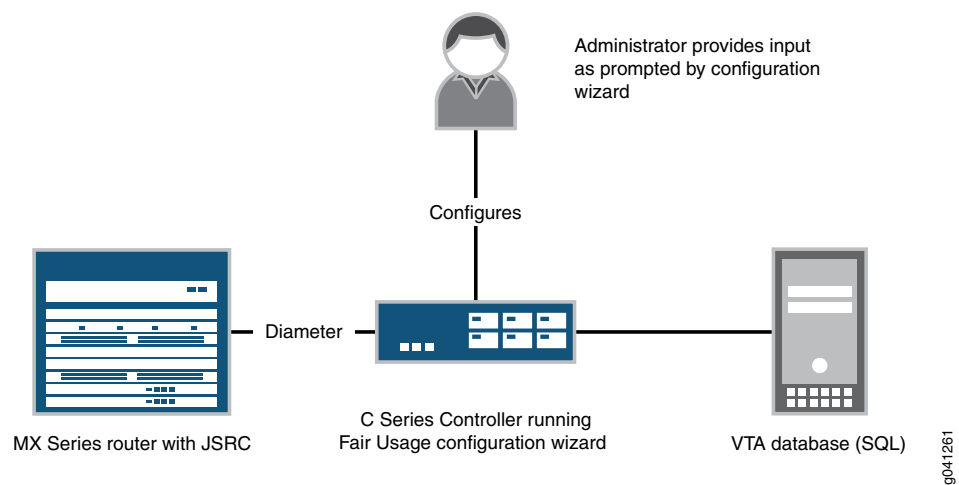
Key	Description
Tab	Move between buttons (elements) such as Back, Next, Cancel, Commit, Finish, and so on.
Space bar	Select the highlighted button.

**Related Documentation** • [Running a Configuration Wizard \(SRC CLI\) on page 21](#)

## Fair Usage on MX Series Routers Configuration Wizard Overview

The fair usage on MX Series routers configuration wizard creates the SRC configuration shown in [Figure 2 on page 5](#). In the default configuration created by the wizard, each SRC VTA subscriber is initialized with a certain amount of periodic quota but no purchased quota. The SAE maps all subscribers to a single subscriber profile, which has both high-speed and low-speed service subscriptions. The high-speed service, called MXQuotaInternet, operates at 10 Mbps and is activated when the subscriber logs in. The MXQuotaInternet service continues to run until the subscriber's quota is exhausted. When the quota is exhausted, the subscriber is switched to the low-speed service called MXQuotaLowSpeed, which operates at 256 Kbps.

**Figure 2: Fair Usage on MX Series Routers Configuration Wizard Topology**



The fair usage on MX Series routers configuration wizard requires one C Series Controller, one SQL database, and one MX Series router. The wizard configures a single SRC host. The wizard does not configure the SQL database or the MX Series router; you must configure these separately in order for them to work with the configuration created by the wizard.

The SRC policies and service substitution configured by the wizard refer to certain Junos OS dynamic profile names and firewall filter names. You must configure these names on the MX Series router for the configuration to work properly. Alternatively, you can modify these names in the SRC CLI to match those configured on the MX Series router after you run the wizard and commit the SRC configuration.

The wizard configures the SRC VTA component to use a MySQL database. This database must be deployed on a separate host and you must create the database by using the "vta-database-mysql.sql" file, which is included with the SRC VTA component. The wizard requires you to enter the database host IP address, database username, and password.

The wizard also requires you to enter the SRC hostname, IP address, and domain name, as well as the router hostname, IP address, and domain name. These parameters are essential for the configuration of Diameter peers and SAE-managed devices.

- Related Documentation**
- [Configuration Overview of the Fair Usage on MX Series Routers Configuration Wizard on page 6](#)
  - [Running the Fair Usage on MX Series Routers Configuration Wizard \(SRC CLI\) on page 19](#)

## Configuration Overview of the Fair Usage on MX Series Routers Configuration Wizard

When you use the fair usage on MX Series routers configuration wizard, the wizard definition file specifies most of the SRC configuration. However, you must provide values for certain parameters in the configuration.

### Fair Usage on MX Series Routers Configuration Wizard Definition File

The fair usage on MX Series routers configuration wizard definition file is an .xml file that controls the parameters of the wizard.

The following sample shows the definition file for the fair usage on MX Series routers configuration wizard. The first part of the definition file defines the dialog boxes you use to enter values specific to your environment. The next part of the definition file lists the SRC CLI set commands the wizard invokes.

