

04 IPC1 – IP Contact Centers

Hello and welcome to all of you to this “Cisco on Cisco” Seminar on IP Telephony and IPCC best practices. I'm Rich Gore, Manager of the Cisco At Work Team, a part of Cisco IT's Cisco on Cisco initiative. Now the theme of our show today is IP Contact Centers at Cisco. It's an overview of IP Contact Centers and the use of IPCC technology at Cisco. You'll get a chance to see the history and the future direction of IP Communications technology within our Contact Centers, focusing on IPCC. We'll look at the various business benefits from using these technologies within the Cisco internal Contact Center environment. Now, it's my pleasure to introduce the presenter and the expert on IPCC for today's show, Mary Mazon, who's an IT engineer in the Cisco Contact Center Applications and Technology Team, we call the CCAT Team. Mary has been with Cisco for an amazing eleven years and has been part of the Contact Center Operations Support Team, both before and during and after the transition to an IP Contact Center Environment. So Mary, thanks for coming today. Thanks for having me, Rich. It's nice to be here and to be able to present this information. Excellent. So please, do sit back and enjoy as we explore Cisco IT's use of IPCC to support the Contact Centers within Cisco. Let's start with the agenda.

CONTACT CENTER APPLICATIONS AND TECHNOLOGY AGENDA

Good morning. Today's agenda, we're going to take a look at IPCC and the technology and deployment strategies we use here at Cisco. We'll take a look at the internal Contact Center environment. We'll spend a little bit of time reviewing Cisco's history. We'll look at some of our productivity tools. And finally, we'll wrap up with how Cisco supports the internal Contact Centers.

TECHNOLOGY IPCC

So here we go looking at IPCC, both the technology itself and the advantages of using IPCC.

TECHNOLOGY IPCC

Interesting. IPCC is made up of a series of components. The telephone system is Cisco's CallManager. The ACD software or Automatic Call Distribution is the Cisco ICM. We do queuing of calls using our IP IVR. The call routing rules, how calls route through the environment, how we select an agent, where and under what circumstances we do route a call are also in ICM. Our reporting package is WebView and Cisco's Agent Desktop handles the call control. So for people who are not terribly familiar with Contact Centers, as I am not, tell me a little bit about what an automatic call distribution system is. What does that do? So what ACDs do in the environment, and they've been around for a very long time, is they will allow a caller to place a call into Cisco and either be queued for next available agent, so they help us wrap, take a client requirement and wrap a call routing scenario around it. Are we looking for the first available agent in theater? Perhaps we're looking for the longest available agent globally. So it gives us a way to get the caller to the best choice of agents on the first go. How does it know which agent is available and where and which is the best one, even harder? So there's some additional call routing rules that we built into ICM. Okay. We're able to skill the agent for particular skill sets. Perhaps in a case in point in AsiaPacific, we have language support. So we have agents that can speak Japanese and English. So we'll build those client requirements into the ACD with call routing rules in ICM. Okay, so the ACD is the thing that understands where the agents are and what they're doing and who to route the calls to based on their skills and their availability. Exactly. Oh, okay, thank you. You're welcome.

TECHNOLOGY IPCC

IPCC gave us several or this whole list of things in terms of what the benefits were to going to IPCC. The cornerstone of our technology really is the ICM which is your Intelligent Contact Management system. And ICM is technology independent. So we can blend both IP

technology and TDM which is our Legacy PBXs that are out there in the environment. It also gave us location independence, so we can have agents located everywhere in the US, but have them connected to an IPCC cluster and have that functionality for call routing for Contact Centers. It also gave us flexible administration. As an applications consultant for Cisco I can administer a global call routing application for customer service from my desk in San Jose. And that includes the EMEA theater, as well as the AsiaPacific and US theaters. That's amazing. Good stuff. You mentioned that it's able to operate in a blended environment of older and newer telephony systems. Did Cisco actually do that, have a blended environment for a while? We did. The best part of IPCC, and we'll see that in a couple of slides forward, and the deployment strategy was because of ICM we were able to convert a site. So while we still had some Legacy PBXs in the environment, those ran fine and then we converted them to IPCC. So we were able to stage the deployment and move through globally with no impact to the call routing environment. Oh, that's impressive. It is impressive. It was a -- ICM and IPCC are really very powerful tools for the Contact Center environment. Thank you.

DEPLOYMENT STRATEGIES

So now we'll move into a little bit about how we deployed these technology improvements. There are times that change is tough in an environment. So having a good deployment strategy where you can minimize the impact to the community, as well as bring this new technology and new features and functionality is very important.

ICM DEPLOYMENT STRATEGY

So we'll start with ICM and what we did with ICM it was going to be a change to how we handled the business routing rules. So we found a strategic partner, which happened to be the TAC, and they partnered with us to get the word out, to tell people what to expect, what the rollout schedule looking like, how that was going to affect everybody from the management or supervisors all the way down to the agents. We used a Follow the Sun migration, which is what we had just chatted about. So if we wanted to upgrade San Jose, the rest of the environment was not affected because we could move through in increments. A quick question, ICM, an ICM it's not a CallManager. Is it a server, is it a box of -- okay what does it look like? ICM is a pair of servers. It's a router and a logger. And we could take up probably the whole program talking about just what ICM is. Well, let's not. But the cool part about it is it rides above the Contact Center environment. So if you could imagine a cloud above a building, so that cloud has the ability to view into the building and see where all the people are. And that here in the San Jose Campus, that would include all 40 buildings that we have. And that's what ICM gave us. It gave us an Enterprise-wide view of our Contact Center Enterprise. So it's a pair of servers physically and it gives you the ability to look at a multiple, a large number of Contact Centers all at one time. Right, it really took, prior to the invention of ICM which was a GeoTel acquisition for Cisco, how we did call routing was you would have a specific number for, say, the US or a specific number for San Jose. I would call that number and during Monday through Friday, eight to five, the San Jose team was staffed. But then at five o'clock, if somebody called that number, we had something called time of day routing. Those calls would automatically forward to Sydney, and that was the global migration. But because it was localized, there was no Enterprise-wide view. You could only see San Jose. And then you would send calls to Sydney and then you could see things that were happening in Sydney. But what ICM did was it gave us a top, so now I could see all the theater agents and who was logged into what skills. So in trying to like put that into layman's terms, it's a level above what we had before. So instead of only being able to see one city, in the case, or one theater, ICM gave us an Enterprise-wide view. So it gives you the ability to know where your talent is all over the world, all at the same time so you can route calls to anyone in that global talent pool instead of in just one area. Just part, right. Oh, interesting. Right, and the best part about global routing, there are folks in EMEA logged on when RTP is logged on. So now we have kind of one and a half agent team, because we've got the EMEA team that's staffed until mid-morning RTP time and we've got RTP. So you've effectively given yourself a larger agent pool. You've really given yourself just much more flexibility with call routing. Very nice, thank you. Yes, it works out really good. The other piece of the call routing was we didn't have to rely on time of day. If there were folks available in RTP in San Jose I could split the call traffic between those two locations. Oh, very nice. Yes.

