

**UNIFIED COMMUNICATIONS - PUSHING THE BOUNDARIES OF COLLABORATION**[PRINT DOCUMENT](#)

**ANNOUNCER:** Welcome to TechWise TV on the Cisco interaction network. Please remember to submit your technical questions in the field provided at the bottom of the viewing console. You can also e-mail questions, comments and suggestions to [techwisetv@cisco.com](mailto:techwisetv@cisco.com). Thank you for joining us and enjoy the show.

**VALERIE ST JOHN:** What technologies are driving the biggest changes in how work gets done? Today we look at how businesses are turning to technology to foster better collaboration inside and outside the company.

**ROBB BOYD:** The increasing ubiquity of network access and connected devices has created unprecedented opportunities to improve collaboration and this is great for business.

**VALERIE ST JOHN:** We'll talk about how social networking technologies are being adopted to suit standard business practices.

**JIMMY RAY PURSER:** It's understanding how people want to communicate, how they want to talk, how they want to get this message across and us taking the controls.

**VALERIE ST JOHN:** We'll look at how Federated Presence extends productivity beyond your Cisco network by getting servers from different vendors talking to each other.

**DAVE LIZOTTE:** How do you sync up all of these systems to make sure that one system can say I have the most up-to-date information on Presence or I/O capability.

**VALERIE ST JOHN:** TelePresence live from your own office or home, we'll introduce you to the new CTS 500 Personal TelePresence unit.

**NATHAN SHAW:** Typical HD is roughly 1.5 Gigs or so, that's a lot of bandwidth.

**JIMMY RAY PURSER:** Heavy duty.

**NATHAN SHAW:** Yes, so we're actually able to compress that down to over a 99% compression ratio to roughly 5 Megs.

**VALERIE ST JOHN:** And we pull back the curtain to show you how WebEx is expanding beyond the web conference with the WebEx Connect platform.

**UNIDENTIFIED SPEAKER:** This is your virtual war room. So here's I've got a space. It's my conference room, I can see who's in the space right now and what their status is.

**VALERIE ST JOHN:** Today we focus on pushing the boundaries of collaboration. This is TechWise TV, technology you can use from geeks you can trust, only on the Cisco interaction network.

**VALERIE ST JOHN:** Welcome to TechWise TV. I'm Valerie St John, along with Cisco Solutions experts, my favorite geeks, Robb Boyd and Jimmy Ray Purser. Hey guys, our mission today, pushing the boundaries of collaboration, sharing ideas, working together is as much a part of business success as great products and loyal customers as we all know. Innovative technologies spawned from Web 2.0 and social networking applications are really transforming the way people communicate. Robb and Jimmy Ray have hand selected not one, not two, but three technologies they feel are poised to make dramatic and positive changes for collaboration. We're going to get to the technology behind this revolution but first, Rob, why now? Why are we talking about this today?

**ROBB BOYD:** Well, the environment itself is actually demanding answers. If you think about it, the combination of opportunity and for many sometimes it could even be a requirement. The dawn of Web 2.0 has brought collaboration mainstream and this has changed the traditional notion of how technology gets deployed, how it gets used. Business is often struggling to control innovation that creeps in from the internet, which can be very valuable but may not always be in the best interest of the corporation. So we've all done this ourselves, right? I mean, it could be the use of an outside e-mail program, could be a calendar service or a web service, something that we personally find valuable but here we are now, we're doing our own thing.

**VALERIE ST JOHN:** Right, so the technology is out there, the applications for it are exploding, but how do you contain it?

**ROBB BOYD:** And should you contain it? I think that's one of the questions we have to answer. Is that the right question or even an appropriate response. So many customers have adopted no Facebook rules or attempted to block things like Skype. They're blocking these things at the edge of the network or they're attempting to. But we've been down this road before. We saw it happen back when instant messaging was considered a passing fad. And then it became an accepted business tool. Almost all of these applications are delivered as services. And the thing to remember is that means that they are hosted somewhere else, which means we're losing control of our data, we don't know exactly where it's being stored or what's being done with it when we're not using it.

**VALERIE ST JOHN:** And so you raise some basic security concerns. There must be some risks out there with respect to security and I'm sure our own collaboration sheriff, Jimmy Ray Purser, has some thoughts on that.

**JIMMY RAY PURSER:** Yes, you know, any time that there's data leaving the network there is also concern. Data leakage is a huge topic and it really is something that any corporation should look at. But it's tough because we're used to looking at data based upon just like a form, if you will, like this document is leaving and not necessarily the content. We're not seeing serial numbers or passwords leaving, we're seeing a document leave or an e-mail leave. So the ability to look deeper inside these solutions, deeper inside and physically look at what's being typed is really critical today in any type of networking solution.

**ROBB BOYD:** Well, speaking of business people, understanding that when you send just like an e-mail, for example, from one point to another point, understand that it's being replicated in places along the way. It's not a matter of it was here and now it's there. I remember someone telling me, hey fax that back to me, I need to throw it away. You ever had that?

**JIMMY RAY PURSER:** Yes, yes, sure. You got that security there.

**VALERIE ST JOHN:** We seem to spend a lot of time talking about how business people are as victims these days. How is this actually impacting business?

**ROBB BOYD:** I look at it largely in two ways. So employees one, are increasingly reluctant to step back in time when they move from personal life to business life. If they know that there's a better way to do something or a better way to communicate, well they're just going to do it, right? Policies, private data, personal threats be damned, it's going to happen. Also, a lot of us are customers in these same situations and customers are increasingly savvy to the options that they know are available and they're not going to be patient when things are more difficult to do, whether that's communicate, get to the right expert, get to the relevant data. Customers are going to increasingly vote with their feet and they're going to take their business to those services that meet their needs.

**VALERIE ST JOHN:** Sounds like just human nature. Is that a bad thing or just the way it's going to go?

**ROBB BOYD:** Well, actually that's a good point to consider. There's a lot of opportunity for business here and that's the point we want to make today. I mean, consider wireless, we use to fear it and now we don't. Now think about this. Remember how we used to -- I mean your customers, tell me how did they handle it. They used to prevent it at one point in time?

**JIMMY RAY PURSER:** Oh, absolutely. They spent a lot of money on tools to prevent it. People would do rogue access hunts. They were buying little handhelds to try and track these things down. And users are smart, man, they bring in their own APs, they would turn them off, they would take them home with them. People wanted to communicate on a certain method and it's one thing that history has always shown is that when folks want to communicate they're always going to find a way to communicate.

**ROBB BOYD:** Absolutely.

**JIMMY RAY PURSER:** Any situation they're going to communicate with the method that makes them most comfortable. So they've launched, corporations got together and said, hey, you know what, maybe instead of trying to restrict this stuff we should find a way to actually make it secure and make it reliable and actually make it another mode to transfer data over reliably. Then we actually are giving people what they want. We put in wireless and what happened? People started using it more, people were sitting outside. They're collaborating. They're really taking advantage of this medium to transfer --

**ROBB BOYD:** Well, you know it's done right because you deployed it to the point where you needed it. You made sure it was consistent. Now everybody had access to it and now you don't have to spend time or money looking around for it. In fact, our wireless today will actually monitor for you anyway. So if rogue wireless pops up we're able to triangulate on it and determine where it is and get rid of it.

**JIMMY RAY PURSER:** Predictability is the most important thing for any engineer to design on a network so that we know what's going on. When something goes wrong we can really guess, not guess but we can figure out what's happening. If somebody brings a rogue AP in, if somebody's trying to hijack an Access Point or clone one or something, because we're familiar with the behavior of that, we've set the controls up, there are great controls for wireless today, they're better than the Ethernet just as far as Ethernet. The wired network, if you will, we can really have some fantastic wireless solutions out there and we can tell where that network deviates, when that behavior deviates from what we're actually used to seeing. And now we're actually able to really deliver very quality of service. That is so important today. You know, I mean, understanding it, not just saying well hey, wireless is great, now we're moving onto the next thing. It's interesting how people want to communicate, how they want to talk, how they want to get this message across and us taking the correct controls. We mentioned earlier about e-mails and faxing and stuff like this. Those are okay to do, but we still need to look inside that data and understand, this is how people communicate, so how do we control it, how do we make sure everything's going to be secure.