This file is shown only for reference purposes. Modification of definition files is not supported.

```
<?xml version="1.0" encoding="UTF-8"?>
<!DOCTYPE cli SYSTEM "configuration-wizard.dtd">
<cli name="fair-usage-mx">
  <help>Configure SRC for fair usage MX scenario</help>
  <step name="src-config">
    <step name="src-host-parameters">
      <caption>SRC host parameters</caption>
      <help>SRC host parameters</help>
      <description>
        This step collect SRC host parameters that will be used
        in configuration. The parameters are SRC host names, IP addresses
        and domain names.
      </description>
      <wiz-argument name="src-host-name" mandatory="true">
        <help>SRC host name</help>
        <description>SRC host name.</description>
      </wiz-argument>
      <wiz-argument name="src-host-ip" mandatory="true" type="inet">
        <help>SRC host IP address</help>
        <description>SRC host IP address used to communicate with diameter peers and
        VTA database.</description>
      </wiz-argument>
      <wiz-argument name="src-host-domain-name" mandatory="true">
        <help>SRC host domain name</help>
```

```

        <description>SRC host domain name used as origin-realm for
diameter.</description>
    </wiz-argument>
</step>
<step name="vta-db-host-parameters">
    <caption>VTA database host and database parameters</caption>
    <help>VTA database host and database parameters</help>
    <description>
        This step collect VTA database host and database parameters that will be used
        in configuration. The parameters are VTA database host IP addresses, database
        connection user name and password.
    </description>
    <wiz-argument name="vta-database-ip" mandatory="true" type="inet">
        <help>VTA database IP address</help>
        <description>The IP address of the host where VTA database runs.</description>

    </wiz-argument>
    <wiz-argument name="vta-database-user" mandatory="true">
        <help>VTA database connection user name</help>
        <description>The user name for VTA to connect to VTA database.</description>

    </wiz-argument>
    <wiz-argument name="vta-database-passwd" mandatory="true" type="passwd">

        <help>VTA database connection password</help>
        <description>The password for VTA to connect to VTA database.</description>
    </wiz-argument>
</step>
<step name="router-host-parameters">
    <caption>Router host parameters</caption>
    <help>Router host parameters</help>
    <description>
        This step collect router host parameters that will be used
        in configuration. The parameters are router host names, IP addresses
        and domain names.
    </description>
    <wiz-argument name="mx-router-name" mandatory="true">
        <help>Router host name</help>
        <description>Router host name used as diameter peer origin-host and SRC network
device name.</description>
    </wiz-argument>
    <wiz-argument name="mx-router-ip" mandatory="true" type="inet">
        <help>Router IP address</help>
        <description>Router IP address used for diameter and SRC network device
address.</description>
    </wiz-argument>
    <wiz-argument name="mx-router-domain-name" mandatory="true">
        <help>Router domain name</help>
        <description>Router domain name used as diameter peer
origin-realm.</description>
    </wiz-argument>
    <configuration>
        set system diameter active-peers
        set system diameter local-address {src-config src-host-parameters src-host-ip}
        set system diameter origin-host {src-config src-host-parameters src-host-name}
        set system diameter origin-realm {src-config src-host-parameters