IPCC DEPLOYMENT STRATEGY

Okay. Good stuff. Yes. And now we'll talk a little bit about IPCC deployments. The major change between ICM deployment and IPCC deployment was the ICM deployment was really a background change. It would affect management. It would affect supervisors. And our support team, because we were rewriting the business routing rules to be used in ICM, where IPCC changed the environment completely we install CallManagers, we put in IP IVR. But we also had the effect or to change the agents environment as well. So they lost their old TDM telephone sets. They got an IP phone. And we moved to a new Cisco Agent desktop which was a software program versus using the phone to log in. So they had a completely different interface to learn. Was that a problem for them, to learn a new way of doing things? I don't think it was a problem. It was just a change. And change is sometimes a little bit odd for people or people will resist change. But for the most part, people were very excited about IP technology. CallManager was now moving through Cisco at a pretty rapid rate. I remember. That was all good news and so people were happy to have this new tool. And by having the Agent Desktop on a person's laptop, they were able to focus on a single device. Their case tracking tool, maybe a web browser, and their Agent Desktop was on the laptop with them. So that's a good thing to keep them focused in one area. We deployed IPCC in a six month window. That was our executive initiative, was a six month window. Where we had taken almost eighteen months to do the ICM deployment and it did not include really upgrading or changing out the whole infrastructure. So it was a fun project to work on. Ouch. It was a great team. Yes, was it successful? Did you actually make it in six months? We were three weeks late. That's pretty good. It is pretty good, it is pretty good. We had some problems. We needed to put in new infrastructure. We needed bigger circuits and bigger data pipes to be able to handle the IP traffic. So all in all, it was a very successful project. The group of us loved working on it and it was cross functional. We had the transport teams. We had the networking folks doing architecture for us. We had ourselves doing applications conversions. And then we had the clients. We were really closely partnering with them for a successful deployment. And on this slide you can see some of the things that we did to make that deployment successful was we got with each client and we asked them to nominate something we called a client reengineering coach. Because I couldn't be in Amsterdam and Sydney to maybe make the change simpler for users, hold their hands, answer questions, really partner very closely. But by having these client reengineering coaches, I could have a meeting with that client reengineering coach for customer service in Sydney and tell them this is what to expect, here's your training documents. Here's where to download the Agent Desktop. This is the timeline for deployment. And then they could socialize that within their Agent community and it made for less apprehension or less fear because they had somebody to go to. When's our day? What's our cutover? What do I expect? Where do I get training? It really was a successful piece in terms of client interaction. That's impressive. So a couple of quick questions about IPCC, is that a box? Is that software? What does it really look like? IPCC is that group of components. So it's the CallManager. Oh, okay. And IVR, ICM, WebView for reporting and then the Agent Desktop. So if you put a bow around that group, that IPCC. Okay, so shorthand for a lot of different products all packaged together in one thing. Exactly, exactly. So what's the advantage of, say, you talked about changing out the whole, all the Agent Desktops? What's the advantage of doing that as opposed to remaining in a TDM environment? Give me a couple anyway. The good news is with IPCC it simplified administration. It gave me another level of functionality in terms of call routing and being able to queue the calls on our IVRs. Oh, okay. The IVR that we have is very powerful. It can do things to help people position and queue. Oh, nice. We can give them a message that says your in queue fourth in position. If you'd like to go to a voice mailbox, press one. In AsiaPacific we use some call routing strategies that say you're still in queue, would you like to speak to an English agent if you're queuing for a Japanese agent. Ah, okay. So it gave us a lot of flexibility with IVR. It also, with CallManager and IP technology, we have the future to look at, XML applications, and how we can push the envelope with IP. So IPCC for us saved us, again, another whole series of costs, because now we're riding that voice on our infrastructure over the WAN. Very nice. We have the Agent Desktop that's customizable which gives us usability and feature functionality that we can bring to the agent community, all good news. Is that customization something you couldn't get in a TDM environment? Not like we can do here. Oh, okay. This is much simpler. Oh, okay. In the TDM environment it was a very time intensive and cost, because it was old, it was old technology. They weren't use CTI, computer telephony integration. And it was just a different environment, a different world. So IPCC was a good thing for us. Good to know, thanks. Yes, the other thing we did with the deployment strategy was we wanted to make sure that we provided the fastest project timeline because we had a six month initiative. But we also didn't want to impact the community. So what we did was we started with single site non-customer facing Contact Centers. So

things like we had an asset recovery team in San Jose. They were one of the first teams that we put on IPCC because it was internal to Cisco. It was single site. Then we took lessons learned, best practices from that deployment and moved to the bigger internal Contact Centers, the GTRC, the HR Connection Team. And then, again, it's Cisco employees testing out the technology, we're learning from that, we're getting best practices, we're understanding call routing better. And then we moved into the customer facing Contact Centers. And by that time we had pretty much found anything that might be an impact and we're able to really deploy the large multi-site customer facing contact centers without impact. So that was huge for us because we didn't want to in any way impact customer service or the TAC or the GCC throughout this deployment. Good strategy.

