The Avaya Aura® Platform: Taking the Next Step

Is now the time to implement the latest Avaya Aura® capabilities on your network?

Introduction

There are so many factors reshaping enterprise networks today, from mobility and consumerization to video collaboration, network security, SIP-based applications and more.

What your enterprise does to adapt to these changes will have an impact far beyond your network. It’s ultimately going to factor into how competitive you are. And how agile. How effectively you can attract and retain the best talent. Maintain a consistent brand image across channels. Deliver customer service that is truly differentiating.

Since its introduction in 2009, the Avaya Aura® platform has been repeatedly singled out as a pacesetter in unified communications and collaboration (UC&C). That’s in no small part due to the fact that each new Avaya Aura release delivers the incremental capabilities that innovation demands.

A Closer Look at the Avaya Aura® Platform

For companies that are already using Avaya communications solutions—but have not enhanced or upgraded that initial investment—the changes in enterprise networks combined with the significant advances in the Avaya Aura® platform offer an opportunity:

Is now the time to take a closer look at the ways the Avaya Aura® solution can take your enterprise network to the next level? Is now the time to upgrade to the latest release?

Different enterprises will answer these questions in different ways. The goal of this white paper is to help you answer them for your enterprise.

Why Now Is the Time for Unified Communications

The growing demand for unified communications and collaboration (UC&C) solutions is a key part of the overall rebound in technology spending since the 2008-10 financial turndown.

According to the technology research firm IDG, UC&C solutions are “poised to become ubiquitous.” In a survey of over 1,000 IT and business professionals, IDG found 60% of them planning to implement or upgrade existing UC&C solutions within the next three years. Another analyst projects an 11.2% growth rate in enterprise investments in UC&C through 2016.

Mobility is a huge factor in the growth of UC&C: the growing presence of smartphones, tablets and other mobile devices in the enterprise took place despite the historically challenging economic environment.

But other factors are also playing a major role:

- **Business is virtual**: The four walls of the enterprise no longer come even close to defining it. Your employees, partners, suppliers and customers can be anywhere. How easy you make it to connect and collaborate increasingly defines who and what you are as a business.

- **Generational shift**: The exit of the Baby Boomers and the rise of the Millennials has led to a growing number of people who expect the latest mobile and social networking solutions.

- **Global competition**: New marketplace entrants in Asia and Latin America, unencumbered by legacy systems, take UC&C for granted.

- **Being green**: UC&C solutions have demonstrated proven performance in reducing commuting and business travel.

- **Video**: Video has moved out of dedicated facilities and across the enterprise through casual, cost-effective use on the desktop and on the go, delivering on an expectation that has been talked about for decades.

As a result of these and other factors, while enterprises may differ in the timing of their move to UC&C (according to IDG, the larger the organization, the faster the move), it’s no longer a question of “if” but “when.”

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Evolving UC&C Starts with Voice

Interestingly, the IDG survey found that as companies evolve their UC&C systems, they’re more likely to start with voice- or telephone-centric systems. This reflects the fact that voice solutions have already addressed many of the key performance and reliability issues that must be in place if true UC&C solutions are going to gain a secure role in the enterprise.

The growth of UC&C also marks the continued evolution of the enterprise network from a data pipe to an “applications-aware” resource that impacts productivity and performance. "The network can no longer be relegated to “just a pipe” status with regard to IT strategy," says analyst Zeus Kerravala. "If increased application awareness is not brought to the network, it could hinder successful network computing strategy."

SIP: The Path to the Future that Delivers Benefits Now

The Avaya Aura® platform is specifically designed to provide enterprises with a direct path to the future of UC&C.

Just as significant, the Avaya Aura® solution makes it possible to streamline and rationalize existing architectures—knitting together diverse architectures, creating enterprise-wide dial plans, supporting the rollout of new features anywhere in their network and achieving significant cost savings in network access and ongoing management.

The common denominator that makes all of this possible is the innovative way the Avaya Aura® solution implements a SIP-based architecture.