```

```
src-host-domain-name}
  set system diameter port 3868
  set system diameter protocol tcp

  set shared network diameter peer {src-config router-host-parameters
mx-router-name} active-peer
  set shared network diameter peer {src-config router-host-parameters
mx-router-name} address {src-config router-host-parameters mx-router-ip}
  set shared network diameter peer {src-config router-host-parameters
mx-router-name} connect-timeout 10
  set shared network diameter peer {src-config router-host-parameters
mx-router-name} origin-host {src-config router-host-parameters mx-router-name}
  set shared network diameter peer {src-config router-host-parameters
mx-router-name} port 3868
  set shared network diameter peer {src-config router-host-parameters
mx-router-name} protocol tcp

  set shared network device {src-config router-host-parameters mx-router-name}
description 'A MX fair usage device'
  set shared network device {src-config router-host-parameters mx-router-name}
device-type junos-ise
  set shared network device {src-config router-host-parameters mx-router-name}
management-address {src-config router-host-parameters mx-router-ip}
  set shared network device {src-config router-host-parameters mx-router-name}
origin-host {src-config router-host-parameters mx-router-name}
  set shared network device {src-config router-host-parameters mx-router-name}
peers {src-config router-host-parameters mx-router-name}
  set shared network device {src-config router-host-parameters mx-router-name}
virtual-router * sae-connection {src-config src-host-parameters src-host-ip}

  set policies folder fair-usage-ise group MXCaptivePolicy list captive-list applicability
both
  set policies folder fair-usage-ise group MXCaptivePolicy list captive-list role junos-ise

  set policies folder fair-usage-ise group MXCaptivePolicy list captive-list rule rule-1
type junos-ise
  set policies folder fair-usage-ise group MXCaptivePolicy list captive-list rule rule-1
dynamic-profile profile-name src_driven_captive_profile
  set policies folder fair-usage-ise group MXQuotaPolicy description 'Quota Policy'
  set policies folder fair-usage-ise group MXQuotaPolicy list quota_list applicability
both
  set policies folder fair-usage-ise group MXQuotaPolicy list quota_list role junos-ise
  set policies folder fair-usage-ise group MXQuotaPolicy list quota_list rule rule-1
accounting
  set policies folder fair-usage-ise group MXQuotaPolicy list quota_list rule rule-1 type
junos-ise
  set policies folder fair-usage-ise group MXQuotaPolicy list quota_list rule rule-1
dynamic-profile profile-name src_driven_quota_profile
  set policies folder fair-usage-ise group MXQuotaPolicy list quota_list rule rule-1
dynamic-profile variables input type any
  set policies folder fair-usage-ise group MXQuotaPolicy list quota_list rule rule-1
dynamic-profile variables input value ingress_filter_to_use
  set policies folder fair-usage-ise group MXQuotaPolicy list quota_list rule rule-1
dynamic-profile variables output type any
  set policies folder fair-usage-ise group MXQuotaPolicy list quota_list rule rule-1
dynamic-profile variables output value egress_filter_to_use
```

```

set policies folder fair-usage-ise group MXQuotaPolicy local-parameters
egress_filter_to_use type any
set policies folder fair-usage-ise group MXQuotaPolicy local-parameters
ingress_filter_to_use type any

set services global service MXQuotaInternet accounting-interim-interval 600
set services global service MXQuotaInternet available
set services global service MXQuotaInternet category Internet
set services global service MXQuotaInternet description 'MX quota high speed service,
supposed to be used as VTA behaving service'
set services global service MXQuotaInternet policy-group
/fair-usage-ise/MXQuotaPolicy
set services global service MXQuotaInternet radius-class MXQuotaInternet
set services global service MXQuotaInternet status active
set services global service MXQuotaInternet tracking-plug-in quotavta
set services global service MXQuotaInternet type normal
set services global service MXQuotaLowSpeed accounting-interim-interval 600
set services global service MXQuotaLowSpeed available
set services global service MXQuotaLowSpeed category Internet
set services global service MXQuotaLowSpeed description 'MX quota low speed
service, supposed to be used as VTA misbehaving service'
set services global service MXQuotaLowSpeed policy-group
/fair-usage-ise/MXQuotaPolicy
set services global service MXQuotaLowSpeed radius-class MXQuotaInternet
set services global service MXQuotaLowSpeed status active
set services global service MXQuotaLowSpeed tracking-plug-in quotavta
set services global service MXQuotaLowSpeed type normal
set services global service MXCaptive available
set services global service MXCaptive description 'MX captive service, supposed to
be used as VTA misbehaving service'
set services global service MXCaptive policy-group /fair-usage-ise/MXCaptivePolicy

set services global service MXCaptive radius-class MXCaptive
set services global service MXCaptive status active
set services global service MXCaptive tracking-plug-in quotavta
set services global service MXCaptive type normal

set subscribers retailer fair-usage-mx domain-name fair-usage-mx.com
set subscribers retailer fair-usage-mx subscriber-folder local subscriber
quota-subscriber-1 common-name One
set subscribers retailer fair-usage-mx subscriber-folder local subscriber
quota-subscriber-1 surname Quotasubscriber
set subscribers retailer fair-usage-mx subscriber-folder local subscriber
quota-subscriber-1 subscription MXCaptive activation manual
set subscribers retailer fair-usage-mx subscriber-folder local subscriber
quota-subscriber-1 subscription MXCaptive status active
set subscribers retailer fair-usage-mx subscriber-folder local subscriber
quota-subscriber-1 subscription MXQuotaInternet activation automatically-on-login
set subscribers retailer fair-usage-mx subscriber-folder local subscriber
quota-subscriber-1 subscription MXQuotaInternet status active
set subscribers retailer fair-usage-mx subscriber-folder local subscriber
quota-subscriber-1 subscription MXQuotaInternet substitution [
'egress_filter_to_use=\"10m-service\"' 'ingress_filter_to_use=\"10m-service\"' ]
set subscribers retailer fair-usage-mx subscriber-folder local subscriber
quota-subscriber-1 subscription MXQuotaLowSpeed activation manual
set subscribers retailer fair-usage-mx subscriber-folder local subscriber

