Avaya Aura™ System Platform Overview

Release 6.0
June 2010

Notices

While reasonable efforts have been made to ensure that the information in this document is complete and accurate at the time of printing, Avaya assumes no liability for any errors. Avaya reserves the right to make changes and corrections to the information in this document without the obligation to notify any person or organization of such changes.

Documentation disclaimer

Avaya shall not be responsible for any modifications, additions, or deletions to the original published version of this documentation unless such modifications, additions, or deletions were performed by Avaya. End User agree to indemnify and hold harmless Avaya, Avaya's agents, servants and employees against all claims, lawsuits, demands and judgments arising out of, or in connection with, subsequent modifications, additions or deletions to this documentation, to the extent made by End User.

Link disclaimer

Avaya is not responsible for the contents or reliability of any linked Web sites referenced within this site or documentation(s) provided by Avaya. Avaya is not responsible for the accuracy of any information, statement or content provided on these sites and does not necessarily endorse the products, services, or information described or offered within them. Avaya does not guarantee that these links will work all the time and has no control over the availability of the linked pages.

Warranty

Avaya provides a limited warranty on this product. Refer to your sales agreement to establish the terms of the limited warranty. In addition, Avaya's standard warranty language, as well as information regarding support for this product, while under warranty, is available to Avaya customers and other parties through the Avaya Support Web site: http://www.avaya.com/support. Please note that if you acquired the product from an authorized Avaya reseller outside of the United States and Canada, the warranty is provided to you by said Avaya reseller and not by Avaya.

Licenses

THE SOFTWARE LICENSE TERMS AVAILABLE ON THE AVAYA WEBSITE, HTTP://SUPPORT.AVAYA.COM/LICENSEINFO/ ARE APPLICABLE TO ANYONE WHO DOWNLOADS, USES AND/OR INSTALLS AVAYA SOFTWARE, PURCHASED FROM AVAYA INC., ANY AVAYA AFFILIATE, OR AN AUTHORIZED AVAYA RESELLER (AS APPLICABLE) UNDER A COMMERCIAL AGREEMENT WITH AVAYA OR AN AUTHORIZED AVAYA RESELLER. UNLESS OTHERWISE AGREED TO BY AVAYA IN WRITING, AVAYA DOES NOT EXTEND THIS LICENSE IF THE SOFTWARE WAS OBTAINED FROM ANYONE OTHER THAN AVAYA, AN AVAYA AFFILIATE OR AN AVAYA AUTHORIZED RESELLER, AND AVAYA RESERVES THE RIGHT TO TAKE LEGAL ACTION AGAINST YOU AND ANYONE ELSE USING OR SELLING THE SOFTWARE WITHOUT A LICENSE. BY INSTALLING, DOWNLOADING OR USING THE SOFTWARE, OR AUTHORIZING OTHERS TO DO SO, YOU, ON BEHALF OF YOURSELF AND THE ENTITY FOR WHOM YOU ARE INSTALLING, DOWNLOADING OR USING THE SOFTWARE (HEREINAFTER REFERRED TO INTERCHANGEABLY AS "YOU" AND "END USER"), AGREE TO THESE TERMS AND CONDITIONS AND CREATE A BINDING CONTRACT BETWEEN YOU AND AVAYA INC. OR THE APPLICABLE AVAYA AFFILIATE ("AVAYA").

Avaya grants End User a license within the scope of the license types described below. The applicable number of licenses and units of capacity for which the license is granted will be one (1), unless a different number of licenses or units of capacity is specified in the Documentation or other materials available to End User. "Designated Processor" means a single stand-alone computing device. "Server" means a Designated Processor that hosts a software application to be accessed by multiple users. "Software" means the computer programs in object code, originally licensed by Avaya and ultimately utilized by End User, whether as stand-alone products or pre-installed on Hardware. "Hardware" means the standard hardware originally sold by Avaya and ultimately utilized by End User.