4. The Rise of the Network Has Made it Crucial to User Experience, Zeus Kerravala, January 2012,
The SIP Imperative

The transition that is now taking place in enterprise communications is unfolding across several dimensions:

• Traditional PBXs to IP/SIP solutions
• Single-mode communications to unified communications
• Changing modalities: mobility, collaboration, Bring Your Own Device (BYOD), the cloud

Enterprises that successfully navigate these transitions have the opportunity to see a dramatic increase in performance and agility. A foundation based on SIP is critical to all of these transitions.

The Avaya Aura® platform, through Avaya Aura® Session Manager, delivers a true SIP-based unified communications core. Operating on a SIP-based core—as opposed to our competitors’ networks of SIP-based switches connected in tandem—makes it possible to deliver advanced voice, video and text-based collaboration capabilities to users regardless of their location, and regardless of the specific switch they are connected to.

Avaya Aura® Session Manager builds on a customer’s existing equipment and applications, connecting gateways, service providers, SIP-enabled adjuncts, and SIP telephones. It can also connect to third-party PBXs and small key PBX systems within branch offices. Session Manager combines its strengths with Avaya Aura® Communication Manager, which can be deployed as a SIP-only Feature Server or as an Evolution Server, serving both SIP and non-SIP endpoints with rich UC&C features and capabilities.

SIP Benefits to Users

The SIP implementation in the Avaya Aura® platform enables connection and feature consistency across endpoints. For users this means:

• Getting the same features on their mobile devices as they have on the desktop
• Enjoying a wide range of opportunities for application-communication integration across service and application providers
• Taking advantage of the additional security that exceeds what’s possible on more traditional protocols like H.323
SIP Without Compromise

A key reason for the widespread acceptance of SIP is the way it radically simplifies communication between people, places, devices, applications and services.

But one area of resistance to SIP has been concern over “giving up” any of the hundreds of communications features that were once common on traditional Avaya communications switches using TDM or the H.323 protocol.

At its introduction, the Avaya Aura® solution provided support for the vast majority of the hundreds of traditional calling capabilities enterprises rely on most. Since then, each upgrade of the Avaya Aura® platform has included support for capabilities that enhance its day-to-day performance in measurable ways. For example, features such as Enhanced Call Forwarding, Enhanced Call Pickup Alerting, Team Button, Group Paging, Internal Calling Party Number Block, Call Park/Un-Park, Third-party Message Waiting Indication and Transfer to Voicemail have all been recently added to the list of supported SIP call features—a list that now includes over 90% of the call features available on traditional IP Phones.

These and other capabilities are supported across SIP-based clients regardless of location or the specific switch where the user may be located.

Other examples of Avaya’s commitment to SIP without compromise include:

- **DTMF transparency**: Avaya has taken the steps needed to deliver reliable DTMF signaling functionality needed for messaging, conferencing and other applications in mixed SIP and H.323 environments.

- **SIP call and connection preservation**: This allows the reconstruction of stable calls and the ability to manipulate calls in queue in the event of a network or Session Manager failure.

- **Emergency numbers**: Up to 10 emergency numbers can be administered per location. This flexibility provides adaptation for local requirements, including countries with more than one number, and allows the integration of the Euro-wide 112 number to be employed alongside specific country numbers.
Scalability and Quality of Service

While a SIP foundation is critical to streamlining existing architectures and evolving to UC&C, so are scalability and quality of service. The dimensions of the shift to real-time communications and collaboration pose major scalability issues:

• Video endpoints now account for more than half of all endpoints sold on enterprise networks.⁵

• Some 150 million people use their own phones and tablets at the office, often for video and other bandwidth-intensive content. That number will more than double in the next few years.⁶

• In addition to user productivity tools, enterprise networks continue to handle a wide range of SIP and non-SIP endpoints, including fax machines, imaging devices, storage and more.

To meet scalability and performance challenges—as well as provide a foundation for reliability—the capacity of the Avaya Aura® platform has more than doubled since its introduction:

Endpoints: The core Avaya Aura® architecture can now provide the horsepower required to handle up to 250,000 connections, or endpoints.