**VALERIE ST JOHN:** Bring us back to the collaboration topic.

**ROBB BOYD:** Well, it's the same situation here if you think about it. It's people are latching onto technologies that help them get their work done. It's the same thing. The increasing ubiquity of network access and connected devices, whether that be mobile networks or what have you, even in developing markets has created unprecedented opportunities to improve collaboration. And this is great for business. Once we can successfully bridge the gap between interesting tools, things I like versus things that actually help me get more work done.

**VALERIE ST JOHN:** And assuming those tools are great for streamlining your business, that gap is the productivity gap, right?

**ROBB BOYD:** Exactly, in fact, productivity is absolutely the key. Do I get more done, or even better, do we get more done? We've already cut costs to the bone, we've automated, we've outsourced, we've got internal business processes pushed to the limit so collaboration represents that next great opportunity to gain competitive advantage. And the big question, can I use collaboration, can those technologies become my secret sauce and allow me to out-distance, out-pace my competition. That's where I think things get really interesting.

**VALERIE ST JOHN:** So we really need collaboration to be successful in a business environment. That's established.

**ROBB BOYD:** Absolutely.

**VALERIE ST JOHN:** But what components do I need to draw from that technology?

**ROBB BOYD:** I feel an acrostic coming on. What I would say is I came up with this earlier, so bear with me. I would say that it needs to be eco-friendly. ECO, you with me?

**VALERIE ST JOHN:** I'm with you.

**ROBB BOYD:** So E, E is from experience, user experience. If we don't make it easy, if we don't reduce the number of tools that are required, the technical expertise we need to hide that complexity, it's not going to be successful. The next one is C.

**VALERIE ST JOHN:** Cost.

**ROBB BOYD:** Cost, thank you. Total cost of ownership, many applications can be added easily and cheaply these days but if we lose our focus on the productivity goal, we accomplish nothing. Yet another tool with yet another interface with yet another open-ended set of unanswered security and policy-oriented questions. At the end of the day we may save up front but what do we really accomplish. And our final one is O, which is for open. ECO, Open, as in not closed.

**JIMMY RAY PURSER:** That's a good one.

**ROBB BOYD:** That's what I was thinking. Open in terms of access, open in terms of unlimited options for standards, expansion, input, all of that. It's not all about the system your company has deployed. There's way too much communication needed with the outside world. Collaboration is about participation, right? And that cannot happen in a closed system.

**VALERIE ST JOHN:** This has really whet my appetite. We need to get to the specific technology behind this. So in segment two we'll join chief geek Jimmy Ray over in the TechWise TV lab, yes, we have a lab, for a look at the tech that's enabling collaboration between companies, coming up. One of the biggest gaps in collaboration is the ability to expand the use of inter-company tools and work in concert with customers, with partners and contractors outside the organization. Now, Robb, we've been talking about Unified Communications for years, right?

**ROBB BOYD:** We have and we're going to continue to talk about it. In fact, many companies are enjoying the additional benefits of a single IP-based network. One of the most exciting areas for productivity gains is in the use of Presence information. This level of intelligence that streamlines communications via the most optimal path. It's literally where is Bob, what is the best way to reach him now, what's the right device, that type of thing.

**VALERIE ST JOHN:** So this information about how to get in touch with Bob and people like him has always been limited to the inside of the company, right?

**ROBB BOYD:** Correct, and this is where Federated Presence comes in. The ability to share this information, these various states that exist outside the corporate walls with people and companies that may not even be on the same system as yourself, this is the exciting area that is changing quickly, but also holds the most promise for us moving forward.

**VALERIE ST JOHN:** So at the risk of putting receptionists out of work, let's dive into the details here. We're delighted to welcome solutions architecture, Dave Lizotte, joining Jimmy Ray in the TechWise lab. Gentlemen, let's just start with a basic questions here. What is Federated Presence? What can you tell us about it?

**JIMMY RAY PURSER:** I'll let you take that one.

**DAVE LIZOTTE:** All right, well Federated Presence is really the ability to take two networks that normally wouldn't talk to each other, then they have Presence and IM capability and allow those two networks to seamlessly communicate and share information in a secured manner. And we try to make it typically transparent to the end users who normally don't have authorization to see or share information with each other.

**JIMMY RAY PURSER:** What kind of information do they share back and forth? I mean, we're sharing information like crazy already and so I'm kind of curious what's the value in trading this information back and forth? As a network engineer myself, you propose this to me and I'm trying to think why is that important.

**DAVE LIZOTTE:** You're typically trying to show the social environment whereas there's no limitations or boundaries. So typically when you do Presence or Federation, you're typically going to try and share information that is important to the other business. Most of all you're going to try to share information that they can resolve business process with or make business process easier for them to communicate.

**JIMMY RAY PURSER:** Well, we're talking two separate things though, too, right? We're talking Federated Presence but it's really Federation is one thing and Presence is another, right?

**DAVE LIZOTTE:** That's correct.

**JIMMY RAY PURSER:** So if we're going to take it on the good old TechWise whiteboard here, let's say we've got Company A here, that is all within one autonomous network and they're separated, let's say, geographically and they're wanting to trade this information back and forth. This would be considered intra?

**DAVE LIZOTTE:** That's intra-domain Federation, which basically means you have two solutions that may be utilizing different protocols to talk with and they're on the same Enterprise domain.

**JIMMY RAY PURSER:** Okay, and so we're federating these two together. What protocols are we using to actually do this?

**DAVE LIZOTTE:** Well most protocols in the environment right now or in the industry they're using are XMPP and Simple.

**JIMMY RAY PURSER:** Okay.

**DAVE LIZOTTE:** So Simple is basically rides on the top of SIP and it uses an event package mechanism to transfer its information, whereas XMPP is also XML but it's routing XML messages between entities. So those are the two main protocols in the industry right now.

**JIMMY RAY PURSER:** So it gives us a lot of extensibility. I mean, if we're going to use those two protocols pretty much the sky's the limit as far as design applications here.

**DAVE LIZOTTE:** That's correct. We still have the issues of interoperability in the marketplace, but with these protocols and these protocols being extensible, we can come to eventually agreements on a standardization for the open protocols that are being used.

**ROBB BOYD:** Well that's the lack that we're missing. That's the thing we're missing there.

**JIMMY RAY PURSER:** Well hang one before you address this, because I've got to say something before the engineers give me a beating if I don't address this. You said something pretty important, you said interoperability and I think you were heading there. But interoperability is a big thing that we need to discuss here for sure because that's the big issue here.

**DAVE LIZOTTE:** That's correct.

**JIMMY RAY PURSER:** Intra doesn't seem like that big a deal. I've got control of my network and my environment, I can kind of dictate what goes on here. But now if we take it to the next step and we're talking two separate companies here and they're separated by the cloud and now I'm wanting to trade this information back and forth, we're really talking about this is a pretty big deal. Now we're actually talking inter, right?

**DAVE LIZOTTE:** Yes, inter-domain federation is definitely, it's actually easier than intra-domain federation and I'll explain why in a second. But on inter-domain federation, you typically have two Enterprise domains on separate networks, obviously, and those two networks are trying to communicate to each other. So you have a gateway point where the protocols are being moved around to the point where they can communicate with each other through the systems. So basically, what I'm saying is that those protocols are going to have to know each other's language, they're going to have to be able to talk to each other's system and be converted so that they can listen and send message back and forth.

**ROBB BOYD:** You say that gets easier, is that because it's a gateway-to-gateway so you're kind of limiting the amount of points that are variable?

**DAVE LIZOTTE:** You're limiting the amount of points that are going to be communicated or the informational messages that are communicated back and forth. When you're doing intra-domain federation it gets much more tricky and much more harder. Imagine different systems on the same network. You have e-mail, you have telephony, you have messaging, you have IM and Presence. All these systems are trying to not only show presentivity, but they're also trying to send information back and forth. So how do you know which system's actually going to be the authoritative system?

**ROBB BOYD:** Oh, that's a good point.

**DAVE LIZOTTE:** How do you sync up all of these systems to make sure that one system can say I have the most up-to-date information on Presence or IM capability.