NEW SOFTWARE RELEASES AND UPGRADES

It turned out to be a very good strategy. One of the questions that is asked of us is how do we keep up with software releases and patches, upgrades. And we partner very closely with CCBU. We're part of the EFT team which is Early Field Trials. We are able to put our feature gaps. If we see something that we think would be of benefit to our contact centers, we enter that into their system, just like an AM or an SE would for the sales organization, saying this big customer would like to be able to do this. We enter our gaps or features that we'd like into that system. We have a couple of labs in our own environment that we're able to do service release testing, EFT testing. We do proactive communications with the client. We have a tool that allows me to tell the San Jose community that we maybe are doing a change management his weekend. Or if it's a global change, perhaps we're doing something larger, this notifier tool can tell all the community that his is coming, whatever the event is, what time, what to expect, who to contact. So we really try and make sure that we're not only communicating within Cisco, but through to the client community all the way down to the agent, the whole team of us. That's impressive. Yes, the Contact Center environment is a good environment to work in. I get to work with clients. I get to work with the technology. And so for me it's just a perfect fit. Awesome, yes.

INTERNAL ENVIRONMENT TODAY

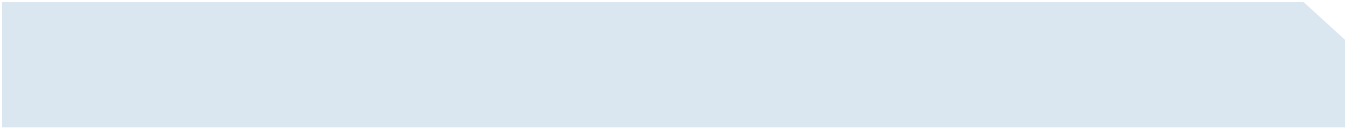
So let's talk a little bit about our environment today, what it looks like, where we've come from, the blended environment and some of the highlights. As you can see, this is a little bit of an eye chart.

IP CONTACT CENTERS BY CLIENT, LOCATION AND AGENT COUNT (AS OF JUN-05)

I, myself, am going to have to squint a little. There's all kinds of Contact Centers within Cisco and I think that's one of the things that surprises folks is that we have things that are as small as one or two agents. But on the other side of the coin, we have large customers like the BCC TAC, the customer service organization. And they're spread out in quite a few areas there. Okay, so we have customer service and support and help desk type stuff. That makes sense to me. What other areas, there's a lot of Call Centers up there. Yes, so internally we have the GTRC. Okay, so help desk type stuff. Yes, exactly, the HR Connection Team for Benefits and your employment stuff. Oh, yes, okay. We have the Metro Team, which is our expense. Okay, yes. IOSG which is our learning, the learning organization. So I think there are times that you'll call a number and you don't really realize you hit a Contact Center. The Global Operator Team, which we have is a 6X24 organization now because calls will flow from EMEA into the US and back to Sydney and back around. So that list just gives you an idea. The GPS organization for repairs and RMA and that kind of stuff, so lots of Contact Centers within Cisco. I think there's about 39 large customers and then there's some offshoots, Inside Sales, yes. The list sometimes is surprising.

CISCO'S WORLDWIDE CONTACT CENTER ENVIRONMENT

It surprised me, yes. This is the infrastructure globally. And you'll notice that there's a few colors down along the bottom. We have internal IPCC locations. We have standalone locations that are maybe a single IPCC Express installation where maybe there's a small group of agents. I believe Chengdu and it might be Beijing that has TAC agents within there. And then we have outsource locations, big outsourcers for the GCC and customer service does some outsourcing. And then we have remote agents. So one of the interesting things we can do with IP technology, which is one of the things you had mentioned earlier, is we have a team for customer service that's located in Richardson,



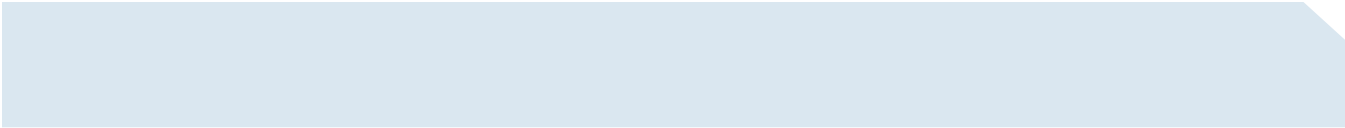
Texas. But they're attached to the San Jose IPCC cluster. And through the magic of IP, they look and behave just like they were located here in San Jose. Oh, interesting. So we do remote agents. The most interesting remote agent team we have is we have 20 agents in Bangalore, India for one of our Contact Centers, which are located off the San Jose IPCC cluster, as well. So it looks as if it's just another agent sitting in San Jose. It does. Is there any kind of call delay because it's so far away? Well, we have a very large infrastructure. IT has a large infrastructure, a large pipe going from San Jose to Bangalore and then it hops off there and does some magic through the power of IP. But IP has really opened up the door to where your agent doesn't have to be in a specific location anymore. We have some PRH agents that are located in Colorado that are connected on the San Jose cluster. So it really has given us the ability to not worry about location, where your agents are at. That's really not an area for us anymore. And our environment is hybrid, as you can see, lots of good stuff. We like to make sure that we have a little bit of everything in the environment where it fits so that we can understand the technology, partner with Cisco, provide feedback to the Business Unit and also be used as a reference source for other areas within Cisco. This is certainly a good place to learn, yes.