Trunks: The maximum number of SIP trunks allowed on a single Avaya Aura® Communication Manager has been expanded from 7,000 to 24,000, with up to 12,000 trunks in use simultaneously.

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Virtualization

Virtualization has played a major role in data center consolidation. Spreading applications across multiple servers makes better use of often idle capacity and provides more flexibility in terms of administration and data center management.

The Avaya Aura® platform has now been adapted for deployments in virtual environments, giving customers the choice of using the VMware option or continuing to deploy the Avaya Aura® solution in the appliance model with servers provided by Avaya.

For customers who want to migrate to the latest collaboration solutions such as the Avaya Flare® Experience or Avaya Aura® Conferencing 7 but hesitated, Avaya Aura® Virtualized Environment provides a hardware-efficient, simplified option for upgrading to the latest Avaya Aura® release and adding the latest Avaya Aura® capabilities.

Mobility and BYOD

The shift to mobility in today’s enterprise is huge:

• In 2009, when the Avaya Aura® solution was announced, less than one in five people in the U.S. used a smartphone. Today, it’s over half.7

• Most employees now juggle an average of 3+ mobile devices—a tablet, a laptop and a smartphone—all of which have data communications and collaboration capabilities.8

• Ninety percent of employees already spend at least some time working off-site, and their numbers are expected to reach 1.2 billion by 20139

The Avaya Aura® platform provides the critical foundation for mobility and its implementation of SIP is well suited for mobile environments. Virtually all new smartphones, tablets and other mobile devices are SIP-based. The Avaya Aura® solution delivers the cross-device management and functionality that makes it possible to effectively integrate these devices under the enterprise umbrella:

- With SIP as the binding technology on the back-end, users can deploy the same features on their mobile devices as they have on the desktop.
- With SIP as the underlying transport mechanism, it is easier to integrate with other platforms and applications that follow the open SIP standards.

The latest releases take more steps to creating truly people-centric collaboration using mobile devices:

**Device Interface:** Avaya not only makes it possible to implement standardized user interfaces across devices—it is creating them, including both the portfolio of point-and-click Avaya one-X® clients (for PCs and smartphones) and the innovative gesture/spotlight-based Avaya Flare® Experience (for tablets and PCs). Avaya Flare® Experience is perhaps the industry’s leading example of a SIP-based endpoint solution specifically designed for collaboration. These solutions enable users to take advantage of their device of choice, while still integrating and managing conferencing, Web collaboration, directories, contextual history, social media, presence, IM and more.

**Presence:** Incorporating a presence engine (Avaya Aura® Presence Services) as part of the Avaya Aura® solution means robust presence notification capabilities can now be implemented without incurring the expense of third-party solutions. Avaya Aura® Presence Services now includes integration with Microsoft Office Communications Systems (OCS), Lync and other popular IM platforms.

**Network Security:** The Avaya Aura® platform establishes the critical baseline network-access control that is needed for the new era of mobility. The SIP-based capabilities deliver the additional security that cannot be provided by traditional protocols:

- Maintaining common profiles for each user that can be accessed anywhere in the enterprise
- Authenticating users before allowing access to applications
- Delivering deep packet inspection and a SIP firewall to isolate applications from threats by malicious users and devices
- Integrating with Avaya Identity Engines which provides a centralized point for establishing network access policies
Collaboration

As mobile communications options increase, employees find themselves more connected but not always more productive. As people work further apart, they need new tools to help them work closer together.

For these reasons and more, effective workforce collaboration is a critical part of any business strategy today. The Avaya Aura® solution now delivers an array of SIP-enabled applications specifically designed for collaboration:

SIP-enabled Conferencing: In 2012, Avaya introduced Avaya Aura® Conferencing, which takes advantage of the open, standards-based SIP architecture to deliver unified voice and Web collaboration, including document sharing, IM/presence, e-mail and consolidated corporate and personal directories. It works with the Avaya Flare® Experience on Apple iPad tablets and Microsoft Windows PCs or laptops. Just as compelling, Avaya also introduced a zero-install, Web-based conferencing interface that works through any Web browser.

