Introduction

This chapter describes the Prime Central for HCS software. This software is intended for use in a Managed Service Provider (MSP) Network Operations Center (NOC). Prime Central for HCS provides a single-pane view of assurance data in the hosted environment and provides various summaries and reports. It acts as a bridge among customer-specific implementations of the following domain managers, in a virtualized environment:

- Cisco Prime Unified Operations Manager
- Cisco Unified Computing System Manager
- Cisco Data Center Network Manager (DCNM) - SAN
- Cisco Data Center Network Manager (DCNM) - LAN

Note DCNM is an optional component in Prime Central for HCS 9.2.1. If you are not using DCNM in your deployment, skip tasks and sections related to DCNM.

Prime Central for HCS aggregates data from multiple instances of these domain managers so that a user logging into Prime Central for HCS can view aggregated customer data in a single window.

Prime Central for HCS comprises of administration and dashboard portlets that enables you to aggregate data from each virtualized instance of Unified Operations Manager, vCenter via Infrastructure Monitoring, Unified Computing System Manager, Data Centre Network Manager-SAN, and Data Centre Network Manager-LAN.

As a service assurance management platform, Prime Central for HCS has following key capabilities:

- A scalable, extensible, and high-performance platform.
- Components deployable in virtualized fashion on UCS platform.
- A northbound web service interface.

Prime Central for HCS supports a service provider dashboard to view the events generated from domain managers.

This section contains the following topics:

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Figure 1-1 Dashboard Portlets

The following portlets can be launched from the dashboard:

- List of all events (Alarm Browser - All Events)
  - Includes all events detected by Prime Central for HCS from the underlying domain managers
  - Events are color coded, based on severity
  - Service events from Service Visualizer will be filtered out from this view
- Root Cause Events—Synthetic events that were determined to be root-cause of the failure.
- Service Events—Service-impact events describe the state of services; this is an event generated to notify the state of the top node in the service impact tree.
- List of Undetermined Events—Child events that are part of the correlation tree for which a clearing event has not arrived. Parent events of these child events are cleared since Resolution events were sent to clear them.
- Service Availability—Displays service model with tree listing customers, application clusters, and VMs discovered from SDR database. In the Service Tree view, each customer is color-coded based on the overall status of its services, such as voice, voicemail, and availability
- Infrastructure Monitoring—Used to view vCenter event details and performance monitoring data for management application such as vCenter server, Cisco Prime Unified Operations Manager, Cisco Unified Communications Domain Manager (CUCDM), Cisco Unified Intelligence Center (CUIC), and Cisco Unified Contact Center Management Portal (CCMP).
- Global Cross-Launch—This portlet lists the domain managers that you can cross-launch from Prime Central for HCS.

Terminology Used In Prime Central for HCS

The following list explains the terminology used in Prime Central for HCS:

- SDR—Shared Data Repository. SDR is a central repository in Prime Central for HCS Service Assurance to store common data used by multiple components of HCS. It maps the customers with the devices and it allows for a one-time configuration of common information that is shared by all the HCS components.
- Cisco Prime Unified Operations Manager—A product from the Cisco Unified Communications Management Suite. It provides a comprehensive and efficient solution for network management and allows you to monitor Cisco Unified Communications deployments.
- Infrastructure Monitoring—Infrastructure Monitoring provides centralized control and visibility at every level of virtual infrastructure by monitoring vCenter, Prime Unified Operations Manager, CCIE, CUCDM, and CCMP.
- Cisco Unified Computing System Manager—It provides unified, embedded management of all software and hardware components of the Cisco Unified Computing System, across multiple chassis and thousands of virtual machines.
- Cisco DCNM—Cisco Data Center Network Manager (DCNM) is a management solution that increases overall data center infrastructure uptime and reliability. This improves business continuity. Cisco DCNM has the following capabilities:
  - Automates the provisioning process
  - Proactively monitors the SAN and LAN by detecting performance degradation
  - Secures the network
  - Streamlines the diagnosis of dysfunctional network elements.

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Prime Central for HCS Service Assurance Architecture

Prime Central for HCS uses HTTP or HTTPS protocols for communication and supports VMware-based deployment.

Prime Central for HCS periodically interacts with SDR for HCS inventory-related data. It uses SDR to perform service impact analysis and root cause analysis.

When you cross-launch the domain managers, Prime Unified Operations Manager and DCNM-SAN, Prime Central for HCS Service Assurance uses single sign-on to cross launch these applications. It does this using the HTTPS connection. Prime Central for HCS Service Assurance does not support single sign-on for Infrastructure monitoring, UCS Manager, and DCNM-LAN. When you cross-launch to any of the domain managers, you must sign in by entering the username and password of the respective domain manager.

Prime Central for HCS Components

Prime Central for HCS comprises of the following components and they should be in the order mentioned below:

- Prime Central
- Event Collector
- Correlation Engine
- Service Visualizer
- Infrastructure Monitoring

Event Collector

Key Event Collector functions used in the HCS architecture include:

- List of active events (active problem events)
- Event classification
- Event persistence
- Event deduplication, flapping, and suppression
- Performing a part of the event correlation function
- Event enrichment
- Prime Central for HCS northbound interface: Forward normalized events as SNMP traps to northbound MSP systems
- Configuring the CUCDM's primary and secondary servers to send traps to the Event Collector

Correlation Engine

In the HCS reference architecture, the following are the key functions and interfaces for the Correlation Engine:

Correlation Engine server will be used to query external sources for additional data (SDR) necessary for event correlation and root-cause analysis (RCA). Data sources in HCS include SDR, which contains the relationships between HCS components necessary to correlate events and perform root cause analysis. The interface that is used is the direct database access to the SDR.

Service Visualizer

Service Visualizer monitors the Event Collector for incoming events. ServiceVisualizer accesses the SDR to create service models that respond to the data received in the incoming events. For example, the incoming event data can change the status of a service of a potential SLA violation.

Infrastructure Monitoring

Infrastructure Monitoring helps you to identify and resolve virtual server availability and performance issues. It includes the following:

- VMware VI agent—To connect with VMware vCenter server via secure API calls and collect the information regarding all the clusters/hosts/VM/datastores in the data center.
- Agentless monitoring for management and auxiliary applications—Poll management and auxiliary application servers using the SNMP agent running on these servers.