```

```
quota-subscriber-1 subscription MXQuotaLowSpeed status active
  set subscribers retailer fair-usage-mx subscriber-folder local subscriber
quota-subscriber-1 subscription MXQuotaLowSpeed substitution [
'egress_filter_to_use=\"256k-service\"' 'ingress_filter_to_use=\"256k-service\"' ]

  set slot 0 nic scenario-name OnePopLogin
  set slot 0 nic snmp-agent

  set slot 0 sae shared /SAE/fair-usage

  set shared sae group fair-usage configuration plug-ins name quotavta ejb-adaptor
jndi-sae-event-listener vta-Quota/SAEEventListenerBean
  set shared sae group fair-usage configuration plug-ins name quotavta ejb-adaptor
application-server-url {src-config src-host-parameters src-host-ip}:1099
  set shared sae group fair-usage configuration plug-ins name quotavta ejb-adaptor
ejb-clustering-strategy EJBOBJECTClustering
  set shared sae group fair-usage configuration plug-ins name quotavta ejb-adaptor
jndi-service-provider org.jnp.interfaces.NamingContextFactory
  set shared sae group fair-usage configuration plug-ins name nic external
corba-object-reference corbaname::{src-config src-host-parameters
src-host-ip}:2809/NameService#nicsae/saePort
  set shared sae group fair-usage configuration plug-ins event-publishers
subscriber-tracking [fileAcct quotavta nic ]
  set shared sae group fair-usage configuration plug-ins event-publishers
service-tracking [fileAcct quotavta ]
  set shared sae group fair-usage subscriber-classifier rule rule-mx target
uniqueID=quota-subscriber-1,ou=local,retailerName=fair-usage-mx,o=Users,o=umc
  set shared sae group fair-usage subscriber-classifier rule rule-mx condition
nasPortId=ge-*
  insert shared sae group fair-usage subscriber-classifier rule rule-mx before rule-1

  set slot 0 application-server web virtual-host eth0 alias [ {src-config
src-host-parameters src-host-name} {src-config src-host-parameters src-host-ip} ]

  set shared vta group Quota nic-proxy IdToSaeNicProxy
  set shared vta group fairusage subscriber-id-solution login-name
  set shared vta group fairusage action CalcUsage function db-engine-calculate-usage

  set shared vta group fairusage action CalculateInterim function
db-engine-calculate-interim
  set shared vta group fairusage action DebitAccounts function
db-engine-update-accounts
  set shared vta group fairusage action DebitAccounts parameter script-name
DebitQuotaUsage
  set shared vta group fairusage action GetAccountBalances function
db-engine-get-accounts
  set shared vta group fairusage action SetInterim function sae-set-interim-interval
  set shared vta group fairusage action SetInterim parameter current-subscriber-only

  set shared vta group fairusage action StartCaptiveService function sae-start-service

  set shared vta group fairusage action StartCaptiveService parameter
current-subscriber-only
  set shared vta group fairusage action StartCaptiveService parameter
subscription-name MXCaptive
  set shared vta group fairusage action StartQuotaInternetService function
```



```

sae-start-service
    set shared vta group fairusage action StartQuotaInternetService parameter
current-subscriber-only
    set shared vta group fairusage action StartQuotaInternetService parameter
subscription-name MXQuotaInternet
    set shared vta group fairusage action StartQuotaLowSpeedService function
sae-start-service
    set shared vta group fairusage action StartQuotaLowSpeedService parameter
current-subscriber-only
    set shared vta group fairusage action StartQuotaLowSpeedService parameter
subscription-name MXQuotaLowSpeed
    set shared vta group fairusage action StopQuotaInternetService function
sae-stop-service
    set shared vta group fairusage action StopQuotaInternetService parameter
current-subscriber-only
    set shared vta group fairusage action StopQuotaInternetService parameter
subscription-name MXQuotaInternet
    set shared vta group fairusage action StopQuotaLowSpeedService function
sae-stop-service
    set shared vta group fairusage action StopQuotaLowSpeedService parameter
current-subscriber-only
    set shared vta group fairusage action StopQuotaLowSpeedService parameter
subscription-name MXQuotaLowSpeed
    set shared vta group fairusage action TerminateSession function
db-engine-terminate-session
    set shared vta group fairusage database check-valid-connection-sql 'select 1'
    set shared vta group fairusage database connection-url jdbc:mysql://{src-config
vta-db-host-parameters vta-database-ip}:3306/quotavta
    set shared vta group fairusage database datasource-mapping mySQL
    set shared vta group fairusage database driver-class com.mysql.jdbc.Driver
    set shared vta group fairusage database max-pool-size 50
    set shared vta group fairusage database min-pool-size 5
    set shared vta group fairusage database password {src-config
vta-db-host-parameters vta-database-passwd}
    set shared vta group fairusage database user-name {src-config
vta-db-host-parameters vta-database-user}
    set shared vta group fairusage event-handler GetQuota actions GetAccountBalances

    set shared vta group fairusage event-handler GetQuota events [
service-start:MXQuotaInternet service-start:MXQuotaLowSpeed
service-interim:MXQuotaInternet service-interim:MXQuotaLowSpeed
service-stop:MXQuotaInternet service-stop:MXQuotaLowSpeed account-update ]
    set shared vta group fairusage event-handler GetQuota priority 1
    set shared vta group fairusage event-handler RecordUsage actions [ CalcUsage
DebitAccounts ]
    set shared vta group fairusage event-handler RecordUsage events [
service-interim:MXQuotaInternet service-interim:MXQuotaLowSpeed
service-stop:MXQuotaInternet service-stop:MXQuotaLowSpeed ]
    set shared vta group fairusage event-handler RecordUsage priority 5
    set shared vta group fairusage event-handler SetInterim actions [ CalculateInterim
SetInterim ]
    set shared vta group fairusage event-handler SetInterim condition 'return
<balance_PeriodicQuota>+<balance_BoughtQuota>';
    set shared vta group fairusage event-handler SetInterim events [
service-start:MXQuotaInternet service-start:MXQuotaLowSpeed
service-interim:MXQuotaInternet service-interim:MXQuotaLowSpeed ]