3D Conferencing: Another powerful example of the kinds of applications that are possible is AvayaLive™ Engage—the virtual, avatar-based Web conferencing application that provides a flexible, multidimensional interaction environment for online meetings, training, recruitment, team building and more.

Going Beyond Presence: Having delivered presence, the Avaya Aura® solution is already moving onto the next stage: awareness—telling you not only where people are located and whether they are online but also what content needs to be shared. Avaya is already experimenting with “awareness filters” for Avaya Flare® Experience: as you drag and drop contacts to set up a conference call, Avaya Flare® Experience analyzes the connections and pulls in documents related to that project. While awareness capabilities are just being considered for enterprise-wide deployment, they are already being implemented by Avaya in its contact center solutions (see below).

Customer Experience

There is probably no area of business that has undergone more change than customer service.

Customer service is now fully multichannel. This gives companies more access to their customers. But, at the same time, consumers have gained greater control over the relationship through the ability to research online, get recommendations, make recommendations and quickly spread the word about positive and negative shopping/brand experiences.
In a multichannel world, equipping your contact center agents to handle e-mails and texts as well as phone calls is no longer enough. The new era of customer experience management is all about orchestrating customer engagement across all touch points. To do that, a sophisticated SIP-based infrastructure is the critical first step. A SIP architecture enables the application, context and multimedia integration that customer service requires today.

As the global leader in contact center solutions, Avaya has already taken advantage of these and other capabilities to create the unified Avaya Aura® Contact Center (AACC).

**Unified Agent Desktop:** Agents can use a single interface to manage multichannel contacts (Web chat, e-mail, etc.). Because interactions are “session-based,” participants can move across media without being transferred or otherwise interrupting the interaction.

**Context:** Information that is critical to managing a customer is made available from the very start of each interaction. Avaya Aura® Contact Center takes the call, gathers all pertinent customer context (including the requisite customer account number, history, and anything else that’s pertinent) and matches it to the most appropriate agent. The agent simultaneously has the right resources, including any potential experts, displayed along with the call.

**Social Media:** The solution manages social media as well: agents can respond to social media postings such as tweets and Facebook updates, but in a single consistent view, making it easier for the agent to get the full picture without having to go to a separate screen or application.

**Self-service Integration:** Self-service options are also fully integrated—not a separate channel. Avaya Aura® Experience Portal allows for a seamless handoff of customer data to the agent from any self-service session.

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**Video**

Video has assumed a much larger presence in enterprise networks. The quality and convenience is now there to make it a go-to option for any meeting where travel is inconvenient (and not cost-effective) and where the visual exchange of information can impact value.

The Avaya Aura® solution meets the huge demand for video, offering its own solutions for desktops, mobile devices and traditional meeting room systems (solutions from Radvision, an Avaya company), while also supporting those of third-party providers.

Just as important, recent releases have addressed the bandwidth issues that have led many enterprises to postpone their video deployments or implement costly and inefficient standalone solutions. The Avaya Aura® solution now makes it possible to set bandwidth allocations between voice and multimedia traffic, allowing bandwidth to be allocated depending on current traffic levels and prioritizing traffic based on the application or the location of the user. When bandwidth is at a premium, instead of simply not completing the voice call or degrading the signals, the solution can automatically “downspeed” video calls to allow voice communications to proceed.

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Resiliency

Resiliency and reliability are critical to the success of real-time communications—this is as true today in the era of video and collaboration as it was in the era of telephony.

The Avaya Aura® platform was introduced with powerful continuity capabilities and has continually enhanced them to make it possible for organizations to use their communications infrastructure to quickly redirect and re-deploy resources whenever and wherever they are required.