MANAGING BY THE NUMBERS

So this is a little bit about the big numbers. So we're handling about ten million calls. And what that is, is the way the Contact Centers work is ICM will receive a request from a, let's call that from a peripheral, that's too technical, from a location. So San Jose, you dial a number in San Jose. It'll go to something called a peripheral gateway. The peripheral gateway will talk to the ICM. The ICM will say based on the business writing rules, my first available agent is located in San Jose, send the call there. So we use routing clients. And the routing clients all talk to the ICM and then the ICM makes a decision to tell the routing client where to send that call, based on the client's business routing rules that we've built into ICM. All of this done pretty much instantaneously. Exactly, very instantaneously. We do have a carrier here in the US where we have something called a NIC, Network Interface Card, to MCI. And MCI pre-routes calls for us. So when you call 800-553-NETS, one of the large Cisco toll-free numbers, MCI will actually place that call. They'll talk to our ICM. ICM says send it to Jacksonville, and MCI will send that call. So that's called pre-routing. And then post-routing is when it comes into San Jose. The request is made and then our infrastructure will route the call. That pre-routing business sounds very intriguing because I was going to ask how does MCI know how to route the call, given that we have all our rules sitting in an ICM here. So they actually have some machinery in their network that -- talks to us. Here is your ICM and then routes the call on their network. Uh-huh. The ICM, I can't really say enough about that technology and what it did for Contact Center space. Having been at Cisco as long as I have, I worked with the prior technology. And this was really the difference between driving a VW and like sitting yourself into a Jag and saying, wow, look at all these features that I can do. So it is a very, very robust tool. So it can connect to a carrier. It can connect to a peripheral gateway or a routing client that's part of IPCC. So it really has revolutionized over the course what we can do for the Contact Centers. That's amazing. We have about 1,300 agents. That number includes people that are like call back agents. If you open a TAC case, that case gets assigned to TAC engineer and that TAC engineer will return your call. We have lots of ICM scripts and a bunch of IVR scripts that help queue the calls and also have some routing rules in them.

TECHNOLOGY ARCHITECTURE

This architecture slide is really just intended to show a little bit of the redundant nature of the environment. So there's kind of a pale blue on the one side of the slide and a darker blue on the other. And the way that we've maintained 100% call throughput is if, in fact, we were to have some kind of an outage on our ICM. In San Jose, we have an ICM in RTP and they run in parallel to each other so that they are always talking. And they always know what the other one's doing just in case, you know, power supplies fail. Or the weather on the eastern seaboard, you could have a situation where we might lose contact with our RTP ICM. So we've made the environment redundant. And that has really proven very successful for us. So we have a pair of peripheral gateways at each location so if a piece of hardware fails, the other piece of hardware just kicks in and it takes over the decision making process. So that really is what that eye chart is supposed to illustrate here is the redundant nature of the environment. Has this ever really come into play? Have we ever lost any particular link or location? We have had failures. The good news is you don't see them. Yes, I've never heard of one, so that's --. That's right, that's right. So that's the



really good news. Even with CallManager, CallManager deploys something called CTI Manager. And you have a cluster within CallManager that has a publisher and some nodes around it. If you lose a piece of that, it also has the ability to pick up. If you lose node one it has the ability to redo itself so that folks can keep working through the use of CTI Manager. So the environment is very robust in terms of that. Very impressive. You just never know when something's going to affect you. So we've really tried to make sure that the standard kinds of things that impact environments won't impact us.

CONTACT CENTER INFRASTRUCTURE HIGHLIGHTS

So this is just a quick snapshot of where we are today. We're on version 5, ICM software. We're moving to version 7. We're at the latest release of IVR and that will be upgraded with version 7. We're about to complete the Seaview CallManager Upgrades this upcoming weekend, so that'll be completed. We are now 100% on Unity, which is a company goal, but it also was part of the Contact Center environment, so we're on our own voicemail servers. And then we do have production of the CIN or Customer Interaction Network in EMEA. And just to touch a little bit about customer interaction, we believe as an initiative that there are very talented teams of agents out there. And the way the Contact Centers are stove piped, the GCC and TAC handle this kind of traffic and the customer service handles this kind of calls and maybe PRH handles this kind of calls. What we know within those teams that there are probably agents or you could train agents to take calls from each of those categories. And the premise behind customer interaction is maybe simplifying the number of dialed numbers to reach Cisco. So instead of having one customer service number, one TAC number, one PRH number, could we give the inbound called a single number and maybe get three questions answered through one phone call. Interesting. So that is in production. In EMEA they're doing best practices, lessons learned and fine tuning that initiative. And then I would assume that we'll see CIN in the US and other theaters here within the next couple of few quarters or so. We've just done a couple of seminars on servers and storage and we've talked about taking stove piped storage frames and stove piped servers and pooling them into virtual storage and virtual servers. And it sounds like what we're doing is we're pooling all these agents together into a virtual Contact Center or a Virtual agent pool. Does this decrease the number of agents that will ultimately need to maintain in this pool, or certainly it increases Cisco's ability to get the right person to answer the right call at the right time because you have a much larger pool to pick from. Exactly. I don't know how that will all play out. I just know so far in EMEA we haven't found a reduction in agents. But the good news is that inbound called is getting help from multiple topics from a single call. So CIN, I think in my opinion, is a really cool initiative. It really talks to the talent that we have within the organization and how we can leverage some of the tools. They're also building now a very large knowledgebase, so that if you get a call that's PRH and then the next piece if well, I'd like to check and see if my sales order XYZ has shipped. Can we develop a tool that will let people go across these different platforms and satisfy that caller from one phone call versus let me transfer you to customer service to check on that order. So CIN's a cool thing in production and in EMEA. And right now they're doing, we did a pilot in the US from the MCI cloud last year and it was successful, but there's still more things to be worked out with CIN. Impressive. So that's where we are there with a little bit of the overview.