```

```

    set shared vta group fairusage event-handler SetInterim priority 10
    set shared vta group fairusage event-handler NoQuota actions [
StopQuotaInternetService StartQuotaLowSpeedService ]
    set shared vta group fairusage event-handler NoQuota condition 'return
&lt;balance_PeriodicQuota&gt;+&lt;balance_BoughtQuota&gt;&lt;=0;'
    set shared vta group fairusage event-handler NoQuota events [
service-start:MXQuotaInternet service-interim:MXQuotaInternet ]
    set shared vta group fairusage event-handler NoQuota priority 15
    set shared vta group fairusage event-handler QuotaRefilled actions [
StopQuotaLowSpeedService StartQuotaInternetService ]
    set shared vta group fairusage event-handler QuotaRefilled condition 'var
newBalance=&lt;balance_BoughtQuota&gt;+&lt;balance_PeriodicQuota&gt;;\n
if(&lt;old_balance_PeriodicQuota&gt;==null)
&lt;old_balance_PeriodicQuota&gt;=&lt;balance_PeriodicQuota&gt;;\n
if(&lt;old_balance_BoughtQuota&gt;==null)
&lt;old_balance_BoughtQuota&gt;=&lt;balance_BoughtQuota&gt;;\n return
&lt;old_balance_PeriodicQuota&gt;+&lt;old_balance_BoughtQuota&gt;&lt;=0&amp;&amp;newBalance&gt;0;'

    set shared vta group fairusage event-handler QuotaRefilled events account-update

    set shared vta group fairusage event-handler QuotaRefilled priority 20
    set shared vta group fairusage event-handler EndofBilling actions TerminateSession

    set shared vta group fairusage event-handler EndofBilling events
callback:TERMINATESESSION
    set shared vta group fairusage event-handler EndofBilling priority 25
    set shared vta group fairusage processor db-engine record-balance-change
    set shared vta group fairusage processor db-engine account BoughtQuota
initial-balance 0
    set shared vta group fairusage processor db-engine account BoughtQuota initial-status
Inactive
    set shared vta group fairusage processor db-engine account PeriodicQuota
initial-balance 100000000000
    set shared vta group fairusage processor db-engine account PeriodicQuota
initial-status Active
    set shared vta group fairusage processor db-engine account-update-script
DebitQuotaUsage script ' var newPeriodicBalance=0;\n var newBoughtBalance=0;\n
if(&lt;currentUsage&gt;=&lt;balance_PeriodicQuota&gt;){\n
newPeriodicBalance=&lt;balance_PeriodicQuota&gt;-&lt;currentUsage&gt;;\n
newBoughtBalance=&lt;balance_BoughtQuota&gt;;\n } \n else
if(&lt;currentUsage&gt;&lt;(&lt;balance_PeriodicQuota&gt;+&lt;balance_BoughtQuota&gt;)){\n
newBoughtBalance=&lt;balance_BoughtQuota&gt;-(&lt;currentUsage&gt;-&lt;balance_PeriodicQuota&gt;);\n
newPeriodicBalance=0;\n } \n
if(newPeriodicBalance!=&lt;balance_PeriodicQuota&gt;){\n
&lt;balance_PeriodicQuota&gt;=newPeriodicBalance;\n
&lt;lastUpdateTime_PeriodicQuota&gt;=&lt;currentTime&gt;;\n } \n
if(newBoughtBalance!=&lt;balance_BoughtQuota&gt;){\n
&lt;balance_BoughtQuota&gt;=newBoughtBalance;\n
&lt;lastUpdateTime_BoughtQuota&gt;=&lt;currentTime&gt;;\n }'
    set shared vta group fairusage processor db-engine service MXQuotaInternet
interim-interval-function 'return Math.min(7200,Math.max(900,
(&lt;balance_PeriodicQuota&gt;+&lt;balance_BoughtQuota&gt;)/250000));'
    set shared vta group fairusage processor db-engine service MXQuotaInternet
usage-metric-function 'return Math.min(7200,Math.max(900,
(&lt;balance_PeriodicQuota&gt;+&lt;balance_BoughtQuota&gt;)/250000));'