**JIMMY RAY PURSER:** Oh that is a good point. So is this design based upon a hierarchical format then so we actually do have some root level control?

**DAVE LIZOTTE:** For inter-domain federation you do. On intra-domain federation it's a little different. You're going to be dealing with a lot of systems that are using those different protocols that we discussed. And those protocols are going to have different informational messages that are being sent back and forth. The systems may or may not know or understand or have the same type of format or code for those informational messages.

**ROBB BOYD:** Well as I understand it there is a -- if you think of this inter-company federation, this is within the same company is kind of how we're referring to it --.

**DAVE LIZOTTE:** Intra-domain federation would within the same domain.

**ROBB BOYD:** But the idea is, what I'm thinking of here is that there is not a standard that says if this system wants to talk to a system that's perhaps not made by Cisco, gosh, there's nothing that says this is the way we're going to standardize around the communication. What is the status of standards in this area?

**DAVE LIZOTTE:** Well currently the standards are still being worked. There have been some standards like XMPP that have been submitted. One of the issues that we're going to fight is not only with the standardization of protocols, that's one thing that you have to get vendors and companies to agree on, but then you also need to get the diplomacy part settled in as well. And what's going to happen there is that we need to have stronger diplomatic discussions between vendors. It's one thing to agree on the protocols, but the other thing is how are we going to get vendors to open up their solutions and allow more flexibility or parts of their solutions to be distributed back and forth between the two solutions.

**JIMMY RAY PURSER:** You know, man, I'm a hacker by heart and I'm always looking for any opportunity to exploit protocols here, for legal reasons and stuff. I'm wondering, you're saying some pretty scary things there from a security standpoint, lack of standards, extensible framework and then transferring a lot of availability information back and forth that as a security auth that's going to tell me a whole lot about who's actually in that network and what my risk factor is for maybe even social engineering my way into the network if I can grab that. What are we doing to secure these communications?

**DAVE LIZOTTE:** Well one thing with Federation is to federate really means you're going to have some sort of autonomy in your system and you're going to lose a little bit of that to federate because there's three key areas that you're going to have to focus on. One of those key areas is going to be what kind of information are you willing or going to share with each other. The other area is going to be what kind of policies are you going to setup, who are you going to trust and what level of capability will you have to trust. In other words, what can you access, what can you not access?

**JIMMY RAY PURSER:** So it's a two-way.

**DAVE LIZOTTE:** So yes, it's two-way. And then the other capability is going to be basically, once again, how you set those policies and protocols that are going to speak to each other. So what protocols are you going to use to communicate with each other. Those are the three main areas, especially with security being the highest visible area.

**ROBB BOYD:** Okay, so I know that we work with other companies to do this. We work with Microsoft, we work with IBM. These are the ones our customers have told us are important to them. So I know there's been some there, but I'm curious because I want to understand where we currently stand with those agreed upon standards so to speak.

**JIMMY RAY PURSER:** That's a good call.

**ROBB BOYD:** But I also wonder since we just made this acquisition of Jabber, which I know enters into a lot of this, what does that mean to us. Does that change the direction that we're supporting from a standard perspective or something else? Am I not understanding what we're going to do with that?

**JIMMY RAY PURSER:** Yes.

**ROBB BOYD:** As much as you're allowed to discuss I guess.

**DAVE LIZOTTE:** Let me touch base where Cisco currently stands. Cisco's really leading the way, I think, in open standards in the industry and trying to push other vendors to do so as well. But currently right now with Cisco we support inter-domain Federation with Microsoft and we're currently working on other inter and intra domains solutions.

**JIMMY RAY PURSER:** Inter-domain?

**DAVE LIZOTTE:** Yes, inter-domain --.

**ROBB BOYD:** Inter-domain Federation with Microsoft.

**DAVE LIZOTTE:** That's correct. A good example of where the lack of interoperability is and the vendor diplomacy that needs to occur is with Microsoft, for example. Within RFC-23, one of the RFCs for SIP, basically Microsoft OCS doesn't follow the SIP register description. And with that what that really means is you can't take a Microsoft Office Communicator client and have it registered to like a proxy or a back-to-back user agent, for example, Cisco Unified CallManager. But on the other hand too, what that does is it doesn't allow a compliant SIP endpoint to be able to register to Microsoft OCSs either. So with the interoperability there and the lack of standards within the industry, we still have key areas that need to be focused or worked on.

**JIMMY RAY PURSER:** So I'm just kind of wondering, didn't mean to cut you off, but it's funny that you said that Microsoft does comply stuff, we're talking to them, but they say well Cisco doesn't comply with this because they can't do that with us.

**DAVE LIZOTTE:** That's correct.

**JIMMY RAY PURSER:** It really is kind of this is where standards start to become kind of important when we're actually talking this interoperability stuff.

**DAVE LIZOTTE:** That's correct and it's larger than that too. If you look at all the major internet industries out there, Yahoo, MSN, so forth, AOL, they're all more focused on Jabber XMPP as a protocol, whereas most vendor solutions are more focused on Simple which rides on the back of SIP. And I think that the vendors are doing that because of the relationship between Voice over IP and SIP. They're utilizing and leveraging SIP and the extensions for all the other things that SIP provides as well, such as authentication, authorization and so forth.

**JIMMY RAY PURSER:** Plus easier to read for troubleshooting and stuff. Personally, I kind of like the Simple method a little bit better because it is human readable. It's kind of an e-mail format or even HTTP kind of SMTP type format. Makes it easier to decode stuff. I'm kind of curious for you, what do you prefer when you're working with the stuff.

**DAVE LIZOTTE:** I'm very partial and familiar with SIP and the SIP setup, the SIP call session control and tear-down as far as that comes out, to be able to look at that code and read it and troubleshoot. It seems to be much more quicker and agile for me to use.

**ROBB BOYD:** So, in general, we've made some progress in there but we've got some things we need to improve on but, in other words, that's par for the course, it's the way standards to evolve, is it not?

**JIMMY RAY PURSER:** Very much so. One of the things that you and I talked about and some of the other SIP experts here in Cisco is that I was reading an RFC one night that was actually submitted in July of '08 for this type of interoperability and also that deals with some of the scalability issues and things of that nature. So we're not just writing this code and putting it out there and saying this is the Cisco way to do it. We're saying look, here's a great way to solve some of these problems that we're trying to take care of and trying to set the leadership for the whole community, which I think is very, very valuable.

**DAVE LIZOTTE:** That's correct. And to answer your question on Jabber, Cisco acquired Jabber and Jabber utilizes XMPP, obviously, as the protocol. But it's a very extensible protocol. So I think Jabber is going to be a great addition to our Unified Communications portfolio from a Cisco perspective.

**JIMMY RAY PURSER:** Oh, yes.

**DAVE LIZOTTE:** But because it's so extensible we're going to be able to move that into more like workflow applications, and we're also going to be able to take high latency and high bandwidth type capabilities such as video and streaming video and those types of capabilities and use that protocol. What that's going to do is it's going to really take that kind of that gray area between synchronous and asynchronous communication and it's going to make those a lot closer and a lot less different and we're going to be able to really, I think, add value to the feature and functionality sets that that will --.

**JIMMY RAY PURSER:** Yes, because with XML, obviously, it's a little bit easier to actually do that stuff with, an XML-like format.

**DAVE LIZOTTE:** That's correct.

**JIMMY RAY PURSER:** I didn't think about that. That is really cool.

**VALERIE ST JOHN:** Well thanks for taking the lid off of collaboration protocols for us, good job. Well straighten your propellers and look sharp. Next we move from Federated Presence to TelePresence coming up. Online, on demand and on the go, this is TechWise TV, technology you can use from geeks you can trust. Companies are increasingly turning to media-rich applications like video, to increase worker productivity by improving not just collaboration but all those ancillary benefits it brings like communication, training and overall cost reduction. Robb, what areas does Cisco get involved in here?

**ROBB BOYD:** Well it's more than you might even think actually. We've been bringing many new video technologies to market over the last few years and these products cross multiple functional boundaries, everything from real-time collaboration like we're talking about today, to surveillance, digital signage, streaming video and a bunch more. Our ability to design and construct networks that facilitate real time, and that's the key, business-quality video is what makes us unique.

