Chapter 24

Scheduling Services with the C-Web Interface

This chapter describes how to create and manage schedules for services with the C-Web interface. You can also use the following to schedule services:

- To use the SRC CLI, see *SRC-PE Services and Policies Guide, Chapter 4, Scheduling Services with the SRC CLI*.

- To use the Solaris platform, see *SRC-PE Services and Policies Guide, Chapter 5, Scheduling Services on a Solaris Platform*.

Topics in this chapter include:

Setting the Action Threshold and Preparation Time with the C-Web Interface

You can set the action threshold and preparation time for all schedules; you cannot set these values for individual schedules.

To set the action threshold and preparation time for an SAE:

1. Click **Configure**, expand **Shared > SAE > Configuration**, and click **Time Based Policies**.

    The Time Based Policies pane appears.

2. Click the **Create** button.

3. Enter the information as described in the Help text in the main pane, and click **Apply**.

Authorizing Scheduled Services with the C-Web Interface

You can configure an authorization plug-in to authorize a scheduled service by specifying the name of the plug-in that authorizes the schedule in the service definition. You can configure an authorization plug-in for a service in the global configuration and in the service scope.

Defining an Authorization Plug-In for a Scheduled Service in the Global Configuration with the C-Web Interface

To define an authorization plug-in for a scheduled service in the global configuration:

1. Click **Configure**, and expand **Services > Global**.

    The Global pane appears.

2. Click the specified **Service**.

    The Service: *<name>* pane appears.

3. In the Authorization Plug In box, select the name of the authorization plug-in that will authorize the schedule for this service. For example, select **scheduleAuth** in the Suggested values box, and click the right arrow to move it to the Selected values box.

4. Click **Apply**.

Defining an Authorization Plug-In for a Scheduled Service in the Service Scope with the C-Web Interface

To define an authorization plug-in for a scheduled service in the service scope:

1. Click **Configure**, and expand **Services** and the specified scope.

2. Click the specified service.

   The Service: *< name >* pane appears.

3. In the Authorization Plug In box, select the name of the authorization plug-in that will authorize the schedule for this service. For example, select **scheduleAuth** in the Suggested values box, and click the right arrow to move it to the Selected values box.

4. Click **Apply**.

Related Topics

- *Adding a Service Schedule with the C-Web Interface* on page 249

Adding a Service Schedule with the C-Web Interface

You can create a service schedule for the following objects:

- Scopes

- Services

- Retailers

- Enterprises

- Subscribers in an enterprise

> **NOTE:** If you change or remove the name of a service that is referenced by a schedule, the SRC software treats this case like one in which no subscribers have a subscription to this service. In both cases, the action for the service is not taken. The software does not regard either case as an error in the schedule; a failure is not reported.

Adding a Service Schedule for Scopes with the C-Web Interface

To add a service schedule for scopes:

1. Click **Configure**, expand **Services**, and click the specified scope.

   The Scope: *< name >* pane appears.

2. From the Create new list, select **Schedule**.

3. In the dialog box, enter a name for the new Schedule, and click **OK**.

    The Schedule: < *name* > pane appears.

4. In the Description box, type a unique name for the service schedule, and click **Apply**.

5. A number of schedule events, or rules, constitute each service schedule. To create schedule events for the service schedule:

    a. From the Create new list, select **Event**.

    b. In the dialog box, type a name for the new Event, and click **OK**.

    An event consists of the schedule time, any excluded times, and a list of actions.

    ■   To specify the time schedule, see *Setting the Time Schedule with the C-Web Interface* on page 253.

    ■   To specify the actions, see *Setting the Action with the C-Web Interface* on page 255.

Adding a Service Schedule for Services with the C-Web Interface

To add a service schedule for services:

1. Click **Configure**, expand **Services**, and click **Global**.

    The Global pane appears.

2. From the Create new list, select **Schedule**.

3. In the dialog box, enter a name for the new Schedule, and click **OK**.

    The Schedule: < *name* > pane appears.

