CHAPTER 1

Installation Overview

This chapter provides an overview of Prime Home, and describes Prime Home availability, deployment variants, licensing requirements, and installation components.

This chapter includes the following sections:

Product Overview

Prime Home is a network management solution that helps you to manage the devices available in the subscriber's home network. The managed devices connect to the Prime Home platform, which can provision, configure, and monitor the devices, and perform firmware upgrades. Prime Home also provides a parental control facility for subscribers to allow or block websites based on their usage. For Customer Service Representatives (CSRs), Prime Home provides a simulated view of the subscriber's network to help them monitor devices and perform troubleshooting operations.

Prime Home deployment varies based on the components available in your network infrastructure, and can be scaled to suit networks of virtually any size.

Prime Home is available as a hosted solution and an onsite solution.

Hosted Prime Home

The hosted Prime Home solution involves setting up Prime Home in a cloud environment, where users are given access to Prime Home. A dedicated server space is allocated to the user based on the license, and the license governs the number of users who can access Prime Home simultaneously. Service providers can ask Cisco to monitor the performance of Prime Home for their network setup, and provide maintenance support.

Onsite Prime Home

The onsite Prime Home solution involves setting up Prime Home in the service provider's network. The service provider manages all of Prime Home, including database setup and server space management. The number of users who can access Prime Home simultaneously depends on the license acquired by the service provider. The onsite Prime Home solution provides the flexibility to customize third-party components based on Prime Home usage.

Deployment Variants

The Prime Home platform can be deployed as the following variants:

- Multiple node—Multiple node deployment is recommended for medium-scale organizations with fewer than 500,000 devices. For multiple node deployment, the Prime Home platform and database are configured on separate servers.
- High Availability—High Availability deployment is recommended for large-scale organizations with more than 500,000 devices. For High Availability deployment, a load-balanced failover system is set up with replicated system components.

Licensing Requirements

The license determines the maximum number of Prime Home sessions allowed, and which Prime Home features are available. For more information on Prime Home licensing, see the *Cisco Prime Home 5.1 User Guide*.

Prime Home Components

Prime Home installation requires setting up the Automated Configuration Service (ACS) node. When the CPE boots up, it communicates with the ACS node to get the initial configuration. The ACS node facilitates provisioning and configuring the CPE based on the firmware rules defined in the applicable firmware version.

Note The term ACS used in this document means Automated Configuration Service as described in the Broadband Forum TR-069 specification.

Table 1-1 describes the network components involved in an onsite Prime Home solution.

Table 1-1 Prime Home Components

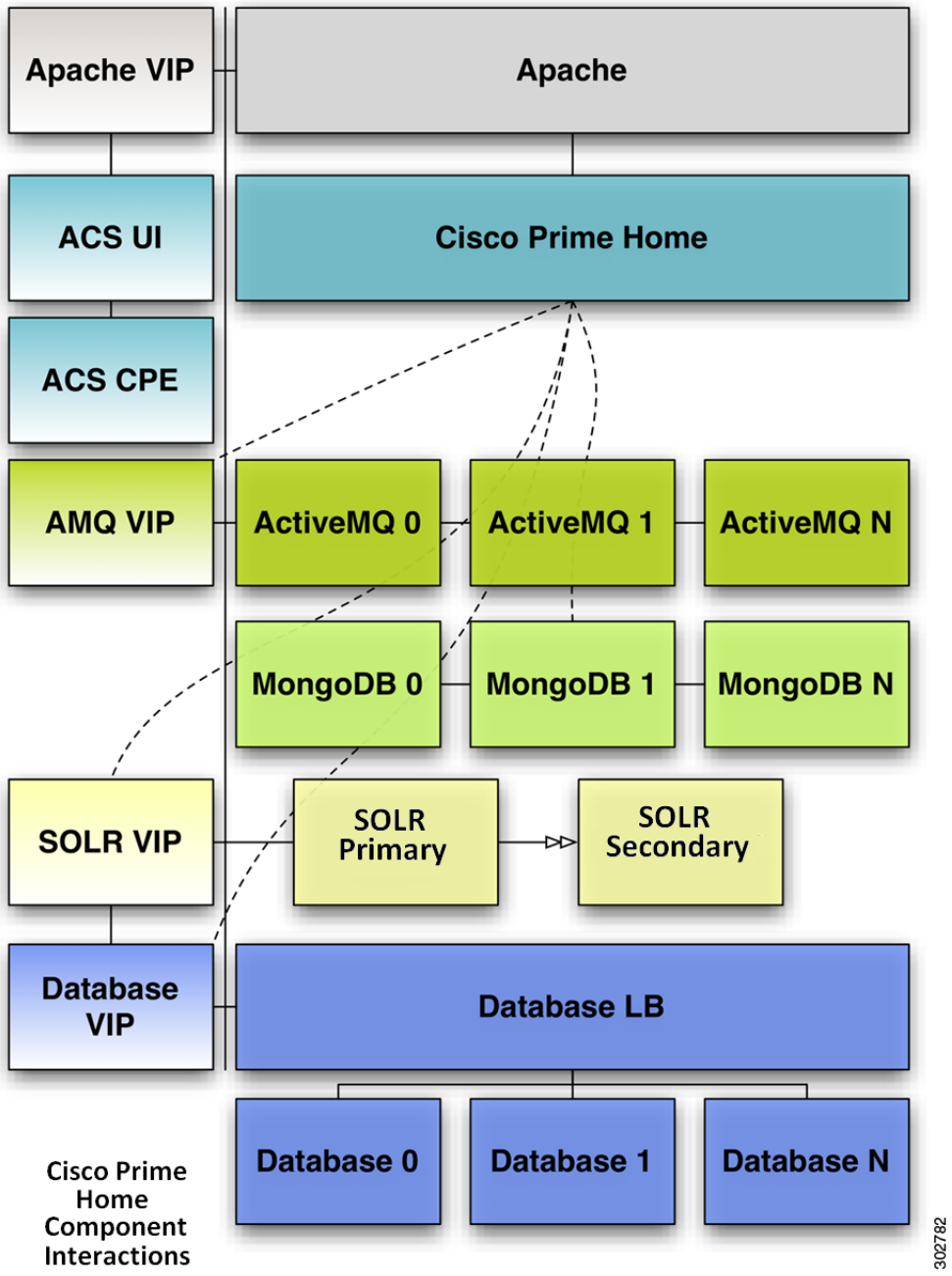
Component	Description
Fuse ActiveMQ	Open source messaging platform that facilitates sending Java messages and acts as a message queue for Prime Home. Multiple instances of Fuse ActiveMQ can be set for Prime Home to serve the ACS GUI. For more information on how to set up Fuse ActiveMQ, see Setting Up Fuse ActiveMQ, page 3-13.
Apache Solr	Document repository where you store database indexes. Solr allows you to run the Prime Home GUI with rapid access to all of the data. Instead of directly accessing the database, Solr accesses the index manager and retrieves the data in XML format. In High Availability setup, Solr must be configured in a primary-secondary environment to support Prime Home. For more information on how to set up Apache Solr, see Setting Up Apache Solr, page 3-11.

