Prime Network Overview

The following topics introduce you to the Cisco Prime Network (Prime Network) customization products. These topics briefly explain what Prime Network is, and describe the Prime Network customization tools.

- What Is Prime Network?, page 1-1
- Prime Network Customization Components, page 1-2

What Is Prime Network?

Prime Network is a carrier-class network management platform, designed to serve as an active mediation layer between the operation and network layers. It provides a set of easy-to-use applications as well as well defined application programming interfaces (APIs) for Operations Support System (OSS), enabling carriers and service providers to efficiently respond to the constant market demand for new, reliable, and more sophisticated services, while hiding the complexity of large, multivendor, mixed-technology networks.

Prime Network provides solutions for diverse network environments and applications. It offers an integrated network and service autodiscovery for network modeling, intelligent fault analysis, and a highly flexible network configuration and activation engine. This enables fully correlated management of global scale networks supporting millions of subscribers and customers.

Prime Network is a network management solution that provides a fully integrated service-oriented solution offering:

- Multivendor, hybrid device support.
- Mixed technology (IP, Virtual Private Network [VPN], Multiprotocol Label Switching (MPLS), Ethernet, ATM, and Digital Subscriber Line [DSL]).
- Multifunction (network discovery, fault, activation, and configuration).
- Vertical integration with multiple OSS and Business Support Systems (BSS) applications.

Based on a patented, innovative architecture of distributed autonomous virtual network elements (VNEs), Prime Network enables integrated management for hybrid network environments while being scalable to support network growth and evolution. For details, see the Cisco Prime Network 3.8 Administrator Guide.
Prime Network Customization Components

Prime Network customization components provide the ability to monitor and make changes to network elements. These customization components include:

- Soft Properties Manager, page 1-2
- Prime Network Workflow, page 1-2
- Command Builder, page 1-3
- Prime Network Shell Interface, page 1-3
- Drools Rules, page 1-4
- Virtual Network Element Customization Builder (VCB), page 1-3
- External Launch Application, page 1-4
- Drools Rules, page 1-4

Soft Properties Manager

Using Soft Properties Manager, you can manage soft properties and Threshold Crossing Alarms (TCAs). Soft properties enable you to extend the set of supported properties for each network element (NE), by adding soft properties to the VNEs. These properties extend the Cisco Information Model Object (IMO) and are available through the client GUI as well as through the Broadband Query Language (BQL) API. Soft properties are retrieved from the NE using Simple Network Management Protocol (SNMP) or Telnet/Secure Shell Protocol (SSH). In addition, alarm thresholds enable you to constantly monitor selected properties and generate an alarm every time these properties cross a user-defined threshold or violate a condition.

These properties extend the Prime Network model. For more information, see:

- Chapter 2, “Introducing the Prime Network Soft Properties Manager”
- Chapter 3, “Working with the Soft Properties Manager”
- Chapter 4, “Soft Property Examples”
- Chapter 5, “Parsing Operators/Rules”
- Chapter 6, “Alarm Threshold Triggers”
- Chapter 7, “Regular Expressions for Soft Properties Manager”

Prime Network Workflow

Using Prime Network Workflow, you can create workflows of tasks, calling multiple activation scripts to perform configuration changes on multiple network elements. You can run activation scripts sequentially, in parallel, on demand, or at a scheduled time. You can view workflows with Prime Network Workflow, Prime Network Administration, and Prime Network Events. Workflows are stored on the gateway, where you can check workflow properties and status. It is intended for use by a system administrator.

Autonomy Workflow Studio can be customized to meet an individual customer’s specific needs. Autonomy Workflow Studio menus and toolbars are customized for use with Prime Network. For more information, see:

- Chapter 8, “Getting Started with Prime Network Workflow”
• Chapter 9, “Working with Prime Network Workflow”
• Chapter 10, “Managing Workflows”
• Chapter 11, “Customizing Prime Network Workflow”

Command Builder

Using Command Builder (a template-based configuration tool), you can create activation scripts to make physical and logical configuration changes on a network element. Command scripts enable users to execute a programmable sequence of SNMP or Telnet command lines. These scripts can include data properties taken from the Prime Network information model (built-in), as well as user-defined input parameters entered during runtime.

For more information about Command Builder and how to use it, see:
• Chapter 12, “Introducing Command Builder”
• Chapter 13, “Working with Command Builder”
• Chapter 14, “Prime Network Macro Language”
• Chapter 15, “Creating a Prime Network Macro Language Command: An Example”
• Chapter 16, “BeanShell Commands”

Prime Network Shell Interface

The Prime Network shell interface is the command-line interface (CLI) of the Prime Network Shell Manage system. The shell interface provides you with the following features:
• A subset of the system-supported commands so you can manage VNEs, surveillance, and provisioning.
• A flat command hierarchy with a limited number of modes and an unlimited number of nesting levels.
• The ability to export all commands supported by the system.

For more information on the Prime Network shell interface, the supported commands, output formats, and examples, see the Cisco Prime Network 3.8 Integration Developer Guide, available on the Prime Network Technology Center website.

Virtual Network Element Customization Builder (VCB)

The VCB is a tool that allows Prime Network admin users to add Prime Network support for additional NEs, modules, and events, thereby extending what is delivered in Prime Network software. For information, see:
• Chapter 17, “Introducing the VNE Customization Builder (VCB)”
• Chapter 18, “Enabling Support for Additional Device Types and Software Versions.”
• Chapter 19, “Enabling Support for Additional Modules”
• Chapter 20, “Managing Additional Event Types Using the VCB”
• Chapter 22, “VCB Template Reference”
External Launch Application

You can launch an external application from the managed network elements and its attributes from the Prime Network NetworkVision GUI. For more information, see:

- Chapter 23, “Adding External Launch Points.”
- Chapter 24, “Sample BQL Scripts to Launch External Applications.”

Drools Rules

The Drools Rules engine is a general-purpose expert-system generator that combines rule-based techniques and object-oriented programming. The Drools Rules engine enables you to extend the Prime Network alarm correlation mechanism with user-defined rules and business logic. For more information, see:

- Chapter 25, “Drools Rules Management.”
- Chapter 26, “Drools Rules Examples.”