**VALERIE ST JOHN:** And of course, while I think of that high grade video I think of demands, real drains on the system. Jimmy Ray, what kind of demands does video place on the network?

**JIMMY RAY PURSER:** Oh mercy! Man, it's big. You know, it really depends upon the grade of video that we have. We can download and watch web cams over the internet on a pretty low speed circuit and see that and kind of get web cam granular type of looks to it. The more realistic we want that video to be, the more it's actually going to put a bigger tug on the network. So we have to design our networks to actually support it a lot better. There's a lot of folks out there today that support video multicasting, if you will, and they kind of do that based on the older model where we're talking about streaming a small set of packets, kind of giving them a higher priority and then kind of moving on. Now we're moving to more of an HD component. If we start prioritizing that traffic better we'll starve our networks or our network out. So there has to be a more intelligent way of doing this. So it can really put a big load on the network, but with good design and good planning it actually isn't that bad.

**ROBB BOYD:** Well and TelePresence has its own network considerations certainly. Let's make sure that we're talking about the same thing here. So from a definition purpose, TelePresence is an advanced video technology that creates a live face-to-face experience over the network and let's individuals interact and collaborate like never before. In fact, it's an immersive in-person experience and that's the part I think has to be stressed here. It's very difficult to describe but very obvious in experience.

**VALERIE ST JOHN:** And the newest, most affordable option for TelePresence is this CTS 500 Personal TelePresence unit. Jimmy Ray has Nathan Shaw, an engineer from the product team in his lab to review it with us. Welcome, Nathan.

**NATHAN SHAW:** Thank you.

**VALERIE ST JOHN:** Looks like Jetsonesque over there.

**NATHAN SHAW:** It is very Jetsonesque.

**ROBB BOYD:** I think it looks (inaudible) but I appreciate you bringing it over, Nathan, and we've been excited about having you come here. Can you start walking us through? Because, first of all, at a glance, this actually looks extremely simple, but it think that's part of -- it belies the complexity that lies behind it, but simplicity's part of the charm, right?

**NATHAN SHAW:** Right.

**ROBB BOYD:** What kind of things are making this thing different right now?

**NATHAN SHAW:** So I'll kind of start off, give you guys a high level of what it is here. So this is our CTS 500. It's a completely integrated TelePresence solution. So I'll point out a few of the things that make it different. First of all, this is designed to be placed within an executive office, maybe an executive home office.

**JIMMY RAY PURSER:** Or a TechWise lab.

**NATHAN SHAW:** Or a TechWise lab, it would look great.

**ROBB BOYD:** Could you be more obvious?

**NATHAN SHAW:** So we have a few different options. This is actually the pedestal option. It also can come in a desktop mountable option and also a wall mountable option. When I say integrated, I mean this is still TelePresence, 1080p, high definition, streaming video, spatial audio. We have our camera here, we have our speakers here, all integrated into the bezel here. We have a microphone array here so we don't have additional microphone, so this will pick up participants anywhere in the room.

**JIMMY RAY PURSER:** I thought this was just an HD set that we actually just kind of retrofitted to actually run on here. But it's obvious that with some of the orientation license stuff, this is really pretty custom designed.

**ROBB BOYD:** You were looking the light across the top is used for indirect light so it comes across a bit more natural.

**NATHAN SHAW:** Yes, as we know here in a studio a lot of the problems with participants is the facial lighting. They get the black eyes and not enough facial light. So in a second here we'll make a call and this thing will turn on and so this actually helps give the participant more facial lighting.

**ROBB BOYD:** I like that as well. Now you pointed out while we're still looking at this physically, there's directional lights here on each side that you can't see when you're looking at it straight on, right? What's the purpose of those things?

**NATHAN SHAW:** So the purpose is to give the participant an idea of if they're on camera on and if they're in the right location. So, for example, if I'm here trying to talk to someone they're not going to be able to see me. Obviously, I need to be on camera. So the directional lights, we have two on the sides and we actually have two here that are pointing up. You can't really see them from there. So from the sides, let's say I'm right here, well if I can see the directional light, which I can from here, then it means I'm off camera. So if I'm right in front of the camera where I'm supposed to be I won't be able to see any directional lights.

**JIMMY RAY PURSER:** That's kind of cool. It's like how they land planes on aircraft carriers and stuff. They call the (inaudible).

**ROBB BOYD:** Okay so everything's connected to the phone. The phone is how we actually interoperate with the system. Because what I've seen is normally an executive's going to have a phone on their desk.

**NATHAN SHAW:** Exactly.

**ROBB BOYD:** Ideally, it's a Cisco IP phone. Of course, it has to be if you're using this system. So if I'm sitting here, like this is my desk, the configuration I've seen in pictures that I thought was really kind of cool is I'm seated here as an executive, I've got meetings in different parts of the world all the time, literally all I have to do is you just dial a phone number, you look up and you're meeting with whoever's reporting into you, wherever that meeting's got to be. Whether it be another room or another person with a personal TelePresence, inside or outside your company, you never even leave your desk chair from that standpoint.

**NATHAN SHAW:** Exactly. At the same time, just to mention, well before we dial it up, as far as part of the integration system, the executives might be thinking oh my god another display in my office. I have my computer display, I have my TV, whatever. So just a couple more integration features I wanted to point out is while this is not being used for TelePresence, you can actually just plug your laptop in and it will display your laptop screen in a larger (inaudible).

**ROBB BOYD:** Like a display projector or something.

**NATHAN SHAW:** Exactly. And another feature is it has a secondary HDMI port for our DMP. We have a digital media player solution. So we can actually be streaming like a corporate TV channel or --.

**JIMMY RAY PURSER:** TechWise TV or --.

**NATHAN SHAW:** Anything you want through DMP that would be perfect.

**ROBB BOYD:** Jimmy Ray on demand.

**NATHAN SHAW:** Someone dials in TelePresence and it automatically knows and it'll switch you over to the TelePresence call.

**ROBB BOYD:** I want to see if this thing works.

**NATHAN SHAW:** Okay, you want me to dial it up so going to go ahead and hit a button here on our phone and call a room. You can see everything lights up.

**JIMMY RAY PURSER:** Oh, no, it's Dave!

**ROBB BOYD:** So he's on a CTS 3000 sitting in a room, in fact, he's probably in San Jose, and he couldn't be too far because we just had him on a segment.

**NATHAN SHAW:** Exactly.

**ROBB BOYD:** But that's very neat because he obviously looks very real. But again, this is an experience you --.

**JIMMY RAY PURSER:** How many sites can I dial in here? So if I set one of these up from here to San Jose, from one room to the next, if you will, that's neat.

**NATHAN SHAW:** Right.

**JIMMY RAY PURSER:** But to be feasible, I need to actually hit quite a few sites.

**NATHAN SHAW:** A few sites. Well, currently with our CTMS multi-point solution you can dial up to 48 segments or 1000. This would be considered a segment. A 3000 is three segments. So up to 48 of these or 16 3000s or any combination.

**JIMMY RAY PURSER:** Oh because you have more bandwidth --.

**NATHAN SHAW:** That's right because the 3000 requires three segments, so it would be 3 out of that 48.

**JIMMY RAY PURSER:** Okay, that's cool.

**NATHAN SHAW:** But it's more than I think we'll need in the near future.

**JIMMY RAY PURSER:** What do you do, does the screen just split then when you're talking to somebody?

**NATHAN SHAW:** Actually, no, we never split our screen. That kind of breaks our religion as far as TelePresence goes. So you'll always maintain full screen of the person. What happens is it's voice activated switching. So if we call someone else, let's say another 1000 or 500 call in to this call. When they talk, their screen's going to come in and switch in.

**JIMMY RAY PURSER:** Really?

**NATHAN SHAW:** Yes.

**ROBB BOYD:** I'm going to step in on behalf of Jimmy Ray because I think you're enjoying some of the ancillary, some of the benefits that I usually like to cover at the same time.