4. In the Description box, type a name for the service schedule, and click **Apply**.

5. A number of schedule events, or rules, constitute each service schedule. To create schedule events for the service schedule:

    a. From the Create new list, select **Event**.

    b. In the dialog box, type a name for the new Event, and click **OK**.

    An event consists of the schedule time, any excluded times, and a list of actions.

    ■   To specify the time schedule, see *Setting the Time Schedule with the C-Web Interface* on page 253.

    ■   To specify the actions, see *Setting the Action with the C-Web Interface* on page 255.

Adding a Service Schedule for Retailers with the C-Web Interface

To add a service schedule for retailers:

1. Click **Configure**, expand **Subscribers**, and click a specified retailer.

    The Retailer: <*name*> pane appears.

2. From the Create new list, select **Schedule**.

3. In the dialog box, enter a name for the new Schedule, and click **OK**.

    The Schedule: <*name*> pane appears.

4. In the Description box, type a name for the service schedule, and click **Apply**.

5. A number of schedule events, or rules, constitute each service schedule. To create schedule events for the service schedule:

    a. From the Create new list, select **Event**.

    b. In the dialog box, type a name for the new Event, and click **OK**.

    An event consists of the schedule time, any excluded times, and a list of actions.

    ■   To specify the time schedule, see *Setting the Time Schedule with the C-Web Interface* on page 253.

    ■   To specify the actions, see *Setting the Action with the C-Web Interface* on page 255.

Adding a Service Schedule for Enterprises with the C-Web Interface

To add a service schedule for enterprises:

1. Click **Configure**, and expand **Subscribers.**

2. Navigate to the enterprise for which you want to configure a schedule. For example, expand the following specified folders:
    retailer > subscriber folder > enterprise > schedule.

    The Schedule: <*name*> pane appears.

3. From the Create new list, select **Schedule**.

4. In the dialog box, enter a name for the new Schedule, and click **OK**.

    The Schedule: <*name*> pane appears.

5. In the Description box, type a name for the service schedule, and click **Apply**.

6. A number of schedule events, or rules, constitute each service schedule. To create schedule events for the service schedule:

   a. From the Create new list, select **Event**.

   b. In the dialog box, type a name for the new Event, and click **OK**.

   An event consists of the schedule time, any excluded times, and a list of actions.

   ◾ To specify the time schedule, see *Setting the Time Schedule with the C-Web Interface* on page 253.

   ◾ To specify the actions, see *Setting the Action with the C-Web Interface* on page 255.

Adding a Service Schedule for Subscribers in an Enterprise with the C-Web Interface

To add a service schedule for subscribers in an enterprise:

1. Click **Configure**, and expand **Subscribers.**

2. Navigate to the schedule configuration for the specified schedule. For example, expand the following specified folders:
   retailer > subscriber folder > subscriber > schedule.

   The Schedule: <*name*> pane appears.

3. From the Create new list, select **Schedule**.

4. In the dialog box, enter a name for the new Schedule, and click **OK**.

   The Schedule: <*name*> pane appears.

5. In the Description box, type a description for the service schedule, and click **Apply**.

6. A number of schedule events, or rules, constitute each service schedule. To create schedule events for the service schedule:

   a. From the Create new list, select **Event**.

   b. In the dialog box, type a name for the new Event, and click **OK**.

   An event consists of the schedule time, any excluded times, and a list of actions.

   ◾ To specify the time schedule, see *Setting the Time Schedule with the C-Web Interface* on page 253.

   ◾ To specify the actions, see *Setting the Action with the C-Web Interface* on page 255.

Setting the Time Schedule with the C-Web Interface

Before you configure the time schedule, create the schedule. See *Adding a Service Schedule for Scopes with the C-Web Interface* on page 249.