OUR HISTORY

So we'll spend a little bit of time talking about history and how we were able to put a frame around what was required. We found that in starting to talk to the Contact Centers, we didn't know what their goals were, how did the technology marry up with those goals, could we

THE BEGINNING – FIRST STEP – CISCO ON CISCO – ICM

Influence or change their business strategy because of the technology that was coming. So there were some things that needed to be done, both with ICM deployment as well as IPCC. So this first step was something that we found lots of stove pipes, lots of people maybe across Contact Centers that didn't know what the other, right hand didn't know what the left hand was doing. This slide is actually telling us a little bit about ICM and what it brought to us. We have the centralized business routing rules all in ICM versus maybe located on each of those PBXs around the globe. The flexibility, again, was amazing, for me to be able to administer Global Contact Center routing application from my desk. Again, reducing costs, we were able to get rid of the tie lines. We had dedicated circuits between San Jose and RTP, \$30,000 a

month for that kind of service, so those kinds of things. And there's the note that I had mentioned about we did the 18 month deployment for ICM. And then these are additional savings coming down to real numbers.

THE BEGINNING – TANGIBLE SAVINGS

\$30,000 a month on the tie lines. We didn't have as much administrative support. We could do things ourselves versus having to call MCI to make a route plan change. We could do that. And then the transport expense really was significant.

TAKING INVENTORY – CISCO'S BUSINESS OWNERS LANDSCAPE

Because we were using our own Wide Area Network for transport. Yes. Okay. This was some of the things that I had mentioned earlier about the owner's landscape. The left hand didn't already know what the right hand was doing. If it was a large Contact Center, perhaps they had more tools than a smaller Contact Center. It makes sense. And those tools could have been pushed down, but there was no dialog going on between those maybe different Contact Centers. So we really spent some time talking to the Contact Centers and finding out what they needed.

TAKING INVENTORY – OPPORTUNITIES/CHALLENGES FOR IT

And then we brought that back in-house and started thinking, okay, what are our opportunities within IT, what can we bring back to them, how can we improve their environment. We did standards. We were able to get a site license maybe for three or four sites. We were doing call recording out of one off. So they'd negotiate a contract in EMEA and then we'd find out we were using the same thing in San Jose, but if we had pooled those resources. So we were able to really uncover some things that we could level the playing field. Interesting. Then for IP Contact Center really pushing the envelope, that whole six month deployment.

PUSHING THE ENVELOPE – IP CONTACT CENTER

And there's the numbers. So it was August of 2001 through March of 2002. That was our six month deployment window. We did a lot of house cleaning. We were on the phone with the Business Unit, both CallManager and IVR and ICM, to make sure that we were very successful in that project. We really wanted to remove the competitor technology that was on everybody's mind to remove that. And then we really wanted to move into partnering with some of the outsourcers to give them a migration path into the newer technology. So I think a lesson for any project manager here is to ask for eight months.

CISCO'S CONTACT CENTER EVOLUTION – TIMELINE

Well, when they went in and said we wanted to do IPCC, we thought okay, well, if we got to do ICM in 18 months, maybe they'll give us a year. But a couple of those individuals were a little bit white. When they came out of that meeting they said six months. But they succeeded, six months and three weeks. That's pretty good. Yes, we did. This is a little bit of the timeline. Legacy, all the way back there in '99 to the ICM version 7 project launch that just kicked off in August. And it is a major change. ICM version 5 was a major change and so is version 7. But all this leads to more functionality, a clearer roadmap and perhaps a more straight forward future for IPCC. So ICM version 7 laid some of that groundwork for future version 8 stuff. We're already looking at version 7 and talking about the product requirements for version 9. Do you talk about version 7 and what that brings to the table further on in your presentation? No I don't. Well, then why are we moving to version 7? What do we get out of that? Version 7 moves from some of the infrastructure background, moves from a private domain to Active Directory, which is significant for us. And in terms of the clients, they are going to benefit from a couple of new features. IP Communicator will now be supported in Contact Center environment. That's the software-based IP phones. It is. So everything is laptop based then. It is, as opposed to phone-based. They won't need the hard set. So, when you think about that, wow -- what kind of flexibility could we bring not having to have a hard set at all? You just use your Communicator on your laptop. People are already going what's the project timeline for 7. And then it also gives the Supervisors the ability to dynamically re-skill agents on the fly from a browser page. Re-skill agents, what does that mean? So today, you're a supervisor. Okay. And you have a team of agents; we'll just use

customer service as an example. They have seven skill sets, 50 agents, and they're watching the real-time statistics. And they see that for some reason, maybe internet commerce option three has a blip and there's like ten calls in queue. By dynamically re-skilling, a supervisor will log into a web browser and they'll say, add skill set, internet commerce to these five agents and they can clear that queue. Ah, I see. And prior to version 7 that was something they would have to open a case with the GTRC and then we, the CCAT team would get involved. And they could make it a high priority, so we would try and meet that request as soon as we could. But with dynamic re-skilling, that gives the supervisor the ability to handle their agent community on the fly with the flick of a click of a mouse. So something that normally have taken a day or two at best would now take a couple of minutes. Not even, yes. Oh, okay. All they have to do is log in and say re-skill, just add the skill or remove the skill or do whatever they'd like to do to maybe clear out a queue or just reshuffle what their agent community is doing. So flexibility. Yes. And now we're bringing that down to the supervisor level within the Contact Center, so pretty cool stuff. So we're excited about version 7. I'm not absolutely sure if everybody's excited about the Active Directory piece because that's a lot of work. Yes, it is. But again, it's laying the foundation for the future, so it really is the direction we need to go, so here we go. Okay, and now we'll take a look a little bit at the productivity tools and collaboration, a little bit of customer contact.