```

```

        set shared vta group fairusage processor db-engine service MXQuotaLowSpeed
interim-interval-function 'return Math.min(7200,Math.max(900,
(&lt;balance_PeriodicQuota&gt;+&lt;balance_BoughtQuota&gt;)/250000));'
        set shared vta group fairusage processor db-engine service MXQuotaLowSpeed
usage-metric-function 'return Math.min(7200,Math.max(900,
(&lt;balance_PeriodicQuota&gt;+&lt;balance_BoughtQuota&gt;)/250000));'
        set shared vta group fairusage queue max-concurrency 50
        set shared vta group fairusage queue max-queue-size 100000
    </configuration>
</step>
</step>
</cli>

```

The following sections describe which parameters are predefined by the wizard and which parameters require your input.

### Configuration Provided by the Fair Usage on MX Series Routers Configuration Wizard

The fair usage on MX Series routers configuration wizard configures the SRC components and configuration trees described in [Table 6 on page 13](#). Most of the SRC configuration is defined by the wizard definition file. Some parameters are configured based on your inputs to the configuration wizard interface.

**Table 6: SRC Configuration Parameters Supplied by the Fair Usage on MX Series Routers Configuration Wizard**

SRC Component or Configuration Tree	Description
Web application server (appsvr)	The wizard configures the Web application server, web virtual host eth0 alias, based on the input you provide for the src-host-name and src-host-ip parameters.
Diameter application	<p>The wizard configures the Diameter application based on the values you enter for the following SRC host parameters in the wizard interface:</p> <ul style="list-style-type: none"> <li>Origin-host—The wizard configures the Diameter origin-host based on the value you enter for the src-host-name parameter.</li> <li>Origin-realm—The wizard configures the Diameter origin-realm based on the value you enter for the src-host-domain-name parameter.</li> <li>Local-address—The wizard configures the Diameter local-address based on the value you enter for the src-host-ip parameter.</li> </ul>
Diameter peer	<p>The wizard configures the Diameter peer parameters for the MX Series router based on the values you enter for the following router host parameters:</p> <ul style="list-style-type: none"> <li>Diameter peer address—The wizard configures the IP address for the Diameter peer based on the value you enter for the mx-router-ip parameter.</li> <li>Diameter peer origin-host—The wizard configures the origin-host of the Diameter peer based on the value you enter for the mx-router-name.</li> </ul> <p>For the connection to the Diameter peer, the wizard uses TCP, port 3868, and specifies the connection as active.</p>
NIC	The wizard configures the NIC to use the OnePopLogin scenario.

**Table 6: SRC Configuration Parameters Supplied by the Fair Usage on MX Series Routers Configuration Wizard (*continued*)**

SRC Component or Configuration Tree	Description
SAE	<p>The wizard uses the SAE group name “fair-usage”, which must exist before invoking the wizard. If the group “fair-usage” does not exist, you must create it by committing <b>set slot 0 sae shared /SAE/fair-usage</b>. Because the wizard uses a single-step configuration commit process, it is not possible to commit the local and shared SAE configurations simultaneously. The wizard configures the following parameters for the SAE:</p> <ul style="list-style-type: none"> <li>• SRC VTA ejb-adaptor plug-ins</li> <li>• NIC plug-ins</li> <li>• Plug-ins event publisher</li> <li>• SAE logger</li> <li>• Subscriber classifier. All subscribers are classified to a single SRC VTA user profile.</li> </ul>
VTA	<p><i>Services</i>—The wizard configures an SRC VTA group called “fair-usage” and two services. The high-speed service, called MXQuotaInternet, operates at 10 Mbps and is activated when the subscriber logs in. The MXQuotaInternet service continues to run until the subscriber’s quota is exhausted. When the quota is exhausted, the subscriber is switched to the low-speed service called MXQuotaLowSpeed, which operates at 256 Kbps. The real service behavior depends on the MX Series router firewall filter configuration.</p> <p><i>External MySQL database</i>—The wizard requires an external MySQL database, which you must configure. The wizard configures basic parameters for the external database based on the values you specify in the wizard VTA database host and database parameters dialog box. The database connection-url is based on the value you enter for the vta-database-ip parameter. The username and password are based on the values you enter for vta-database-user and vta-database-pass. If you want to use a database other than MySQL, you must customize the configuration using the SRC CLI after you commit the configuration using the wizard.</p> <p><i>SRC VTA NIC proxy</i>—The wizard uses the IdToSaeNicProxy NIC proxy, which uses the subscriber ID to locate the SAE when NIC resolution is needed. The wizard also configures the NIC to use the OnePopLogin scenario.</p> <p><i>Event Handlers</i>—The wizard configures event handlers so that when there is no quota left for a subscriber, its MXQuotaInternet service is stopped and the MXQuotaLowSpeed service is started. When the subscriber’s quota is refilled, the MXQuotaLowSpeed service is stopped and the MXQuotaInternet service is restarted.</p> <p><i>db-engine processor</i>—The wizard configures the db-engine processor with some initial balance in the PeriodQuota account. The SRC VTA quota account is debited according to the DebitQuotaUsage script.</p> <p><i>Actions</i>—The wizard configures actions to retrieve account balances, debit accounts, calculate usage, and start and stop services.</p>
Policies	<p>The wizard creates a policy folder named “fair-usage-ise” and two policies. The service policy named “MXQuotaPolicy” uses a dynamic profile named “src_driven_quota_profile”. The policy named “MXCaptivePolicy” uses a dynamic profile named “src_driven_captive_profile.”</p>
Services	<p>The wizard configures two services. The high-speed service, called MXQuotaInternet, operates at 10 Mbps and is activated when the subscriber logs in. The MXQuotaInternet service continues to run until the subscriber’s quota is exhausted. When the quota is exhausted, the subscriber is switched to the low-speed service called MXQuotaLowSpeed, which operates at 256 Kbps.</p> <p>Both of the services use quota as the tracking plug-in.</p>