When you set up a time schedule for an event, you specify:

- For event schedules—Time at which an action is to occur; the from date and time information

- For schedules for services that have authorization configured—Beginning and end of the interval; the to date and time information

- For exclusions—Times to be excluded from that schedule

To configure the time schedule:

1. Click **Configure**, and navigate to the specified service schedule.

2. From the Create new list, select **Except** (to set an exclusion).

3. In the dialog box, type a name for the new Except. The specified name is not stored as an identifier, so the arbitrary value can be as simple as a number.

4. Click **From** in the side pane.

   The From pane appears.

5. Click the **Create** button.

   The From pane reappears. This pane allows you to specify the effective period in which to schedule the event. This period is the interval after the associated from or to time during which the scheduled action can be initiated by a subscriber who is logging in to a subscriber session.

6. Enter the information as described in the Help text in the main pane, and click **Apply**. Use the guidelines in *Guidelines for Entering Time Values* on page 254.

7. Click **To** in the side pane.

   The To pane appears.

8. Click the **Create** button.

   The To pane reappears. This pane allows you to specify the effective period in which to schedule the event. This period is the interval after the associated from or to time during which the scheduled action can be initiated by a subscriber who is logging in to a subscriber session.

9. Enter the information as described in the Help text in the main pane, and click **Apply**. Use the guidelines in *Guidelines for Entering Time Values* on page 254.

Guidelines for Entering Time Values

When you enter time schedules, you can use the values in the following list. See *Setting the Time Schedule with the C-Web Interface* on page 253 for a description of the options.

> **NOTE:** Dates in the to statements apply only to services that have an authorization plug-in configured. If an authorization plug-in is not configured for the service associated with the schedule, the events in the to statements are ignored. For more information, see *Authorizing Scheduled Services with the C-Web Interface* on page 248.

- *—Asterisks are interpreted as follows:

  - Minutes and hours:

    - 0 if used in the **from** or **to** statements of a scheduled event

    - First or last if used in the statements of a schedule exclusion

  - Time zones—Local SAE time zone

  - All other options—First through last

  - For options in the **to** statements, * for the end time is equivalent to "deny service activation after this start date."

  - For dates in the **from** statements, * is equivalent to "deny service activation before this end date."

- Range of numbers separated by a hyphen. The range is inclusive; for example, 1-5 for the hour specifies hours 1, 2, 3, 4, and 5.

- List of numbers or ranges separated by commas. For example, 1,2,5,9 or 0-4,8-12.

- Skip values in ranges:

  - To skip a number's value through the range, follow a range with /<number>. For example, 0-23/2 used in the **hour** option specifies that the event occurs every other hour.

  - Skip values with *. If you want to specify every two hours, use */2.

> **NOTE:** If you set both a day of the month and a day of the week, the day of the month is used.

Setting the Action with the C-Web Interface

Before you configure the time schedule, create the schedule. See Adding a Service Schedule for Scopes with the C-Web Interface on page 249.

To configure the actions for the service schedule:

1. Click **Configure**, and navigate to the specified service schedule.

2. Click **Event** in the side pane.

    The Event: < *name* > pane appears.

3. From the Create new list:

    a. Select **Action**.

    b. In the dialog box, type a name for the new Action, and click **OK**. The specified name is not stored as an identifier, so the arbitrary value can be as simple as a number.

        The Action: < *name* > pane appears.

4. Enter the information as described in the Help text in the main pane, and click **Apply**.

    ■   The Type values (deny and deny-deactivate) apply only to services that have an authorization plug-in configured. For more information, see *Authorizing Scheduled Services with the C-Web Interface* on page 248.