TECHNOLOGY AND CONTACT CENTERS

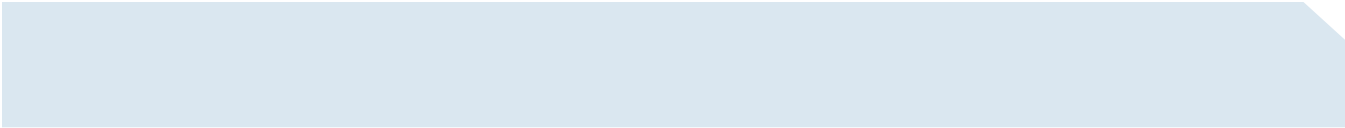
This next slide is really kind of a stair step.

TECHNOLOGY – THE EVOLUTION OF CUSTOMER CONTACT

It was first generation Call Center, which was totally voice. And it was circuits and it was a hard wired PBX, not very much flexibility. And then we moved into second generation Call Center, where we had ICM and where we do a little bit of e-mail manager and now we're bringing more tools in. And then we move into third generation which is things like CTI, Computer Telephony Integration, the Agent Desktop, combining things with the internet. And then finally we are kind of I'd say at the front end of maybe middleware of the next gen. part of me thinks that there's going to be another whole evolution of Contact Centers, similar to what the initiative was for CIN. How can we maximize the agent team we have? What are the other tools that we can use, especially with IP to do that? And the next gen Contact Center is IPCC and multimedia contact. So version 5 ICM would allow me to skill an agent for collaboration. They can take collaboration calls. So where you and I click, click to talk on a web page. Perhaps you're ordering something and you need to click to talk, that's collaboration. But ICM in version 5 would let me skill an agent for collaboration, for e-mail. So I'm a customer server group and I also have voice and I have e-mail queues, and voice. And outbound, which for inside sales the inbound call volume has now gone way low, shift this agent to placing outbound calls. And ICM gives us the tools to be able to indicate under which circumstances I want the agents to handle e-mail, handle voice. I've got three calls in queue. Shift that agent to primary focus as voice calls. The queue's now gone. Shift that agent into handling e-mail requests. Okay, the e-mails are all completed. Let the agent kind of hang out with voice calls or whatever. So ICM gave us that multimedia contact that's the second bullet on that next gen. Amazing, okay. Yes, very cool. So now you're blending contacts, so it's really not a Call Center anymore. How many other ways do people contact Cisco? They click a button under click to chat. They send an e-mail looking for some help. Perhaps they open a TAC case. We do have an application gateway running now. If you call the TAC toll-free number here in the US, one of the menu options is if you have an existing case please enter it now. When you enter your case number, that telephone call, that voice call is routed to the engineer who owns your case. Oh, my gosh, that's impressive. So he can answer the phone. Hello, Mr.Gore, I see you have three cases open. How can I help you today? So it really isn't Call Centers anymore. It really is contact. What kind of contact and under what business rules do you want your agents to be able to handle those contacts? That's very impressive. Yes, cool stuff. And we'll talk a little bit about collaboration.

TECHNOLOGY – COLLABORATION

Collaboration is that button on the web page that you see everywhere where you say, having trouble ordering, click to chat. And when you click to chat there's a magic that happens in the background. A call is set up. When an agent comes available, that outbound call comes to you and you pick up your phone because in your chat when you clicked to chat it says who you are, what your question is and a callback



number. And then through the background software it can place that outbound call and they can pick up and say, Hello, Mr. Gore. I got your chat request. How can I help you with your order? How quickly does that take place? Very quickly. Like I could type in my name and the question and my phone number and within a minute or two? Probably even sooner than that. I've got to try that. That sounds very impressive. Yes, so collaboration, we found, and the next slide will illustrate this a little bit, with collaboration we found customer sat stores go up, productivity goes up,

TECHNOLOGY – COLLABORATION GOALS AND OBJECTIVES

The call volume goes down because now you're educating while you're talking to a user. And we found that average talk time of a TAC call was decreased by a full minute. Because now instead of saying, well, Mr. Customer, type in this URL, oh you have the period -- oh, no, it's not spelled like that. You're going with them to that place in collaboration. And you say, okay, now that we're here, go ahead and bookmark that site. So now when Rich wants to find IOS release XYZ, you have a reference point so you don't have to place a call to Cisco, because you already know, you've already been walked through the step. It's kind of like online training or online like a person sitting next to you helping you facilitate that call. So the Call Center agent actually sees on their screen the same thing I see on my screen and they walk me through the process of getting the information that I need in the first place. Exactly. I much prefer that to be able to get it myself than having to call somebody.

TECHNOLOGY – COLLABORATION FEATURE SET

Absolutely, so some of the things that we use within collaboration are the click to talk, click to chat. And then we do have Meet Me, which means it's a little bit different if I'm going to this web page meet me there. So there's some interaction there. It's all the same kind of collaboration tools, just a little bit different ... of it.

TECHNOLOGY – COLLABORATION REALIZED BENEFITS

These are the numbers I was talking about. If we take a look at collaboration and how to use it within Cisco we were able to reduce talk time of an agent by a full minute using collaboration. That's significant, now average talk time for a call is what, ten minutes? This was a little over three minutes and so we were able to reduce it down to two minutes. So a full third. A full third, yes. How amazing, okay. Yes, and then of all the types of ways that people contact Cisco, collaboration and using Cisco Live got the highest customer satisfaction score. I can see thy. Yes, because it's really like having you sitting next to me, having a Cisco person. Having your tech support there at your house, that's great. Yes, it is great. I love these two slides just because it shows the power of the technology very clearly. There's really no mistaking that, a bingo score that's a quarter of a point higher than of the others.