License types

Designated System(s) License (DS). End User may install and use each copy of the Software on only one Designated Processor, unless a different number of Designated Processors is indicated in the Documentation or other materials available to End User. Avaya may require the Designated Processor(s) to be identified by type, serial number, feature key, location or other specific designation, or to be provided by End User to Avaya through electronic means established by Avaya specifically for this purpose.

Concurrent User License (CU). End User may install and use the Software on multiple Designated Processors or one or more Servers, so long as only the licensed number of Units are accessing and using the Software at any given time. A "Unit" means the unit on which Avaya, at its sole discretion, bases the pricing of its licenses and can be, without limitation, an agent, port or user, an e-mail or voice mail account in the name of a person or corporate function (e.g., webmaster or helpdesk), or a directory entry in the administrative database utilized by the Software that permits one user to interface with the Software. Units may be linked to a specific, identified Server.

Database License (DL). End User may install and use each copy of the Software on one Server or on multiple Servers provided that each of the Servers on which the Software is installed communicate with no more than a single instance of the same database.

CPU License (CP). End User may install and use each copy of the Software on a number of Servers up to the number indicated by Avaya provided that the performance capacity of the Server(s) does not exceed the performance capacity specified for the Software. End User may not re-install or operate the Software on Server(s) with a larger performance capacity without Avaya's prior consent and payment of an upgrade fee

Named User License (NU). End User may: (i) install and use the Software on a single Designated Processor or Server per authorized Named User (defined below); or (ii) install and use the Software on a Server so long as only authorized Named Users access and use the Software. "Named User," means a user or device that has been expressly authorized by Avaya to access and use the Software. At Avaya's sole discretion, a "Named User" may be, without limitation, designated by name, corporate function (e.g., webmaster or helpdesk), an e-mail or voice mail account in the name of a person or corporate function, or a directory entry in the administrative database utilized by the Software that permits one user to interface with the Software.

Shrinkwrap License (SR). With respect to Software that contains elements provided by third party suppliers, End User may install and use the Software in accordance with the terms and conditions of the applicable license agreements, such as "shrinkwrap" or "clickwrap" license accompanying or applicable to the Software ("Shrinkwrap License"). The text of the Shrinkwrap License will be available from Avaya upon End User's request (see "Third-party Components" for more information).

Copyright

Except where expressly stated otherwise, no use should be made of materials on this site, the Documentation(s) and Product(s) provided by Avaya. All content on this site, the documentation(s) and the product(s) provided by Avaya including the selection, arrangement and design of the content is owned either by Avaya or its licensors and is protected by copyright and other intellectual property laws including the sui generis rights relating to the protection of databases. You may not modify, copy, reproduce, republish, upload, post, transmit or distribute in any way any content, in whole or in part, including any code and software. Unauthorized reproduction, transmission, dissemination, storage, and or use without the express written consent of Avaya can be a criminal, as well as a civil, offense under the applicable law.

Third-party components

Certain software programs or portions thereof included in the Product may contain software distributed under third party agreements (“Third Party Components”), which may contain terms that expand or limit rights to use certain portions of the Product (“Third Party Terms”). Information regarding distributed Linux OS source code (for those Products that have distributed the Linux OS source code), and identifying the copyright holders of the Third Party Components and the Third Party Terms that apply to them is available on the Avaya Support Web site: http://www.avaya.com/support/Copyright/.

Preventing toll fraud

“Toll fraud” is the unauthorized use of your telecommunications system by an unauthorized party (for example, a person who is not a corporate employee, agent, subcontractor, or is not working on your company's behalf). Be aware that there can be a risk of toll fraud associated with your system and that, if toll fraud occurs, it can result in substantial additional charges for your telecommunications services.

Avaya fraud intervention

If you suspect that you are being victimized by toll fraud and you need technical assistance or support, call Technical Service Center Toll Fraud Intervention Hotline at +1-800-643-2353 for the United States and Canada. For additional support telephone numbers, see the Avaya Support Web site: http://www.avaya.com/support/. Suspected security vulnerabilities with Avaya products should be reported to Avaya by sending mail to: securityalerts@avaya.com.

