Changing System Defaults in the Registry

The Prime Network registry contains the configuration settings for all Prime Network components and features. The following topics provide an introduction to the Prime Network registry and common settings you may want to change:

How the Global Registry Is Organized

The Prime Network registry is a collection of xml files (called hives) that comprise and control the Prime Network system configuration. The registry contains almost all definitions and configurations used by Prime Network. A copy of the registry is located on the gateway server and unit s under *NETWORKHOME*/Main/registry.

Registry files are made up of *key names* and *entry names*. This fragment is from pollinggroups.xml, which controls the settings for the polling groups displayed when you choose **Global Settings > Polling Groups**.

```
<key name="pollinggroups">
      <key name="default">
          <key name="configuration">
                <entry name="interval">900000</entry>
          </key>
      </key>
</key>
```

In this example, the **configuration** polling **interval** for the polling group named **default** is set to **900000** milliseconds. The registry key *path* for the interval is:

pollinggroups/default/configuration/interval

The registry files on the gateway server and units are replicas of the *Golden Source registry*. The Golden Source registry is the master registry that is responsible for maintaining, distributing, and updating registry configuration files to all units and the gateway server. The Golden Source registry is centrally located on the gateway server. Whenever a unit or gateway restarts, it accesses the Golden Source registry to retrieve any updates to the configuration. If a unit cannot connect to the gateway, it uses its local copy of the registry files.

The master copy of the Golden Source files is centrally located on the gateway server at:

NETWORKHOME/Main/registry/ConfigurationFiles

When Prime Network is installed, the following subfolders are created. Each subfolder contains the relevant registry .xml files.

Subdirectory	Description
/0.0.0.0	Template directory, which is used by the system. This directory on the gateway server is the Golden Source registry.
/127.0.0.1	Gateway directory
/unit-IP-address	Unit directory (one for each unit)

All Golden Source subdirectories contain a file called **site.xml** which contains any registry settings that have been changed. When the system restarts, the site.xml settings are copied to (and override) all other Golden Source directories. For this reason, it is important to make change to site.xml so that in case of restart, your changes are not overwritten by the system defaults. Every key and entry in the Golden Source can be overridden by an entry in site.xml.

The Golden Source mechanism enables consistent management of the entire system. Each unit and gateway has its own set of registry configuration files and parameters. The registry files are replicated automatically during the installation of the unit and gateway.

Each time a unit and gateway process starts, it accesses the Golden Source and retrieves the updated configuration. All additions and changes to the Golden Source are automatically sent to the relevant units servers. Each unit keeps a local copy of its relevant registry files. When a unit cannot connect to the gateway, the unit's local copy of the registry is used.

Changing Global Registry Settings Using the GUI (Registry Controller)

The Registry Controller, which runs on AVM 11, provides a GUI for adjusting the most frequently-changed registry settings. It is launched by choosing **Tools > Registry Controller** from the main menu in the Administration GUI client.

Blank Registry Controller fields indicates that no value exists in the registry.

When you click **Apply**, the Registry Controller validates your entries and, saves them to site.xml, overwriting any previous values. Changes are applied across the gateway or unit; you cannot use the Registry Controller to make changes to individual AVMs or VNEs.

In the unusual case that multiple users are using the Registry Controller at the same time, if a user changes a setting, Prime Network updates all Registry Controller windows to reflect the change.

Note   Do not click **Apply** unless you are absolutely sure of your changes. Once you apply your changes, you can no longer retrieve the previous settings by clicking **Restore**. Previous settings can only be retrieved if they have not been overwritten (which happens when you click **Apply**).

Table B-1 lists what you can change using the Registry Controller.

Table B-1   Settings You Can Change With the Registry Controller

Registry Controller Choice	Controls This Prime Network Behavior:	See:
User Accounts	Whether users can only view maps they create or maps that others have created.	Controlling Which Maps Users Can Access, page 7-24
	The user access role required to log into the Events GUI client (the default is Administrator).	Changing the Minimum User Access Role for the Events and Administration Clients, page 7-14
Links Display	Whether a link should be displayed on a map only when both link endpoints are in the user's device scope.	Displaying Links Based On Whether Endpoints Are In User's Scope, page 6-4
Database	Settings that control the archiving of cleared and uncleared tickets based on the total number of tickets.	Adjusting Ticket Auto-Archiving Based on Total Number of Tickets (Oracle Fault Database), page 8-9
	Settings that control the archiving of cleared and uncleared tickets based on the size of the tickets.	Adjusting Ticket Auto-Archiving Based on the Size of Tickets (Oracle Database), page 8-10
	Disables saving the following events to the Fault Database: • Events from unmanaged devices. • Events from VNEs that are down.	Configuring a Proxy Database Connection for Units Not Connected to Database, page 9-17
Image Management Settings	Settings that control the timeout period when Change and Configuration Management is copying software images to devices in the network.	Setting Up Change and Configuration Management, page 1-8
System Security	How to encrypt external Oracle database connections and which algorithms can be used for encryption.	Encrypting the External Oracle Database Schemas, page 11-5
VNE Reduced Polling	Settings that control whether reduced (event-based) polling should be the default polling method and if so, whether Prime Network should generate a notification when a device does not support reduced polling.	Changing the Default Reduced Polling Approach for a Single VNE or All VNEs, page 12-7
VNEs Adaptive Polling	The Telnet delimiter delay and terminal length used by the adaptive polling mechanism when a VNE is using slow polling.	Adjusting Adaptive Polling for Devices with Large Configurations (and Telnet Responses), page 12-17
VNE Communication Policies	The criteria that determines when a device is unreachable.	Changing Reachability Settings for VNEs, page 12-25

