

Enterprise Communications Architectural Trends

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Discussion Transcript

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Patte Johnson: Welcome to the Webtorials podcast on Enterprise Communications Architectures. Today, Larry Hettick, our Webtorials Editorial Director will be speaking with Carl Blume, Director of Enterprise Product Marketing at Oracle Communications. Larry, take it from here.

Larry Hettick: Great. Thanks, Patte, and welcome, Carl. Let's go ahead and just jump right in here. As a starting point, can you tell me a little bit about what changes we have seen on enterprise connectivity over the past three-to-five years and what are some of the benefits that those changes bring?

Carl Blume: Great question. So, the short answer is that there are more ways for people to connect than ever before and to do so in increasingly richer modalities and contexts. We have a session initiation protocol, SIP, as we know it and ubiquitous broadband IP networks as enablers for this, you know, a major shift in the industry. And it enables us to reach people virtually anywhere and connect them using mobile and embedded devices. We have rich voice, video presence and IM modalities that are increasingly integrated with applications and giving users rich context for their communications.

Here are some examples of the types of changes that are being wrought upon our industry by these two big enabling technologies. First off, plain old telephony service, no big surprise here. That's being shoved aside in favor of unified communications applications that now have reached the early majority

phase of technology adoption. Over 42% of enterprises have deployed, or are expanding, their use of UC according to Forrester Research.

Another example: More than 15 million SIP trunks are deployed, connecting more than half of enterprises to service provider networks and giving them access to advanced services like HD audio. The next example is communications are being embedded in more and more devices now more than ever.

Certainly we know that they're on our mobile devices, our smart phones, but the GM OnStar service is a way in which an automobile manufacturer that's over 100 years old is taking advantage of cutting-edge, mobile communication services to differentiate its products. A GM advisor can provide safety and concierge services to consumers via real-time communications that are embedded directly into a GM vehicle.

And then, finally the last point here: we're seeing rapid penetration of WebRTC, which is this new technology for embedding communications right into web browsers, with over 65% of mobile devices now being enabled with WebRTC capabilities in their browsers and that makes voice and video and communications an integral part of the web experience.

Some great examples in this space are Amazon, with its Mayday button, American Express and Esurance, each putting WebRTC capabilities into their portals that enable them to interact with their customers and allow contact center agents to communicate with customers.

Larry Hettick: With all this happening in the background, I've heard you talk about something you call the hyper-connected enterprise. What is a hyper-connected enterprise and what are the elements involved?

Carl Blume: Sure. Enterprises are becoming hyper-connected because communications is expanding across a plethora of endpoint devices and network types. It's increasingly decentralized across multi-vendor systems, not centralized and – focused on a single vendor system, but spread across multiple systems and it's more dynamic and encompasses more diverse media than ever before.

Enterprises are also integrating communications into business applications, with click-to-call functions that are built into, for example, CRM systems, in ERP systems, as well as customer-facing web pages. Now, these types of communications' flows don't involve UC systems at all. So, we've got communications that are flowing inside of traditional UC networks, as well as outside of them.

But the point is that enterprise communications are more decentralized and more complex than ever before and we find customers need to start to rethink their communications architecture as they progress toward becoming a hyper-connected enterprise. They need an architecture that's flexible and open, with support for new standards like WebRTC. They need an

architecture that protects their investments in legacy PBXs and UC systems, while enabling them to move forward and integrate new methods of communication.

And they need an architecture that's ready for the cloud, enables them to quickly and easily integrate communications into applications and finally, of course, it needs to deliver enterprise-class security, reliability and compliance.

Larry Hettick: That sounds like a lot of stuff—pardon my technical term here, so what's the best kind of network architecture to use that brings all of these elements together?

Carl Blume: Oracle prescribes an open and scalable infrastructure composed of three layers: an access layer, a core layer and an application layer. And we do this to help to put structure around this multi-faceted communications environment and to help to make it easy to scale and manage and control.

So, let's start with the access layer. The access layer is where external, wide-area networks are brought into the enterprise, so these are the SIP trunks that connect the enterprise to the PSTN, connect to cloud service providers such as a conferencing provider, and connect to third parties such as a BPO, or business process outsourcing organization. And this is also where we connect to the public Internet for communications with remote employees or with customers.

Obviously, the access layer, security is a key function at this layer. We provide Oracle Session Border Controllers to protect the network from intrusions and to encrypt the communications for privacy. The access layer is also where we normalize the differences in the SIP protocols that are used by outside networks and the enterprise core. So, that's the access layer.