Trademarks

Avaya Aura is a registered trademark of Avaya.

All non-Avaya trademarks are the property of their respective owners.

PuTTY is copyright 1997-2009 Simon Tatham.

Downloading documents

For the most current versions of documentation, see the Avaya Support Web site: http://www.avaya.com/support

Contact Avaya Support

Avaya provides a telephone number for you to use to report problems or to ask questions about your product. The support telephone number is 1-800-242-2121 in the United States. For additional support telephone numbers, see the Avaya Web site: http://www.avaya.com/support

Contents

Chapter 1: System Platform overview

Avaya Aura™ System Platform technology delivers simplified deployment of Unified Communications and Contact Center applications. This framework leverages virtualization technology, predefined templates, common installation, licensing, and support infrastructure.

The advantages of System Platform include:

- Ability to install predefined templates of one or more Avaya software applications on a server in a virtualized environment
- Simplified and faster installation of software applications and solutions
- Simplified licensing of applications and solutions
- Web Console with a common Avaya look and feel
- Remote access and alarming for Avaya Services and Avaya Partners
- High Availability Failover option for failover using active and standby servers
- Coordinated backup and restore
- Coordinated software upgrades

System Platform enables real-time communications solutions to perform effectively in a virtualized environment. System Platform effectively manages the allocation and sharing of server hardware resources, including the CPU, memory, disk storage, and network interfaces. To continue delivering the high reliability of real-time communications that Avaya customers expect, System Platform is being delivered solely through an *appliance* model, which includes an Avaya Server, System Platform, and the Avaya software applications.

Easy installation

Using solution templates on System Platform significantly reduces the installation time. During the installation, the installer program installs the predefined solution template, which takes less time then installing the applications individually. The installation process is simple and requires the staff to possess basic software installation skill. System Platform allows remote installation of product-specific templates.

Solution templates

A solution template is a set of one or more applications to be installed on System Platform. Installers must download these templates using the Product Licensing and Delivery System (PLDS) (http://plds.avaya.com). PLDS allows Avaya customers, Avaya Partners, and associates to manage software licensing and to download software for various Avaya products. You can verify and re-configure the template parameters, including network and server details. You can also reconfigure the template-specific parameters using the System Platform pre-

installation Web page. An installation wizard is embedded within the template that enables you to upload an existing Electronic Pre-installation Worksheet (EPW).

Note:

You must install System Platform before installing the solution template software on a single server.

Remote serviceability

System Platform can be serviced remotely, eliminating the need for a service technician to visit the customer site.

System Platform uses Secure Access Link (SAL), which is an Avaya serviceability solution for support and remote management. SAL provides remote access and alarm reception capabilities for Avaya and participating Avaya Partners.

SAL uses your existing Internet connectivity to facilitate remote support. All communication is outbound from your environment using encapsulated Hypertext Transfer Protocol Secure (HTTPS).

Avaya Partners without a SAL Concentrator must provide their own IP-based connectivity (for example, B2B VPN connection) to deliver remote services.

Important:

Avaya Partners and customers must ensure that SAL is always configured and registered with Avaya during installation. Avaya support will be delayed or not possible if SAL is improperly implemented or not operational. System Platform and SAL do not support modem connections.

High Availability Failover

All System Platform applications can have high availability through redundant hardware and software setup. The secondary node is constantly updated with any configuration changes. In the event of a failure of the primary server the secondary server restores all functionality to the system in a matter of minutes. See System Platform High Availability Failover Overview section in *Installing and Configuring Avaya Aura™ System Platform*.

Note:

This feature is available only for the solution templates supporting this feature.