    ■   For more information about the Substitution box, see the activateService method of the SAE external interface in the SAE CORBA remote API documentation in the SRC software distribution in the folder *SDK/doc/idl* or on the Juniper Networks Web site at

        http://www.juniper.net/techpubs/software/management/sdx/api-index.html

Related Topics

■   *Example: Configuring Different Service Tiers for Different Days with the C-Web Interface* on page 256

■   *SRC-PE Services and Policies Guide, Chapter 14, Defining and Acquiring Values for Parameters*

Defining Attributes for Service Activation with the C-Web Interface

To define the attributes for service activation:

1. Click **Configure** and access the service schedule for the objects for which you can create a service schedule. The following example provides steps for defining attributes for service activation for a subscriber action.

2. Expand **Subscribers** and expand the following specified folders:
   retailer > subscriber folder > subscriber > schedule > event > action.

3. Click **Attribute**.

   The Attribute pane appears.

4. From the Create new list, select the attribute to set before the service is activated.

   The Attribute *<name>* pane appears.

5. In the dialog box, type a value as described in the Help text in the main pane, and click **Apply**.

Subscription attributes apply only to service activations.

For more information about subscription attributes, see the *Subscription.html* file in the SAE core portal API documentation in the *SDK/doc/sae/net/juniper/smgt/sae/portal* directory in the SRC software distribution or on the Juniper Networks Web site at

> http://www.juniper.net/techpubs/software/management/sdx/api-index.html

Example: Configuring Different Service Tiers for Different Days with the C-Web Interface

This example shows how to configure a schedule for an audio service to provide:

- Gold level of service on weekends

- Bronze level of service on weekdays

The sample schedule:

- Uses the Audio-Gold and Audio-Bronze services in the sample data.

- Activates the Audio-Gold service and denies the Audio-Bronze service on Saturday.

- Activates the Audio-Bronze service and denies and deactivates the Audio-Gold service on Monday.

- Does not have a preparation time configured for the SAE.

For demonstration purposes, the sample schedule is configured in the global configuration to make the service schedule available to all subscribers to the two audio services. It is assumed that subscribers are continuously logged in to the system to access the audio services.

To configure a schedule to make the Audio-Gold service available on Saturday and Sunday and the Audio-Bronze service available for the rest of the week:

1. Enter a unique name for the service schedule (for example, audioSchedule):

   a. Click **Configure,** expand **Services**, and Click **Global**.

      The Global pane appears.

   b. From the Create new list, select **Schedule**.

   c. In the dialog box, type **audioSchedule** as the name of the new Schedule, and click **OK**.

      The Schedule: audioSchedule pane appears.

   d. In the Description box, type a description of the service schedule, and click **Apply**.

2. Enter a name for the schedule event (for example, audioTime1):

   a. From the Create new list, select **Event**.

   b. In the dialog box, type **audioTime1** as the name of the new Event, and click **OK**.

   c. From the Create new list, select **Action**.

   d. In the dialog box, type **action-1**, and click **OK**.

      The Action: action-1 pane appears.

      ■ From the Service list, select **Audio-Gold**.

      ■ From the Type list, select **activate**, and click **Apply**.

   e. In the side pane, click **From** under the **Event: audioTime1** folder.

      The From pane appears.

   f. Click the **Create** button.

      The From pane reappears.

3. For the time, specify the day of the week as Saturday, and for the actions, specify activate for the Audio-Gold Service and deny-deactivate for the Audio-Bronze service:

   a. In the Day Of Week box, type **6** (specifying Saturday), and click **Apply**.

   b. In the side pane, click **Event: audioTime1**.

      The Event: audioTime1 pane appears.

   c. From the Create new list, select **Action**.

   d. In the dialog box, type **action-2**, and click **OK**.

      The Action: action-2 pane appears.

      ■ From the Service list, select **Audio-Bronze**.

      ■ From the Type list, select **deny-deactivate**, and click **Apply**.

4. Enter a name for the schedule event (for example, audioTime2):

   a. In the side pane, click **Schedule: audioSchedule**.

      The Schedule: audioSchedule pane appears.

   b. From the Create new list, select **Event**.

   c. In the dialog box, type **audioTime2** as the name of the new Event, and click **OK**.

   d. From the Create new list, select **Action**.

   e. In the dialog box, type **action-1**, and click **OK**.