**Table 6: SRC Configuration Parameters Supplied by the Fair Usage on MX Series Routers Configuration Wizard (*continued*)**

SRC Component or Configuration Tree	Description
Subscribers	The wizard configures one subscriber named “quota-subscriber-1” that subscribes to both the MXQuotaInternet and the MXQuotaLowSpeed services.
shared network device (configuration tree)	<p>The shared network device configuration tree sets up the MX Series router so that it can be managed by the SAE. The wizard specifies the router as a junos-ise type device and adds “A MX fair usage device” as the device description.</p> <p>The management-address assigned by the wizard is based on the value you enter for the mx-router-ip parameter.</p> <p>The origin-host assigned by the wizard is based on the value you enter for the mx-router-name parameter.</p> <p>The wizard specifies the router as a peer to the SAE based on the value you enter for the mx-router-name.</p> <p>The wizard specifies the IP address of the SAE that manages the router based on the value you enter for the src-host-ip parameter.</p>

### Required Input Parameters for the Fair Usage on MX Series Routers Configuration Wizard

The fair usage on MX Series routers configuration wizard requires you to input certain parameters that are specific to your environment. When you run the wizard, you are prompted to enter these parameters. [Table 7 on page 15](#) describes these parameters in detail.

**Table 7: Input Parameters Required by the Fair Usage on MX Series Routers Configuration Wizard**

Type of Parameters	Parameters
SRC host parameters	<ul style="list-style-type: none"> <li>src-host-name—The wizard uses the value you enter as the origin-host for the SRC Diameter application.</li> <li>src-host-ip—The wizard uses the value you enter as the local-address for the SRC Diameter application.</li> <li>src-host-domain-name—The wizard uses the value you enter as the origin-realm for the SRC Diameter application.</li> </ul>
Database host and database parameters used by the SRC VTA	<p>The wizard configures the SRC VTA component to use an external MySQL database, but it does not configure the external database. You must deploy the database on a separate host and create the database by using the “vta-database-mysql.sql” file, which is included with the SRC software. The wizard requires you to enter the following parameters for the external database used by the SRC VTA:</p> <ul style="list-style-type: none"> <li>vta-database-ip—The wizard uses the value you enter as the database connection-url.</li> <li>vta-database-user—The wizard uses the value you enter as the database username.</li> <li>vta-database-pass—The wizard uses the value you enter as the database password.</li> </ul>

**Table 7: Input Parameters Required by the Fair Usage on MX Series Routers Configuration Wizard (*continued*)**

Type of Parameters	Parameters
Router host parameters	<p>The wizard does not configure the MX Series router. The wizard prompts you to enter values to define the MX Series router as a Diameter peer. The wizard requires you to enter the following parameters for the router host:</p> <ul style="list-style-type: none"><li>• <b>mx-router-name</b>—The wizard uses the value you enter as the Diameter peer origin-host name for the router.</li><li>• <b>mx-router-ip</b>—The wizard uses the value you enter as the Diameter peer IP address.</li><li>• <b>mx-router-domain-name</b>—The wizard uses the value you enter as the Diameter peer name.</li></ul> <p>You must manually configure the rest of the configuration for the MX Series router.</p> <p>Certain router configuration parameters, such as dynamic profiles, must be consistent between the SRC configuration and the router configuration. The MX Series router configuration described in this section is for reference only.</p> <p>A sample MX Series router configuration that can work with the SRC configuration created by the fair usage on MX Series routers configuration wizard is provided in a text file in the format of the Junos OS configuration. The sample configuration contains everything under the fair-usage group. The configuration configures IP dynamic interfaces for Dynamic Host Configuration Protocol (DHCP) access. You must edit the interface names that are used for DHCP access in this sample configuration. The sample configuration file is <b>DemosAndSamplesApplications/wizard/fair-usage-mx.txt</b> in <b>SDK+AppSupport+Demos+Samples.tar.gz</b>.</p>
<b>Related Documentation</b>	<ul style="list-style-type: none"><li>• <a href="#">Fair Usage on MX Series Routers Configuration Wizard Overview on page 5</a></li><li>• <a href="#">Running the Fair Usage on MX Series Routers Configuration Wizard (SRC CLI) on page 19</a></li></ul>