Virtual machines

System Platform includes a base, which is the host, operating system, and a virtual machine - Console Domain (cdom) - that is used to manage the platform. A particular product or solution then provides a template (prebuilt and installed set of virtual appliances) that is installed on top of the platform. After template installation, the system looks similar to the diagram:

System Domain (Dom-0)

In addition to exporting virtualized instances of CPU, memory, network and block devices, the system exposes a control interface to manage how these resources are shared between the running domains. Access to the control interface is restricted to one specially-privileged virtual machine, known as domain 0 or System Domain.

Console Domain (cdom)

Console Domain is a virtual machine, which is a part of System Platform and has many platform elements, including the System Platform Web Console.

The Console Domain is capable of deploying and running the following plugins:

- Virtual Appliance (VA) plugins, which interact with virtual appliances for operations such as backing up and restoring data, providing sanity heartbeats, and getting version information
- Pre-installation plugins, which accept parameters that are configured by the user at the time of installation
- Post-installation plugins
- Backup plugin
- Restore plugin
- Patch plugins, which install or uninstall patches in the system

Networking in System Platform

System Platform uses software bridging to support networking for virtual machines. Software bridging works like a network switch inside the system. During installation, System Platform creates two software bridges: avpublic and avprivate.

The avpublic bridge is connected to a physical interface (eth 0) and is intended to be the default connection to your LAN. Most virtual machines have a virtual interface on the avpublic bridge to connect to your network. When connected to your network, these virtual machines can be reached by ping.

The avprivate bridge is not connected to any physical interface and is intended for communication among the virtual machines in a single server. The IP addresses used on avprivate cannot be reached from your network.

Some templates require additional connections to your network. In some cases, this results in System Platform creating another software bridge. This bridge contains the name specified by

the template, and this name is displayed during template installation or in the Network Configuration page.

If a virtual machine has high or real time traffic requirements it can be assigned a dedicated NIC in the template file. This means the virtual machine is assigned another physical NIC on the system (for example, Avaya Aura™ Media Services uses eth3) and does not use avpublic. See the respective template documentation for more information.

For using a dedicated NIC, you must have a separate cable connection to your network. Also make sure that both Ethernet interface (eth0) and the dedicated NIC are connected to the network before those machines can communicate through an IP in the same way that they would do when dealing with separate physical machines. For example, in Midsize Business Template, Console Domain is on the avpublic bridge and Media Services has a dedicated NIC (eth 3). So you must connect eth0 and eth3 to the network before attempting to ping the Media Services virtual machine from the Console Domain.

What's new in System Platform release 6.0

System Platform release 6.0 is built on its previous release and has the following new features:

Support to CentOS and Xen

System Platform has been upgraded to use CentOS 5.4 and Xen 3.4.2.

Upgrading template without touching unchanged virtual machines

System Platform can upgrade a template without upgrading the unchanged virtual machines. This results into efficient template upgrade.

Multiple virtual disks per virtual machine

System Platform offers multiple virtual disks per virtual machine along with the ability to mark a virtual disk as not to be touched during an upgrade. This translates into faster upgrades for the solution.

Support for IPv6

System Platform supports IPv6, the new standard for specifying an IP address.

Federal market-compliance and enhanced security

System Platform complies with the U.S. Department of Defense security norms. This makes the communications applications running on System Platform more secure as System Platform, among many things, disables unused IP addresses, enforces stricter login/password rules, and denies access to SMTP clients.

Controlling front panel LEDs

System Platform controls front panel LEDs as directed by the template. System Platform also maps its shutdown to the panel off switch button, which ensures graceful shutdown of System Platform and the server.

Bonded NIC support

System Platform offers bridging physical NICs with a virtual NIC. This means that applications get an abstract view of a NIC that is independent of the physical NICs

Performance monitoring tool

System Platform provides a performance monitoring tool to monitor performance statistics of a virtualized Xen platform. The tool provides a graphical user interface for retrieving configuration information and displaying and analyzing performance statistics. The statistics help in studying the performance impact of a group of virtual machines co-existing on System Platform and detecting performance bottlenecks.

Index