      The Action: action-1 pane appears.

      ■ From the Service list, select **Audio-Bronze**.

      ■ From the Type list, select **activate**, and click **Apply**.

   f. In the side pane, click **From** under the **Event: audioTime2** folder.

      The From pane appears.

   g. Click the **Create** button.

      The From pane reappears.

5. For the time, specify the day of the week as Monday, and for the actions, specify activate for the Audio-Bronze service and deny-deactivate for the Audio-Gold service:

    a. In the Day Of Week box, type **1** (specifying Monday), and click **Apply**.

    b. In the side pane, click **Event: audioTime2**.

        The Event: audioTime2 pane appears.

    c. From the Create new list, select **Action**.

    d. In the dialog box, type **action-2**, and click **OK**.

        The Action: action-2 pane appears.

        ❑   From the Service list, select **Audio-Gold**.

        ❑   From the Type list, select **deny-deactivate**, and click **Apply**.

Example: Configuring a Service to Be Active During Nonwork Hours with the C-Web Interface

This example shows how to configure a schedule for the Internet-Gold service in the sample data to be active:

■   Monday–Friday outside the 8:30 AM to 4:30 PM work day

■   January 1 of the following year—All day

The sample schedule:

■   Deactivates the Internet-Gold service from 8:30 AM through 4:29 PM.

■   Activates the service at 4:30 PM.

■   Does not have a preparation time configured for the SAE.

This configuration avoids schedule overlap.

For demonstration purposes, the sample schedule is configured in the global configuration to make the service schedule available to all subscribers to the Internet-Gold service.

To configure a schedule to make a service available outside work hours and on January 1:

1. Specify the default schedule authorization plug-in for the Internet-Gold service:

   a. Click **Configure**, expand **Services > Global**, and click **Service: Internet-Gold**.

      The Service: Internet-Gold pane appears.

   b. In the Authorization Plug In box:

      ■ Type **scheduleAuth** in the Optionally, add a new value box, and click **Add.**

         ScheduleAuth displays in the Selected values box.

      ■ In the Selected values box, select **scheduleAuth** and click **Apply**.

2. Enter a unique name for the service schedule (for example, afterHours):

   a. Click **Global**.

      The Global pane appears.

   b. From the Create new box, select **Schedule.**

   c. In the dialog box, type **afterHours** as the name of the new Schedule, and click **OK**.

      The Schedule: afterHours pane appears.

   d. In the Description box, enter a description for the schedule, and click **Apply**.

3. Enter a name for the schedule event (for example, goldTime):

   a. From the Create new list, select **Event**.

   b. In the dialog box, type **goldTime** as the name of the new Event, and click **OK**.

4. For the time, specify the day of the week as Monday through Friday, and the schedule starting at 8:30 AM and ending at 4:29 PM (16:29) each day:

   a. In the side pane, expand **Event: goldTime**, and click **From**.

      The From pane appears.

   b. Click the **Create** button, and enter these values in the following boxes:

      ■ Day Of Week: 1

      ■ Hour: 8

      ■ Minute: 30

   c. Click **Apply**.

   d. In the side pane, click **To** under the **Event: goldTime** folder.

      The To pane appears.

   e. Click the **Create** button, and enter these values in the following boxes:

      ■ Day Of Week: 5

      ■ Hour: 16

      ■ Minute: 29

   f. Click **Apply**.

5. Enter a name for the exclusion (for example, exclude-1), and specify a one-time exclusion for January 1:

   a. In the side pane, click **Event: goldTime**.

   b. From the Create new box, select **Except**.

   c. In the dialog box, type **exclude-1**

   d. In the side pane, click **From** under the **Except: exclude-1** folder.

      The From pane appears.

   e. Enter these values in the following boxes:

      ■ Day of Month: 1

      ■ Month: 1

      By excluding January 1 from the schedule, the Internet-Gold service is active all day.

   f. Click **Apply**.