Now the next layer is the core layer. This is where we centrally manage the sessions that are traversing the enterprise and apply policies. An Oracle Session Manager controls sessions flowing between the access and application layers, as well as between discrete applications on the application layer.

For example, sessions that are flowing between an Avaya and Microsoft UC system, these would flow through the core layer and be managed by an Oracle Session Manager. And the benefit here is that we can help to optimize cost and to normalize the dial plans that are being used by varying call control platforms in each enterprise location. The Oracle Session Manager also has an integrated LDAP interface that enables it to reference Active Directory as a central policy store. So that's the core layer.

And now to the final layer, the application layer, and this is composed of UC applications that we're all familiar with your Cisco or Avaya, PBX and your

Microsoft UC server and it's also inclusive of the business applications that may have integrated communication capabilities.

For these applications, we would provide Oracle Middleware products that customers use to integrate communications into their business applications and our Middleware products provide to programmers a familiar web services interface that helps to abstract the complexities of the underlying infrastructure and enable them to quickly and easily add communications functions to their applications.

Our Middleware, finally, is also not just about integrating communications functions into a CRM system or a business app, but it also enables web developers to add WebRTC capabilities into a website or a web portal. So, it's inclusive of WebRTC protocols.

Larry Hettick: What are some of the other benefits of this layered architectural approach?

Carl Blume: Well, lots of benefits and you know, I'll try to touch on all of them here just quickly. First and foremost, it's completely UC-vendor agnostic, which gives enterprises the flexibility to implement a best-of-breed strategy. We can provide a single API that enables application developers to control all the UC systems in their network and this eliminates the sort of vendor-by-vendor integrations that developers are currently faced with when they try to integrate with a UC vendor-specific API. This can often slow down deployment and implementation of communications-enabled business processes.

We can also take complex multi-vendor UC networks and make them dramatically simpler and easier to manage. We do this by establishing a vendor-neutral core within the network that centrally controls communication sessions and this core layer enables enterprises to more easily migrate to more advanced applications. For example, the core layer can facilitate users transitioning from a legacy PBX to Microsoft Lync services, which is something that we frequently encounter customers trying to do,.

The core layer also helps to reduce operating costs by routing sessions over least-cost paths and it also simplifies dial plan administration, so it can cut your cost there in terms of ongoing administration.

And the architecture protects against security threats. This is important as we look at communications now flowing over more and more network types, WiFi, 4G, wire line MPLS networks and the public Internet. All of these networks need to be protected against intrusions and we need to be able to enforce policies and we need to be able to provide encryption. So, security is fundamental.

And then, finally, it's designed to be highly scalable and reliable and at Oracle, we leverage carrier-class technology that has been field-proven in some of the largest carrier networks in the world. We take that and we

embed that into our enterprise products to give enterprise IT managers the ability to grow their network, along with their business.

Larry Hettick: Interesting. Before we sign off, could you kind of summarize today's conversations with a couple of key takeaways you'd like our listeners to pay special attention to?

Carl Blume: You bet. First off, communications is becoming more diverse and dynamic and I think most IT managers, probably see that on the horizon, if it's not already right in front of them and you know, the days of the monolithic communications network are long gone. Enterprises need a flexible architecture that enables them to better manage and control their existing network assets and take advantage of all the new technologies and solutions that are on the market and coming, like WebRTC.

Oracle recommends a three-layer architecture with real-time security elements at the access layer, a centralized session manager at the core layer to control the session routing and normalize dial plans across all the various call control platforms in the network and an application layer that includes middleware alongside your UC systems to enable WebRTC applications and to help integrate communications functions into other business applications.

And then, finally, our communications architecture, its UC vendor-agnostic. That's what sets Oracle apart in the marketplace. It enables our customers to pursue a best-of-breed strategy, you know, mixing different vendors' communications systems to create the infrastructure and the applications that they need to satisfy their business managers. And it protects their investments and their existing infrastructure. It allows them to smoothly migrate to new generation solutions, whether that's adoption of Microsoft Lync, or going to WebRTC for their contact center customer interactions.

This is the path that we call becoming the hyper-connected enterprise and it provides those enterprises with easy connectivity, strong security and enterprise-wide communications control.

Larry Hettick: Great. Well, thank you so much for your time and giving us a lesson today about some best practices around network architectures and we look forward to having further discussions. With that, I'll turn it back to you, Patte.

Patte Johnson: Thank you, Carl and Larry. It was an informative discussion, once again, and we certainly encourage our Webtorials' audience to add your questions and comments by visiting our website. Again, thanks for participating and thanks to our audience for listening.

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