**JIMMY RAY PURSER:** No, we're not getting technical.

**ROBB BOYD:** (Inaudible) get mad at me.

**JIMMY RAY PURSER:** No, you're right you're right.

**ROBB BOYD:** Let's start with something you and I were talking and learning from Nathan a little bit earlier, was what is the attachment between the phone and the TelePresence unit in terms of are they different extensions, is this a complicated setup, is a CallManager required, what kind of things do we need to understand about what's making all this magic happen?

**NATHAN SHAW:** I can make it real simple in a few words. Basically it runs on CallManager. You do need Cisco Unified CallManager. But it looks like a telephone. It looks like a regular phone on CallManager.

**JIMMY RAY PURSER:** So this unit registers as a phone with CallManager.?

**NATHAN SHAW:** Right, well the device type is going to be a CTS 500 but as far as configuring it it looks exactly like a phone.

**ROBB BOYD:** So these are sharing an extension.

**NATHAN SHAW:** So these are both technically on CallManager and they're sharing a line, so it's a shared line appearance. So basically it looks like just one phone to CallManager.

**ROBB BOYD:** The way good video's got to be, it's got to be as simple as a phone call.

**JIMMY RAY PURSER:** What do I have to do to get my network ready to do this? I mean, we're talking this is an HD signal. Typically an HD signal is over a Gigabit. That is a lot. I'd have to run 10 Gig to the desktop over here.

**NATHAN SHAW:** Right, so typical HD is roughly 1.5 Gigs or so, so that's a lot of bandwidth.

**JIMMY RAY PURSER:** That's heavy duty.

**NATHAN:** Yes, so we're actually able to compress that down to over 99% compression ratio to roughly 5 Megs. So a single stream --.

**JIMMY RAY PURSER:** 5 Megs?

**NATHAN SHAW:** of 1080p, high definition video we're running at 5 Megs.

**JIMMY RAY PURSER:** Really?

**NATHAN SHAW:** Yes, now --.

**ROBB BOYD:** That's a single stream he said?

**NATHAN SHAW:** Single stream, so 3000 would be roughly 15 Megs. So I do want to warn everyone out there that we also have to provision for bursts, because it's so compressed this traffic does burst. So there's a lot of deeper digging as far as network requirements are concerned, but roughly 5 Megs per screen, yes.

**ROBB BOYD:** So if someone's looking to do a solution like this from a network readiness standpoint, what type of things do you recommend that they do? Because I think there's a fear also this looks so simple. All you plugged in, because we don't have this on camera, but is an Ethernet cable to bring this up because I came back the triple, the PRIs and BRIs days. It's simple, I think I read you guys even do a self-setup. People can plug these in and go but that also doesn't mean we can ignore the network considerations on the backend that need to be in place. How do you know if you've done it right or if all the intermediary points need to be addressed.

**NATHAN SHAW:** Right, well we have actually quite a bit of documentation right off and it's nothing I can just tell you in a sentence or two if you have the right network or not. So there's definitely a lot of documentation. You'd have to become familiar with your customer's network and make sure you can support the bandwidth requirement and such. But as a rule of thumb, TelePresence is very bandwidth intensive. We look at three network conditions very closely and this is latency, jitter and loss.

**ROBB BOYD:** (Inaudible).

**JIMMY RAY PURSER:** Just like voice.

**NATHAN SHAW:** Exactly, so we're treating it like a voice video call. So ultimately the partner is the one -- the partner will come out and perform a network path assessment. And so they'll actually bring their tools and they'll set up and device if the network is going to be ready or not and

can support TelePresence. And as far as preparation for it, you're going to need to look at your network architecture and see really how much bandwidth can you support and what WAN links do you have coming in and what's the bandwidth on those.

**ROBB BOYD:** Is there customer accessible documentation that they could kind of self look at a few things?

**NATHAN SHAW:** Yes.

**ROBB BOYD:** To kind of say, oh, wait I have this router which is not supported or it doesn't support this protocol or won't pass.

**NATHAN SHAW:** Yes, I would work more closely with your ATP partner and work very closely with the ATP partner and the account team.

**ROBB BOYD:** Certain partners are certified (inaudible).

**NATHAN SHAW:** Yes, exactly, we have TelePresence ATP partners.

**JIMMY RAY PURSER:** What happens when I share documents on a unit like this?

**ROBB BOYD:** That's a good point.

**JIMMY RAY PURSER:** Because I know on the CTS 3000 it's pretty cool. So can you not share?

**ROBB BOYD:** On there it's underneath.

**NATHAN SHAW:** No, this is part of the integrated solution of the 500 so you have the option. We can actually plug in an alternate display, so we can have another little display off to the side. But remember the executives they don't want too many displays. So we can actually do a picture-in-picture. So we can bring up a little picture here and you would see it here and they'd be able to share documents so we'd be able to do it on the same display.

**JIMMY RAY PURSER:** Really?

**NATHAN SHAW:** Yes.

**ROBB BOYD:** That's wild.

**NATHAN SHAW:** Only documents. We don't do people, pictures-in-pictures or TelePresence picture-in-picture.

**JIMMY RAY PURSER:** Well, no that would kind of ruin --.

**NATHAN SHAW:** It ruins the experience, right. So just the documentation and just on the 500, but yes.

**ROBB BOYD:** Some of the things that I've seen that amaze me is how this is opening up opportunities that people hadn't looked at before. So we've got retail stores that are looking at sharing an expert that is only available in a certain store or within a call center or something like that and now you've got remote locations or healthcare operations that need a doctor that's a specialist in a certain area. They're now collaborating with specialized equipment, but they're also getting that face-to-face. And I don't want to say because people go we've had video conferencing around for a long time, but one of the reasons video conferencing has never taken off is because it's been very difficult to manage and the quality has been very problematic. What's funny is I have never seen a picture or anything screw up on these things because the network always gets designed right from the get-go because that's one of the big requirements. But you see people doing business differently. You see people not having to travel as much. And unfortunately, sometimes we get technology like that and sometimes it's not about less travel, it's about being able to have more meetings because we're traveling less. But that means an increase in productivity, when we're collaborating using tools like this. I like it.

**JIMMY RAY PURSER:** What is the application we're using actually to share, to drive this, because the phone is what's turning this on, it's our operating panel to do this? What is our application sharing in between here to make this actually work?

**NATHAN SHAW:** Right, so what we use --.

**JIMMY RAY PURSER:** Because I've never set up one of these so I'm really interested how this communicates.

**NATHAN SHAW:** Yes, so it's a codec and a codec is a box is basically what we use to compress the video and audio and send it to the other TelePresence end points.

**JIMMY RAY PURSER:** You say a codec is a piece of hardware.

**NATHAN SHAW:** A piece of hardware, it's basically the brain of TelePresence. So the codec talks with the phone and sends a small application to the phone that allows you to control the codec through the phone.

**JIMMY RAY PURSER:** Very cool.

**ROBB BOYD:** I love it.

**VALERIE ST JOHN:** This feels like a heavy moment in history here, guys. Today we're all crowded around the TelePresence unit, tomorrow it may be in everyone's homes. Thanks, guys, very much, enlightening.

**JIMMY RAY PURSER:** Good call.

**NATHAN SHAW:** Thank you, oh, sure.

**ROBB BOYD:** And thank you.

**VALERIE ST JOHN:** No question that TelePresence passes the cool and functional test, coming up we talk to the leader in web-based collaboration to ask what's next. How are you changing the game, coming up. What do you think of for web collaboration? Well WebEx, of course, for most people. It's the recognized brand for leadership in collaborating on the web. But Robb, we have two big questions to answer today, right?

**ROBB BOYD:** We do, so let's jump on the first one only, however. The first thing that jumps out at me and I've heard this come up before, it's around this notion of Software as a Service. That's a category in which this type of product gets delivered in, because it's something I don't have to install, I don't have to actually do something. So there's less to see. But the benefit there is that you've got a level of complexity that's hidden behind the scenes, is a pretty face. So what's behind that pretty face? What is the differentiator? Because we know that WebEx does a lot of things better than others and we're asking people to build their business behind some of these services or many of these services. So what I want to understand is what is that differentiator? My hunch is it's the network. The thing is when I'm connecting to it via the internet I think of that as a network so is that all there is to it? There's got to be more.