TECHNOLOGY – CONTACT CENTER TOOLS

Some of the other technology tools we use, our security operations team uses witness call recording. So if you call security, 911 or you call 51111 for help, those calls are all recorded, 7X24. We also use the Cisco CT IOS Supervisor and Agent Desktop for training. What the Supervisor and Agent Desktop allow us to do is do something called silent monitoring. So I'm a supervisor, I'm logged into my desktop and I decided that today I'm going to coach with you. So you get a call. I can listen in to that call, let you finish the call, assist the caller, wrap it up, finish your case notes, and then I can come down and kind of have a coaching session with you. When they ask this question we could have referred them here, we could have done this or that. So that's also a little bit underneath the call recording piece because it's silent monitoring. So we use that as a coaching tool. We do notify the caller that they --. Could we have a supervisor listening in? Call may be recorded for quality or control purposes. I've heard that, I never knew what that meant before, but yes, okay. So it's a feature that I think the Contact Centers make use of especially with coaching. If you have a new agent that you're really trying to help them along, what a tool. And you can be at your desk and the agent can be at their desk, so it's not like you have to be collocated. Back in the Legacy time, there was actually a headset that had a Y cable and the supervisor would put their headset on. You would put -- and they would sit together. No pressure. A little bit too much pressure. Yes. So that's available in the Cisco CTI with Agent Desktop and Supervisor. For our reporting

tools, we use WebView as the standard reporting tool. And WebView provides standard templates. So if you're a supervisor or somebody that's creating metrics, WebView does a great job of providing real-time and historical templates. They give lots of information. The help file with WebView will help you determine what template you need. So the upside of WebView is it's an amazing, big, robust tool with amazing, big, robust help file. The downside of WebView is it's an amazing, big, robust tool with a big, robust help file. That's hard to manage, it's too big? So if you're looking for an average handle time and average speed of answer, particular metrics, what you can do is you can use the search feature and then find those categories that you're looking for. And WebView will tell you which template to use. So it is user friendly. It's very robust, really gets the job done. But you have to be, I would use it with the help file so that you can get what you want versus trying to negotiate your way through, I think there are over 200 templates in there. That's a lot of power though, a lot of information. Yes there is. Now is this a package that you buy separately or does it come with --? It comes with ICM. Very nice. Yes, it is nice. And they have standard templates for Legacy systems and IPCC templates because the data dictionaries or the data fields are a little big different between those two technologies, as you can imagine. So it covers, again, ICM and WebView, our technology uncommitted. If you're a TDM user, that's fine. If you're IPCC, it has what you need. What we did in our environment was we also deployed an O Lab type reporting tool, which allows you to do more difficult reporting requirements, allows you to drill down and drill through, ad hoc reporting, one time only, create your own reports kind of thing. So in the case of maybe a customer service or a GCC where their reporting requirements perhaps are a little more rigorous than just I need to know how many calls I took, how long did they take, those kinds of things. We did put a more advanced reporting tool in. I know the GTRC does reporting by theater. They also do overflow reporting, so if a call came into San Jose and it rolled over to Sydney, they have some pretty stringent reporting requirements, so an IP info tool was required for us. So that is a third party tool that we put into the environment. Okay. And as a nice to have, the GTRC, those creative little devils that they are, created a tool called the Iceberg. And what Iceberg did was it gave them a visual real-time reporting tool up on a, they use a 35 inch plasma screen, that gives them a visual representation of what's happening real-time, how many agents are logged in, to what skills, do they have any calls in queue, and what's the queue time. Interesting. So they liked WebView, but WebView was more intended to be viewed on a laptop, on a screen and they do have real time templates so they could have gotten the information from there. But they wanted something that maybe turned red when calls in queue got above three or four, so they created a custom tool. And now this Iceberg tool is actually in use by several other Contact Centers because of being able to display it on this plasma screen. So if you have your agent community and you have the plasma screen out in front of them, they can visually, all they have to do is look up and say, oops, okay, maybe I need to log in or come back from lunch a little bit earlier, whatever the business requires. Yes, nice feedback tool. Yes, exactly. And it's visual, a 35 inch plasma screen, you can't go wrong. It's pretty much out there in front of you. And I guess that's the advantage of it all being server based is people can write this code and pop it in and customize it to their own taste. And the ICM has open APIs that they just built hooks into that and they pull the data right from ICM and it made it very easy for them. So that's in the environment for reporting. We do use application gateways, which is what I mentioned about the existing case lookup. And finally for our inside sales organization, which is partially driven on outbound calls, how many outbound calls they made, what was their duration and that kind of statistics, Contact Center really was more on inbound. Okay, of course. So we deployed a CDR tool called Mind CTI for them, which gave them both inbound and outbound call volumes. So their requirement was a little bit different in terms of being able to track and report on outbound calls. So we use the CDR tool for inside sales, so that's also in our environment today. Interesting. We're getting ready; Cisco has an initiative to put in a CDR, an approved IT CDR solution so we will be upgrading Mind CTI to a new tool probably in the next quarter or two. Okay. And a little bit about my team that I work with.

CCAT TEAM

Yes, please. So we are the Contact Center application and technology team. We're located in Europe and RTP in San Jose. We're part of the INS Technologies Group. We are 24x7 and cases get logged to the GTRC and depending on severity we also are 7x24, we all carry a pager and we do after hours support. What kind of cases do you get? Anywhere I have a new agent that needs an agent ID, I need to re-skill agents, to my toll-free number's not working anymore, can you help me? Ah, okay. So lots of variation, everywhere from a P6 where there's maybe a project where we need to upgrade some things, or to a P1 or P2 where something is not working right. You're the

troubleshooters? Yes, and it gets escalated to us. We have an operational excellence team that handles the first level call. And then there's a projects and provisioning team which is the applications consultants and the account managers. And any cases that aren't resolved at first level get escalated to the apps team. Makes sense. This is our website, lots of great information. For our internal users only, I see. That's right, internal users only. It would be the various Contact Centers, where they're located, how many agents, our training pages, just a lot of information about the Contact Centers. It's a good site, it's very useful. I think it's a good website.