6. Enter a name for the action (for example, action-1), and specify deny-deactivate for the Internet-Gold service:

    a. In the side pane, click **Event: goldTime**.

    The Event: goldTime pane appears.

    b. From the Create new list, select **Action**.

    c. In the dialog box, type **action-1** as the name of the new Action, and click **OK**.

    The Action: action-1 pane appears.

    ■ In the Service list, select **Internet-Gold**.

    ■ In the Type list, select **deny-deactivate**, and click **Apply**.

7. Enter a name for the schedule event (for example, goldTime2):

    a. In the side pane, click **Schedule: afterHours**.

    The Schedule: afterHours pane appears.

    b. In the Create new list, select **Event**.

    c. In the dialog box, type **goldTime2**, and click **OK**.

8. Specify the time schedule as 4:30 PM (that is, 16:30):

    a. In the side pane, expand **Event: goldTime2**, and click **From**.

    The From pane appears.

    b. Click the **Create** button.

    The From pane reappears.

    c. Enter these values in the following boxes:

    ■ Hour: 16

    ■ Minute: 30

    d. Click **Apply**.

9. Enter a name for the exclusion (for example, exclude-2), and specify a one-time exclusion for January 1:

    a. In the side pane, click **Event: goldTime2**.

    b. From the Create new box, select **Except**.

    c. In the dialog box, type **exclude-2**, and click **OK**.

    d. In the side pane, click **From** under the **Except: exclude-2** folder.

       The From pane appears.

    e. Enter these values in the following boxes:

       ■ Set Month: 1

       ■ Set Day-Of-Month: 1

       By excluding January 1 from the schedule, the Internet-Gold service is active all day.

    f. Click **Apply**.

10. Enter a name for the action (for example, action-2), and specify activate for the Internet-Gold service:

    a. In the side pane, click **Event: goldTime2**.

       The Event: goldTime pane appears.

    b. From the Create new list, select **Action**.

    c. In the dialog box, type **action-2** as the name of the new Action, and click **OK**.

       The Action: action-2 pane appears.

       ■ In the Service list, select **Internet-Gold**.

       ■ In the Type list, select **activate**, and click **Apply**.

Example: Configuring a Service to Be Available for a Specified Interval with the C-Web Interface

You can use an effective period for a schedule to make a service available to subscribers who log in during a specified time period. The following example shows how to configure a schedule to make a service available from 8 AM until 4 PM.

To make a specified service available from 8 AM until 4 PM:

1. Enter a unique name for the service schedule (for example, effectiveHours):

   a. Click **Configure**, expand **Services**, and click **Global**.

      The Global pane appears.

   b. From the Create new list, select **Schedule**.

   c. In the dialog box, type **effectiveHours**, and click **OK**.

      The Schedule: effectiveHours pane appears.

   d. In the Description box, enter a description for the schedule, and click **Apply**.

2. Enter a name for the schedule event (for example, availableTime):

   a. From the Create new list, select **Event**.

   b. In the dialog box, type **availableTime** as the name of the new Event, and click **OK**.

3. For the time, specify when the service is first available — 8:00 AM — and for how long the service is to be available — 480 minutes:

   a. In the side pane, expand **Event: availableTime**, and click **From**.

      The From pane appears.

   b. Click the **Create** button and enter these values in the following boxes:

      ■ Hour: 8

      ■ Effective: 480

   c. Click **Apply**.

4. Enter a name for the action (for example, action-1), and specify activate for the Internet-Gold service:

    a. In the side pane, click **Event: availableTime**.

        The Event: availableTime pane appears.

    b. From the Create new list, select **Action**.

    c. In the dialog box, type **action-1** as the name of the new Action, and click **OK**.

        The Action: action-1 pane appears.

        ■   In the Service list, select **Internet-Gold**.

        ■   In the Type list, select **activate**, and click **Apply**.