**VALERIE ST JOHN:** Right, well to help clear some of this up we are happy to be joined once again by David Knight, director product management for WebEx. Welcome, David.

**DAVID KNIGHT:** Glad to be here.

**VALERIE STOHN:** So how would you respond here, what is the differentiator?

**DAVID KNIGHT:** The differentiator's the network.

**ROBB BOYD:** Okay, break that down a little bit more would you.

**JAMMY RAY PURSER:** Thanks for joining us.

**DAVID KNIGHT:** The WebEx services are delivered via the WebEx MediaTone network, which is a real time optimized network of non-globally linked data centers that ensures that regardless of where you plug into, you're going to get good performance when you try and access a WebEx meeting or join a WebEx connect team space.

**ROBB BOYD:** I want to hear more about the network, but let me make sure just so we've understood the distinction here is because often we think of applications that are delivered with the web interface are just sitting in a server or a server farm serving up things, maybe they're cached in some other places through an agreement with somebody. But what you're saying is there's the product that you see and then there's the foundation that was uniquely built which is a completely unique network separate purpose-built for this?

**DAVID KNIGHT:** Correct.

**ROBB BOYD:** So what goes into a purpose-built network like that?

**DAVID KNIGHT:** Oh lots of stuff. Some of it is simple application level stuff that you'd expect in any application, databases and middleware, etc. But there's also a whole delivery infrastructure, so a physical infrastructure of nine data centers and dedicated bandwidth between them, dedicated peering relationships at each one of those locations, Cisco powered network gear to optimize the performance of that entire network. And then all of the technology that we built on top of that to manage the deployment, distribution, uptime, upgrade, failover, redundancy, etc, so that all you have to do is plug in your browser, point it at our site and it works. We take care of the rest of it for you.

**ROBB BOYD:** Now you guys do a lot of calls, a lot of meetings simultaneously. You showed me something kind of neat that you actually can show the real-time activity occurring or whether --.

**DAVID KNIGHT:** Yes, we can. One of the things you have to do if you're running a network like this is know where everybody's coming from, what their performance is. So we have an internal tool that we use but this is an external tool that I just want to go to, which is our WebEx activity map. And if I refresh this, this is a real-time view right now as we're filming this of where people are in WebEx meetings. So each one of those dots is geo-located to a public IP address where they're accessing the service. And so as you can see, there are people all over the world literally at this very moment in a WebEx meeting. I'm still trying to figure out I can get one of the jobs out here.

**ROBB BOYD:** Two point, yes.

**DAVID KNIGHT:** That's why, we won't ask what's going on over here in Pakistan.

**ROBB BOYD:** (Inaudible) can you listen into a call?

**DAVID KNIGHT:** No, can't do that. Full end-to-end encryption, switched network, each session has its own keys, so we can't see what's going on but we do manage the flow control so we ensure the performance and reliability of that session.

**ROBB BOYD:** Well that's a good point actually because Jimmy Ray, obviously, you always care about security. But I know you've done some investigation on this network, as well. What kinds of things have you been uncovering?

**JIMMY RAY PURSER:** Well you know one of the things that I've noticed in the 18 years I've been in networking is that any time somebody actually gives a network a name, it's usually pretty heavy duty. And when we heard of MediaTone my first thought was that's an interesting name, what does that really mean, let's dig into it and take a peek. I was really surprised at the thought that went in here behind this network. So let me go to the tablet here. You know, we'd already talked about a few things where we've got a bunch of different WebEx data center, if you will, scattered all over the world. But one of the things that was also mentioned is how they have peering agreements with the major ISPs

out in each of these locations. And again, that's actually using BGP to connect back and forth. It's pretty costly.

**ROBB BOYD:** Yes, they don't BGP with just anybody.

**JIMMY RAY PURSER:** No, absolutely, not. No, you actually have to have a lot of different agreements and sign a lot of stuff. The advantage of doing this is by scattering these all around the world is that if we're actually talking about starting a meeting here and here I am in Wisconsin and I want to meet with somebody over here in Germany, one of the things that would typically happen on the internet is that I would go through a bunch of different hops to actually get to where I needed to go. By the way this network is actually physically designed it means that they're either bypassing all these hops because the internet's all best effort stuff, right? And so to actually be able to deliver the stuff reliably what you guys do -- and I tell you what, when I first started using WebEx that was the thing that impressed me the most was how the audio, the video will sync up and how I could do PowerPoint presentations and deliver media and use this to actually share IOS interfaces, to actually show command workshops. We do that for this show and stuff. And it works right every single time. And the reason that it happens, besides application layer stuff, is that the folks here and no matter where they're at, they're only a few hops to get onto MediaTone and then MediaTone is actually handling this based upon some of the same methodology that was used to build the PSTN, the publicly switched telephone network, and being that is all switched to MediaTone.

**ROBB BOYD:** Guaranteed delivery, yes, you get a real path all the way through.

**JIMMY RAY PURSER:** It's circuit-based.

**ROBB BOYD:** Yes.

**JIMMY RAY PURSER:** So that I'm setting up a dedicated pathway, a circuit, and then tearing it down after that session. But the most important thing about this is that it's synchronous. I'm actually sharing this data in real-time and to make this work as it's designed out is they actually use something called UCF, Uniform Communications Format. And so what they do with this, and you help me out if I'm misrepresenting this or don't actually get technical enough, is that when you fire up an application here, so I'm actually talking -- and it's not a big deal to share a voice call, right. That's a conference call and been doing that for years. But now once I start adding the burden of sharing your presentations and video and CLI interface demos and stuff, I want to make sure that if I tell somebody on the phone, okay, at this point we're going to type in config T, that when I say config T I'm typing it, it is actually doing c, o, n, f, space T to actually show that on the screen so my voice and stuff will sync up. And that's a real big deal. What they're doing is they're using UCF and they're actually compressing that data and making sure that by the time that I fire up and deliver that information it is synchronized with everybody else in this format because it's going up to the MediaTone network so this is MediaTone when it says MT here, because I forgot how to spell Media.

**ROBB BOYD:** No one can read your handwriting anyway.

**JIMMY RAY PURSER:** That's kind of true, too. This is where definitely, correct me if I get this wrong, but it kind of works a lot like how we do multicasting so that if I'm going to send a video to you, I don't want to send a video to you and I send a video to Valerie and send a video to you and then send a video to Leif here on the camera. It eats a lot of bandwidth. What I want to do --.

**DAVID KNIGHT:** So what we do is instead you take that piece of media or that screenshot or whatever, you push it up to the MediaTone switch. That MediaTone switch is going to cache it and rebroadcast it out to all the attendees.

**JIMMY RAY PURSER:** And there you go.

**DAVID KNIGHT:** But what's really important is, unlike other technologies, this is a meeting and people might have different bandwidth. So let's say you're sitting at your desk on a high speed network and you're sitting on a 3G network on your car. How do we optimize the performance for both of these?

**ROBB BOYD:** For each one, same meeting.

**DAVID KNIGHT:** In the same meeting. It means you need to have dynamic flow control and unique buffer management and the ability to say oh, we know you're behind, probably not unusual for him to be behind. And maybe throw out a few frames and get you caught up but give you the full fidelity experience. That's what the whole MediaTone network is going to do and we're going to do it dynamically for everybody in the meeting regardless of your geography.

**JIMMY RAY PURSER:** And I mean, we could obviously go on this to a long time, but I want to wrap this up real quick and just also just one thing here talk about the redundancy features that you guys have built into here.

**ROBB BOYD:** Yes, really important questions.

**JIMMY RAY PURSER:** The global load balancing so that if I am here in Wisconsin and I'm connected with somebody over here in Germany, that if I lose a connection here, because this data is replicated in real-time, I transparently failover to this other data center and the meeting keeps going.

**DAVID KNIGHT:** Absolutely, not only --.

**JIMMY RAY PURSER:** I mean, that's incredible.

**DAVID KNIGHT:** And in the running meeting. So it's not like I re-login, we just fail you over. The other part of that is that's also how we do all of our routine maintenance. So we upgrade our customers to new releases and they don't even know because we --.