Table 1-1 Prime Home Components (continued)

Component	Description
(Optional) Session Traversal Utilities for NAT (STUN)	Allows a server to communicate with devices behind a firewall. STUN is needed only when you do not have a direct network route to the device. In a hosted Prime Home setup, the server is located in a Cisco data center and might not have direct access to your network. With onsite Prime Home, you can set up routing within your network. You can deploy Cisco Taze, which provides STUN functionality. For more information on how to set up Cisco Taze, see Setting up Cisco Taze, page 3-18.
Apache web server	Provides standard HTTP services and helps in setting up the Prime Home host in public, private, and secured mode. For more information on how to set up the Apache server, see Setting Up the Apache Web Server, page 3-6.
Apache Tomcat	Java container platform for Prime Home. Tomcat provides an open-source implementation of the Java servlet and Java server technologies. For more information on how to configure Apache Tomcat, see Setting Up the Apache Web Server, page 3-6.
ACS CPE	Facilitates configuring and provisioning the CPEs. The ACS CPE component also provides API service, which is used to discover data from CPEs for performance management. The ACS CPE component is used to apply a specific configuration on the CPE.
ACS UI	Enables CPEs to retrieve the initial configuration and firmware rules. When the CPE boots up and contacts the ACS UI, the CPE-responder component sends the initial configuration to the CPE. The ACS UI also provides a simulated view of the subscriber's network from the Prime Home GUI and the Control Panel for subscribers.
Cloudera Flume	Provides data transport between Prime Home and the data store. For more information on how to set up Cloudera Flume, see Setting Up Cloudera Flume, page 3-15.
MongoDB	Document storage solution for Prime Home. Prime Home supports configuring multiple instances of MongoDB for document storage. For more information on how to set up the MongoDB server, see Setting Up a MongoDB Server, page 3-9.

Figure 1-1 describes the interaction between the Prime Home components.

Figure 1-1 Interaction Between Prime Home Components



Network Infrastructure Setup

Prime Home deployment depends on the network infrastructure, and may vary based on the components available in the network.

The network infrastructure for installing Prime Home involves configuring the following components:

- RHEL 6.x on the ACS host, MySQL database server, and all the third-party component servers. For information on how to configure RHEL 6.x, see Configuring the RHEL Platform, page 3-1.

- Apache web server, Fuse ActiveMQ, Apache Solr, ACS core, Cloudera Flume, MongoDB, and Cisco Taze. For more information on how to set up these network components, see Chapter 3, "Preparing for Installation."
- MySQL database application on the database server, and creating the required database instance for Prime Home. For information on preparing the database, see Chapter 4, "Preparing the Database."