## PART 2

# Configuration

- [Configuration Tasks for SRC Configuration Wizards on page 19](#)





## CHAPTER 2

# Configuration Tasks for SRC Configuration Wizards

- [Running the Fair Usage on MX Series Routers Configuration Wizard \(SRC CLI\) on page 19](#)
- [Running a Configuration Wizard \(SRC CLI\) on page 21](#)

### Running the Fair Usage on MX Series Routers Configuration Wizard (SRC CLI)

---

The fair usage on MX Series routers configuration wizard uses the SAE group name “fair-usage”, which must exist before you invoke the wizard. If the group “fair-usage” does not exist, you must create it by committing **set slot 0 sae shared /SAE/fair-usage**. Because the wizard uses a single-step configuration commit process, it is not possible to commit the local and shared SAE configurations simultaneously.

Refer to [Table 7 on page 15](#) for more information about the parameters you need to configure for this procedure.

The wizard definition file is located under /opt/UMC/cli/ddl/. To run the fair usage on MX Series routers configuration wizard:

1. From configuration mode, access the configuration statement that runs the fair usage on MX Series routers configuration wizard.

[edit]

user@host# **configuration-wizard wizard-name fair-usage-mx.wiz.xml**

Most of the SRC configuration is predefined in the wizard definition file. However, you must enter the values for parameters specific to your environment in the following steps. Navigate through the dialog boxes by pressing the Tab key and the Space bar.

2. Enter the values for the SRC host parameters dialog box. [Figure 3 on page 20](#) shows a sample dialog box for these parameters.

Figure 3: SRC Host Parameters Dialog Box

-----+ SRC host parameters +-----

This step collect SRC host parameters that will be used in configuration. The parameters are SRC host names, IP addresses and domain names.

src-host-name my-src  
 src-host-ip 10.227.2.101  
 src-host-domain-name my-src-domain

Back Next Cancel

3. Press Tab to highlight Next and press the Space bar to navigate to the next screen.
4. Enter the values for the VTA database host and database parameters dialog box.  
[Figure 4 on page 20](#) shows a sample dialog box for these parameters.

Figure 4: SRC VTA Database Parameters Dialog Box

-----+ VTA database host and database parameters +-----

This step collect VTA database host and database parameters that will be used in configuration. The parameters are VTA database host IP addresses, database connection user name and password.

vta-database-ip 10.227.2.13  
 vta-database-user bla  
 vta-database-pass foo

Back Next Cancel

5. Enter the values for the Router host parameters dialog box. [Figure 5 on page 20](#) shows a sample dialog box for these parameters.

Figure 5: Router Host Parameters Dialog Box

-----+ Router host parameters +-----

This step collect router host parameters that will be used in configuration. The parameters are router host names, IP addresses and domain names.

mx-router-name my-mx  
 mx-router-ip 10.225.2.100  
 mx-router-domain-name my-mx-domain

Back Next Cancel

6. Press Tab to highlight Finish and then press the Space bar to select it. The wizard displays a list of corresponding SRC CLI set commands reflecting the values you entered. Review the corresponding SRC CLI set commands. If you want to make changes, use Back until you reach the dialog box you want to change.
7. After you complete the configuration, select Commit from the set commands dialog box. The wizard responds with:

```
user@host# configuration-wizard wizard-name fair-usage-mx.wiz.xml
Please wait, it may take some minutes ...
Committed
```

```
[edit]
user@host#
```

- Related Documentation**
- [Fair Usage on MX Series Routers Configuration Wizard Overview on page 5](#)
  - [Configuration Overview of the Fair Usage on MX Series Routers Configuration Wizard on page 6](#)

---

## Running a Configuration Wizard (SRC CLI)

---

To run a configuration wizard:

- From configuration mode, access the configuration statement that runs the configuration wizard.

```
user@host# configuration-wizard wizard-name wizard-name
```

Where:

- *wizard-name*—Specifies the name of the wizard you want to run.

- Related Documentation**
- [SRC Configuration Wizards Overview on page 3](#)



## PART 3

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