**ROBB BOYD:** Whole notion of the service, yes.

**DAVID KNIGHT:** Because if you're running a global network you saw this, it's all the world, there's no maintenance window because --.

**ROBB BOYD:** It's a 24-hour world.

**DAVID KNIGHT:** It is a 24-hour, 7 day a week world and so this redundancy is critical because people don't think of meetings as mission critical. But think about how valuable this is, you've got 10 people on the phone. You took forever to get it scheduled. If that goes bad, you wasted -- it's really valuable time. And so that's why we invest in this and it's really hard for people to put this same level investment into a traditional deployment because they don't have the scale to justify it.

**ROBB BOYD:** Well customers are going to have trouble doing this if at all and certainly that's a big lead that we've got over, I think, a lot of other people doing maybe similar sounding services. But I think we make a lot of mistakes when we think that meetings is all WebEx does and this is really why I wanted you hear and that was the second of my two questions, which is what's happening next. We had you on the show before, I think it was episode 31. We did WebEx Connect. It was prerelease so it was certainly interesting but I know you guys have continued to tweak and prod and come out with some new things and I'd like for you to take us a little bit deeper. So anybody that wants to know what that basic is you can go back and look at the other show. This one I want to say --.

**JIMMY RAY PURSER:** Let's geek it, man.

**ROBB BOYD:** Let's get the high level and then let's take us deeper. Is that cool?

**DAVID KNIGHT:** Yes, absolutely. So it's been what, six months since I was on?

**ROBB BOYD:** At least six, yes.

**DAVID KNIGHT:** Yes, well, we've done two releases since then.

**ROBB BOYD:** Two?

**DAVID KNIGHT:** Two. So the power of the internet innovation model. We release every three, four months. And so it's now a production product. And not only is the application that I demoed to you production, but so is the development platform. And we've had some really interesting applications get built on the platform.

**ROBB BOYD:** Do tell.

**DAVID KNIGHT:** So let's take a look and remind people briefly what the application is. And then we'll show how we can build some interesting apps.

**ROBB BOYD:** Love it.

**JIMMY RAY PURSER:** Do it.

**DAVID KNIGHT:** So you might recall that WebEx Connect is our Unified Communication Collaboration client. It brings together everything you need to collaborate into a single unified interface and it's built on that same MediaTone network so successful from the cloud. So I have my contact list here. I've got access to everyone. I can do IMs, I can do click-to-call using Cisco UC. I've got rich profile information that you see here, rich status information, which I really need to update, so on TechWise TV.

**ROBB BOYD:** I'll be seething with jealousy. Add the remarks about no four letter words.

**JIMMY RAY PURSER:** Absolutely.

**DAVID KNIGHT:** Yes, and I can do that at any time. I can just type in a customer (inaudible) message, kind of twitteresque, right?

**ROBB BOYD:** This just looks like instant messaging and stuff. Is that all there is?

**DAVID KNIGHT:** Yes, yes, and so let's go take a look at team spaces, right. And so here we've got our collaborative team spaces with our threaded discussions. The team has looked in, I can see the presence of all my team members who are working in this particular project. I've got my configurable widgets and tools that are available to me in various places.

**ROBB BOYD:** Explain the concept of a team space or a work space. I don't know if those terms are interchangeable. But I think that's the one thing people have trouble grasping. I think we still have customers and employees that look at some of this and they oversimplify it because it's a different way of thinking, but when you get your head around it you're like, wait a minute, this makes a lot of sense.

**DAVID KNIGHT:** Well think of it as a virtual war room. What do we do in the good old days when we could, when we were all in the same building.

**ROBB BOYD:** Everybody would be in this room.

**DAVID KNIGHT:** We took over a conference room, right? The conference room was dedicated to a big project. And everybody went in there and you had a conference table, you could meet at any time, you'd paper the walls with all of your project plans, etc. Well this is your virtual war room. So here I've got a space. It's my conference room. I can see who's in the space right now and what their status is. I've got a virtual conference table. In this case it is text, but I can escalate at any given time to a WebEx meeting or an audio or video call right within this space.

**ROBB BOYD:** Because you've got some Presence information there.

**DAVID KNIGHT:** Because I've got Presence information and everybody gets invited. No separate passwords or URLs to type in, they just launch in the space.

**ROBB BOYD:** Because they're authenticated already through their (inaudible) applications.

**DAVID KNIGHT:** Exactly, and then I paper the walls with my project plans and bookmarks, the custom widgets that I might have. And we've added a bunch of new features in that time as well. One of the latest ones in this release is a wiki so that now the team can have a wiki integrated right into their team space.

**ROBB BOYD:** How hard is it to add that kind of thing in there? Is it something that we had to wait for you to build. No, we built that one but as we've discussed you simply click and pick widgets out of your widget library and add them to your team space.

**JIMMY RAY PURSER:** Where do those come from? Would you write that, do you write that code yourself? Can you?

**DAVID KNIGHT:** You can, absolutely. There's a whole widget development framework which we're going to talk about here next.

**JIMMY RAY PURSER:** Oh, okay, okay.

**DAVID KNIGHT:** So the notion here is that you customize this team room for your particular business process and you can write a widget that talks against the salesforce.com if you're writing something for a sales team. Or if it were a training application it would talk to your registration system, etc. And we provide some out-of-the-box widgets but the development community can write their own. What if I wanted to actually write a custom collaborative application. Imagine, for instance, that we really needed an app and Cisco IT built this one on the platform, that helped manage an incident. What happens if something bad happens? We're located here in California, right? And all of a sudden something bad happens and we've got to get a response team in place. That's a collaboration application. I need persistent thread of chat, I need a meeting, I need access to documents for my response plan, etc. But it needs to be customized for just that experience. That's what we've got here. It's our virtual emergency operation center all written on top of the Connect platform. Each one of these is a Connect widget written in the Connect application framework. We've got our incident clock, we've got our agenda, we've got the action items, we've got the incident status, we've got status updates on the bottom, we've got action items that people need to execute against and we've got persistent chat where the team can communicate with each other.

**ROBB BOYD:** And they can bring in additional monitoring applications, other things like that, that having nothing to do with WebEx, but are important to that particular work space.

**DAVID KNIGHT:** Exactly.

**ROBB BOYD:** So you're not the middleware.

**DAVID KNIGHT:** Exactly. Files tax, we've got the instant response plan, what's the playbook. Instant happens, you don't want to be making this up as you go. You want to follow your plan. Well, we've got those plans stored here.

**JIMMY RAY PURSER:** How do you write that?

**DAVID KNIGHT:** That's written in an AJAX template.

**JIMMY RAY PURSER:** Oh, it's written in AJAX.

**DAVID KNIGHT:** So this is all in AJAX application. It's built on Dojo which is the industry leading Open Source AJAX framework.

**JIMMY RAY PURSER:** Absolutely.

**DAVID KNIGHT:** And accessing a backend set of services. So everything that we've demoed at the appreciated layer files, Presence, UC integration, conferencing, etc, is all accessible through Web services APIs. So you can write the simple match-ups in AJAX and build an app. And this app is actually a composite app, it's a collection of widgets.

**JIMMY RAY PURSER:** Okay, and where's that app being hosted at then?

**DAVID KNIGHT:** Well, the appreciated itself lives in the WebEx Connect platform so we've got a library and a whole application lifecycle and versioning and update management and provisioning.

**DAVID KNIGHT:** Yes.

**JIMMY RAY PURSER:** Okay, so we don't have to have a Connect server local.

**JIMMY RAY PURSER:** Are you guys hosting then?

**DAVID KNIGHT:** Oh, absolutely not.

**JIMMY RAY PURSER:** You guys are hosting.

**DAVID KNIGHT:** That's all part of MediaTone. And you just upload that. And then the widgets themselves access data from wherever the data lives.

**JIMMY RAY PURSER:** That's pretty cool.

**DAVID KNIGHT:** So in this case this data's being persisted in the CAC backend. We've got a custom object service, similar to Google Big Table or Amazon Simple DE, except it's full relational. So you can write custom apps, store data in the platform, takes advantage of all that failover, that GSB.