Table B-1   Settings You Can Change With the Registry Controller (continued)

Registry Controller Choice	Controls This Prime Network Behavior:	See:
VNE Device Protocol Reachability	The criteria that determines when individual device protocols (HTTP, ICMP, SNMP, Telnet, and XML) are unreachable.	Changing Reachability Settings for Individual Protocols', page 12-26
VNE Smart Polling	The interval that prevents overpolling when repeated queries are sent to a device.	Adjusting the Polling Protection Interval Between Repeated Device Queries (Smart Polling), page 12-23
VNE Staggering Mechanism	A mechanism that controls the rate at which VNEs initiate Telnet/SSH connections to prevent degraded performance on TACACS servers.	Improving TACACS Server Performance by Changing VNE Telnet/SSH Login Rates (Staggering VNEs), page 12-51

Changing Global Registry Settings Using the CLI (runRegTool)

> **Note** Changes to the registry should only be carried out with the support of Cisco. For details, contact your Cisco account representative.

To change registry settings that cannot be changed using the Registry Controller, use the **runRegTool.sh** script, which is located in *NETWORKHOME*/Main. You should run this command as *pnuser*, using the following command format:

runRegTool.sh -gs *hostname-IP command unit-IP key* [*value*]

The **runRegTool.sh** script takes the following options.

Argument/ Option	Description
-gs	Performs a registry command using the Golden Source.
hostname-IP	IP address of the gateway server or unit server where the golden source is located. In most cases the golden source is on the gateway server; you can use the gateway IP address or the address **127.0.0.1**.
command	The **runRegTool.sh** script registry command: • **set**—Sets a registry key named *key* to a new value • **setEncrypted**—Sets and encrypts the registry key named *key* to *value* • **unset**—Returns a registry key named *key* to its default value • **add**—Adds a new registry key named *key* with a value • **remove**—Deletes a registry key named *key* • **list**—Lists all registry keys under a given *key* • **get**—Retrieves the value of a registry key named *key*

Argument/ Option	Description
unit-IP	IP address of the destination to which the changes should be written, according to these guidelines:
	• Gateway server changes (*hostname-ip* is the gateway server):
	– Use *unit-IP* **127.0.0.1** for **get** commands.
	– Use *unit-IP* **127.0.0.1** for all commands on AVMs (reserved AVMs or user-created AVMs).
	– Use *unit-IP* **0.0.0.0** for all other command instances.
	• Unit server changes (for example, an AVM on a unit), *unit-IP* should be the unit IP address.
key	Registry entry name consisting of the XML file name, the key name(s), and entry.
	• For all user-created AVMs, use this format, where avm*xxx* is the AVM on which the VNE resides, and *vne-key* is the VNE name used by Prime Network. The **site/** prefix is not required for reserved AVMs.
	avm*xxx*/agents/da/*vne-key*/...
	• For all other registry keys, precede the key string with **site/** so that changes are made to (or values are checked against) the local site.xml file:
	site/*key*
value	The new value for the registry entry.

> **Note** Registry changes should be made to the site.xml file, except for changes being made to AVM XML files. Therefore, your command syntax should always include site as the first part of the key name (this is not required for get or list commands):

The following are some examples of how to use the **runRegTool.sh** script:

- This **get** command returns the current settings for all polling groups on the unit with the IP address *unit-IP*. It uses the **site/** prefix in case any changes have already been configured:

  ```
  # ./runRegTool.sh -gs hostname-IP get unit-IP site/pollinggroups
  ```

- This **set** command configures the LDP Neighbor Down event to *not* persist its alarm information. Note that **site** precedes the key so that change are made locally:

  ```
  # ./runRegTool.sh -gs gateway-IP set unit-IP
  "site/event-persistency-application/events/LDP neighbor loss/sub-types/LDP neighbor
  down/alarm-persistency" unpersist
  ```

- This **get** command returns the current adaptive polling settings for a VNE with the ID CRS1-local, that runs on AVM 521. Because the change is made to a user-created VNE, the key is not preceded with **site**.

  ```
  # ./runRegTool.sh -gs hostname-IP get unit-IP
  "avm521/agents/da/CRS1-local/dcs/type/com.sheer.metrocentral.coretech.common.dc.Man
  agedElement/adaptivePolling"
  ```