CLIENT FUNDED MODEL

And we are a client funded model. We are not part of IT overhead. So what we do is once a quarter we take a look at our client applications and we actually do an inventory, how many agents do they have, is there a carrier like toll free numbers involved, how many sites, skill groups, ICM scripts. And we have something called a CCM tool. And we put all those pieces in by Contact Center and that way we're able to charge a large Contact Center an appropriate amount versus a small Contact Center that maybe is only one site and has three agents. So we're able to really size each of the applications and then we put a wrapper, a cross charge back to that department for support. Okay, well I think it's about time we got into the Q and A section.

QUESTIONS & ANSWERS

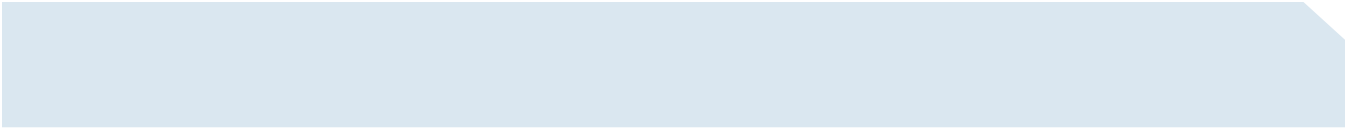
We've put together some questions that customers had asked us about this topic in previous sessions. So we do have a little time left and I'd like you, if you could to answer a couple of them. Sure.

Q. The first question was -- actually we've talked about these somewhat so you'll have to sort of put a bow on it. What are the major advantages that Cisco IT has gained by moving from our Legacy contact or Call Center environment to IPCC?

A. So the first was we're moving, so to put a bow around, let's just do some bullets here. We removed all competitor technology. So it's A+. We gave ourselves unprecedented flexibility by being able to do all this. We're not location dependent anymore. We're queuing calls on our IVRs. We have voice riding over the WAN. So, a lot of things that we had spoken about before. Flexibility, new business functions, cost savings. Absolutely. Impressive. Absolutely.

Q. Okay, and this was about Cisco Live. And we talked about that a little bit, but I think the question was what does Cisco Live look like? If I was on a call with a Contact Center Agent, how would it help me as an end user?

A. So again, if we go back to the example of the click to chat button, with collaboration the cool part is its like having a Cisco person, whether it be customer service or PRH or TAC, sitting next to you walking through the process. So if you do the click to chat button it brings up a little window. You put in your name, your phone number and really what your question is so that that agent returning your call maybe has a little indication as to what you're looking for. And so what happens is once you hit send, that request comes back through the internet, through IP and it gets put into a queue waiting for an available agent, when an available agent becomes available. Within a minute or so. Yes, when an agent becomes available, that routing client will make, will generate an outbound call back to you. Okay, so the phone will ring, I'll pick up. That person will ring and you'll say, well I'm having a hard time finding the version of IOS that I need. And then that Cisco person can say, well, let's do a Meet Me session and I'll guide you to where that's located. So what do I do as an end user to make a Meet Me session start? What do I have to do? So what will happen is you will have started that whole collaboration piece by hitting the click to chat button. So that starts it and then the Cisco person will generate another Meet Me session, find out where you're at and just like the call coming back to you, now the internet call will go back out and you guys will share a browser. And so somehow our PCs, the Call Agent and my PC will synchronize. This is still mind boggling to me. And you mentioned something about the Call Center being able to guide me through a process. Could they actually move my cursor and click on things on my screen? There are things -- Oh, my gosh. There is some interaction and collaboration is a little bit of a mystery to me, as well. But I've seen it in action and it is all behind the scenes. There's routing rules, there's ways that you move through the process and the PCs do link up to chat with each other. And then once the Cisco employee has guided you to the right place, they could say, listen, this is where you'll find all those releases, or this is where you'll



find all those tech notes. Why don't you bookmark that? And then next time if that's your same question or that's the issue, you have that reference point to move through. And I don't have to make the call at all. Exactly. That's great. Well, there was one more question and that was given that there's more flexibility with the ICM and IPCC, can we have our Call Agents working from home at remote sites? Is that possible? It is possible and each passing release of ICM it gets more robust. So initially when we deployed ICM, the approved Business Unit standard was to have an ISDN line. So you needed a dedicated circuit to be able to work remotely. So now, in Europe, if you have a DSL line, working from home is a slam dunk. Oh, really? It is. So we use Cisco technology to VPN. Your standard broadband service kind of connection and that works very well. In the US it's a little bit uneven because of service providers. But as we move into version 7 ICM it gets a little stronger. And now their standard is not ISDN. You can use a certain broadband with a class of service that's this type of service and then it will work fine. And again, like I said with the customer service team, we have folks off site that connect to San Jose and it's just like they're here in San Jose. The inbound caller has no idea where that agent is located. That's amazing. Yes, it is amazing. Okay, well that's all the time we have for questions today, so than you very much, Mary, appreciate it. And for more information about Cisco IT deployments, you can, taking a look at this slide you see right now.

MORE INFORMATION RESOURCES

You can go to the Cisco IT at Work website so find Cisco IT case studies, some of them about IPCC and some of them about a wide variety of other technologies. And learn what it is we deploy and what benefits we've gained, what lessons we've learned from those deployments and some operational practices and some presentations to help you learn more. Also, you can find more information on IP Contact Centers, design guides, operational practices, several other documents, white papers and presentations on Cisco.com on the second set of URLs on that page. And below that you'll see a toll-free number that you can call for more information or to place an order. And you can also, below that, order some Cisco resources on the web from the URL at the bottom of the page.

THANK YOU FOR WATCHING

So, that was wonderful. I'd like to thank all of you for watching, for spending this time with us, and for sharing your interest in IPCC and for being interested in the Global Technology Seminar series. We really hope you've enjoyed this show and hope that it's helped answer some of your questions about how we do IPCC within Cisco. So, thank you very much, Mary, for spending this time and sharing your vast knowledge and enthusiasm and experience with us. We really appreciate it. You're welcome; it was a pleasure being here, Rich. Good. Thanks.



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