**JIMMY RAY PURSER:** It's fully relational, is that what you just said?

**DAVID KNIGHT:** Oh, yes, absolutely.

**JIMMY RAY PURSER:** You're kidding me?

**DAVID KNIGHT:** No, so you can do joins and all kinds of cool stuff in that service. And then take advantage of all the redundancy and distribution of the WebEx MediaTone network.

**JIMMY RAY PURSER:** Wow.

**DAVID KNIGHT:** And this lets you build either simple widgets like we showed in the team space, or complete collaborative applications like this one. Let me show you just one other one.

**DAVID KNIGHT:** Cisco is increasingly selling to small and medium business customers who are coming to our website to buy but we sell through partners. So we wrote a WebEx Connect app that's actually integrated into Cisco.com that connects our customers to our partners. So someone comes in, they're interested and we can route them in real-time based on Presence and a geo location match up with our partner database and Google to a partner, who can then launch into a WebEx meeting. And after the fact, you can actually create a collaborative team space. So we're on Cisco.com. This is live today. This is the partner section of Cisco.com and we've created collaborative team space. This is where we're sharing documents with folks. They're stored in the connect platform. So what's really cool about this is the customer has a completely Cisco.com experience. But the Cisco employee doesn't have to go out to Cisco.com. These same shares spaces where I'm sharing stuff with my customer, those are the same exact spaces that we have over here. So me as the Cisco employee, I can be living in Connect client on my desktop. The customer has a Cisco.com experience because you're not going to have them install an app.

**JIMMY RAY PURSER:** Right, no, of course not.

**DAVID KNIGHT:** But they're all operating on that same shared Connect platform. And so this application here, this is a web share portal application that is using the WebEx Connect APIs and development framework to surface team space, team members, etc, to Cisco customers in an integrated experience.

**JIMMY RAY PURSER:** That's pretty cool because you guys are hosting all this stuff so it really makes it you don't have to be a huge company to actually invest in this. You guys already have the infrastructure, just actually using Connect to actually make yourself look this awesome.

**VALERIE ST JOHN:** David Knight with WebEx Connect, thanks for joining us.

**DAVID KNIGHT:** Thank you.

**ROBB BOYD:** Thank you very much.

**VALERIE ST JOHN:** And we're now delighted to be joined by Venita Valencia with Learning at Cisco. Welcome, Venita.

**VENITA VALENCIA:** Thank you, Valerie, it's great to be back.

**VALERIE ST JOHN:** So you're going to give us an overview of what's going on with Learning at Cisco.

**VENITA VALENCIA:** Absolutely, and have some exclusive just for TechWise TV viewers.

**ROBB BOYD:** Oh, I want that.

**VALERIE ST JOHN:** We like that.

**ROBB BOYD:** I want that but I want to also know the learning games that you guys have been doing on the networks seem to be very popular. I'm curious if you've got any new things up your -- not that your sleeves are that long -- but do you have anything up your sleeves for new learning games or something we should be looking out for?

**VENITA VALENCIA:** Absolutely, and that was the exclusive I was talking about.

**ROBB BOYD:** Oh, it is, okay, good.

**VENITA VALENCIA:** So next month we are launching the Cisco Mindshare game. And this is a multi-level game for people interested in preparing for their CCENT and CCNE certifications. Now the really cool thing about Mindshare is that not only is it a new game, it's a new type of game. It's going to cover dozens of topics in one game. Now here's where it gets really juicy. Just for TechWise TV viewers and Cisco Learning Network members a chance to preview in limited edition beta release starting today.

**VALERIE ST JOHN:** Oh, wow. What topics does it cover?

**VENITA VALENCIA:** Well, it covers all of the core fundamentals of the CCENT and the CCNE certification. Now this is great if you're new to networking and you want an introduction in a fun way to see what networking is all about. And then also if you're far along into your studying and you want to stay sharp as you prepare to write for your exam.

**ROBB BOYD:** Just kind of a little reminders to kind of keep sharpening that saw.

**VENITA VALENCIA:** Absolutely.

**ROBB BOYD:** All right, well what about the other end of the spectrum? So I understand you guys are doing some new stuff on the CCIE side.

**VENITA VALENCIA:** Absolutely, so our rock stars, all the way on the other side, the experts.

**ROBB BOYD:** The ones with the circles around their eyes.

**VENITA VALENCIA:** Yes, the elite group of people around the world. So we recently launched for the first time ever in CCIE history, CCIE 360 learning program for CCIE routing and switching, which is the first authorized formal training for CCIE ever.

**ROBB BOYD:** See, I didn't realize that. So we've not had authorized training at the CCIE level?

**VENITA VALENCIA:** No, this elite group of people usually have been in the industry 12, 13, 14, 15 years, so they do self-study, self-preparation and they really rely on their history of expertise. Now for the first time they're going to have something to supplement that expertise, which is this formal Cisco 360 training. So for TechWise TV viewers interested they can go to the CCIE routing and switching page on the Cisco Learning Network. The great thing about Cisco learning network is that we have inspirational stories, videos from CCIEs around the globe talking about their experience with 360, talking about their years in the industry and really the value of the blood, sweat and tears that goes into making it to that level.

**ROBB BOYD:** Yes, what really happened on the other side.

**VENITA VALENCIA:** Exactly.

**ROBB BOYD:** This isn't just a paper degree kind of thing.

**VALERIE ST JOHN:** Right, these are people at Jimmy Ray's level.

**VENITA VALENCIA:** Exactly.

**ROBB BOYD:** Exactly, he's one of those as well. Before we run out of time, you guys have a promotion, searching for the next real IT star, or something like that.

**VENITA VALENCIA:** Yes, it's more than a promotion. Think documentary for the networking field. So the Cisco Learning Network is searching for the next real IT star. Now what that means is we're looking for someone to share their --.

**ROBB BOYD:** Should you look any further? Is it not that obvious?

**VENITA VALENCIA:** We're looking for someone to share the behind the scenes stories of their certification pursuit. Now this is an idea that came to us really from the community members, from them posting geez, you know, I've been studying for 10, 12 hours a day, I'm trying to fit in family life, I also have this other job, it's not related to networking, I can't wait to make it to my ideal certification. So we want to tell someone's story and in true collaboration spirit, the community will vote and decide who gets their features web associate.

**ROBB BOYD:** You know that picture, that picture Venita's going to be out front and she's going to go move that bus and they're going to move over and there's a certification on the other side.

**VENITA VALENCIA:** We're also going to give away some great prizes along with the web associates series winner. Getting their feature spot, they're also going to win some cool WebEx products. We're going to try to hook up some subscription to some WebEx productions and also a limited edition Cisco Learning Network web cam.

**VALERIE ST JOHN:** We love you guys because you have the coolest toys. Thanks very much.

**VENITA VALENCIA:** Thanks for having me.

**ROBB BOYD:** Absolutely, thanks for being here.

**VALERIE ST JOHN:** Since we are out of time, sum up for us.

**ROBB BOYD:** Well, if I were to summarize, I would say it's about pushing boundaries. That's what we're talking about the title, obviously, today. So I hope nobody missed that point. Video interactions have been redefined with TelePresence. There's now this quality of experience that allows you to ask, do I really need to travel, how much more can I really get done. And the productivity benefits of Presence now encompassing other platforms, allowing you to continue to accelerate. And then, of course, we talked about WebEx Connect. It is really something new to get your head wrapped around. Don't give up on that if we didn't quite get there today with you. But don't make the mistake of missing or seeing only one angle on this thing. It's so easy to try, download a trial, get started, experiment with this stuff, see how it can work into your processes, your business. And these are certainly not all the areas where Cisco's pushing boundaries, but I think these three that we covered probably serve as some of the best examples, I think, of where we're really stepping forward in making a big difference on the side of productive collaboration.

**VALERIE ST JOHN:** Excellent, and I'm anxious to get started on that. And for Robb Boyd and Jimmy Ray Purser, I'm Valerie St John. Thanks for joining us on TechWise TV. To find out about future episodes or to check out a complete archive of previous shows be sure to visit the Cisco Interaction Network at [Cisco.com/go/interact](http://Cisco.com/go/interact).