The solution supports active-active configurations which can go well beyond the traditional N+1 active-standby architectures. Session Manager’s ability to configure one endpoint to multiple servers, combined with expanded scalability, means that network managers can engineer the network to what is needed, instead of being bound to inadequate capacity limits.

And by sharing the enterprise’s database across all instances of Session Manager, any Session Manager can be replaced by any other Session Manager in the network. This provides “hot” failover that does not require initialization. A SIP network of Avaya Aura® Session Managers and Communication Managers can handle multiple failures of the network or network elements and continue to provide service at full enterprise capacity.

Session Manager also supports Call Preservation in the event of a network or Session Manager failure in the core. This capability allows calls in queue in a contact center to be processed in the normal way without any interruption or loss in service.
Network Monitoring and Energy Efficiency

Given the wide range of applications and users accessing real-time network resources, IT organizations need tight control through real-time data on resource utilization as well as comprehensive historical data so that network resources can be monitored and optimized based on business requirements.

The Avaya Aura® platform provides centralized tools that monitor and report on:

- Message traffic and contents
- Network bottlenecks to show how multiple applications are collaborating
- Faulty applications
- Application quality issues like voice and video artifacts or noise

Avaya Aura® System Manager’s new tab-based administration interface allows lightning-quick screen changes between operations. In addition, System Manager simultaneously supports multiple Session Manager releases for flawless system upgrades.

Avaya industry-leading energy efficiency delivers immediate operations savings by reducing the amount of power that is directly used to run a given set of equipment, while also enabling savings in energy consumption through reductions in cooling.
Simplifying the Transition

Many if not most enterprises have varied and complex communications infrastructures with legacy equipment and applications from a range of vendors. Avaya has implemented numerous capabilities to simplify the transition to the Avaya Aura® SIP-based solution:

**Legacy:** Recent releases support connectivity to older versions of Communication Server 1000, Communication Server 2100, and Business Communications Manager systems, and offer the advantages of innovative “implicit” user sequencing to all endpoints on these existing systems.

With Communication Server 1000 Release 7.5, implicit user sequencing is even available for intra-Communication Server 1000 calling. In addition, the core Avaya Aura® Session Manager can be used for legacy Network Routing Server (NRS) replacements. For enterprises looking to migrate their legacy Communication Server 1000 Network Routing Service (NRS), a Routing Data Conversion Tool (RDCT) is provided to simplify the transition.

**Cisco:** The solution also supports connectivity to Cisco and other third-party PBXs. Cisco endpoint support allows customers to use their existing Cisco endpoints with the 6.2 release of Session Manager and Communication Manager. No special administration for Cisco phones is required as Avaya Aura® Session Manager detects the Cisco phones and applies the adaptations automatically.

**Deployment options:** Finally, to simplify the transition to SIP-based environments, Avaya Communication Manager can be configured as an Evolution Server, which allows it to support a mix of SIP and non-SIP solutions; or it can be deployed as a Feature Server in an all-SIP environment. Applications can now be sequenced based on the media requested: voice, video, text or any combination of the three.
Is Now the Time to Upgrade?

Much has changed for today’s enterprise communications networks. Much will continue
to change.

But there is a great deal that won’t change at all.

What won’t change is the ongoing re-invention of the network, from:

• An undifferentiated backbone utility into a source of real-time competitive
differentiation

• A pipe carrying voice and data into an enterprise resource organized around the
needs of employees, management, partners, branch offices and more

• A technology defined into organizational, technological and functional silos into one
that is the very embodiment of multifaceted awareness—context-aware, application-aware and identity-aware

• A resource designed for predictably into one designed for dramatic changes in user
behavior and volatile surges in traffic

The Avaya Aura® platform was designed for this new era of enterprise network and
continues to lead the global market through innovations that deliver real results to our
customers.

Are you ready to step further into the future of enterprise networking? Avaya is ready
today to take you there.

Learn More

To learn more about how the Avaya Aura® solution can bring the substantial benefits of
unified communications and collaboration to your business, speak to your Avaya
Account Manager or Avaya Authorized Partner.