

## TelePresence Deployment



### Cisco TelePresence Cisco on Cisco

*Julie Nordquist:*

Hello and welcome to the Cisco on Cisco Seminar. I'm Julie Nordquist, program manager IT and part of the Cisco on Cisco team. Today's presentation is the third of a four-part program on how Cisco supports virtual meetings with customers using Cisco TelePresence.

In our previous segments, we've taken a look at TelePresence technology, design and architecture, as well as support and management. Today we explore solution deployment of TelePresence.

You will see how Cisco IT has coordinated site readiness, room readiness and equipment logistics to support the largest deployment of TelePresence units globally.

I'd like to introduce our technical expert for today's show on TelePresence support, Suresha Bhat. Suresha is a manager in Emerging Technologies IT. He has been with Cisco for eight years and he currently manages the global deployment of more than 110 TelePresence solutions to Cisco offices. Welcome, Suresha.

*Suresha Bhat:*

Thank you, Julie. It's great to be here. We're gonna look at Cisco TelePresence deployment methodology, the process we followed, and how we are deploying more than 110 units globally using this fast track approach.

*Julie Nordquist:*

So sit back and enjoy as we explore Cisco IT's deployment of TelePresence. Let's take a look at the agenda for today's segment.

### Agenda

*Suresha Bhat:*

In this section on TelePresence deployment, we're gonna look at the readiness, the deployment process and also how we focus on experience and certification.

### Cisco TelePresence Deployment Process

*Suresha Bhat:*

Mainly, we have a Lifecycle Services process for deploying any large technology and advanced technology within Cisco as well as outside with our customers.

This is a jointly developed process with Advanced Services, which from our Customer Advocacy organization, and our focus here is to really look at the whole thing from end to end, from a prepare, plan, deploy,

design and deploy, as well as operate and optimize, so this process, we took it as the baseline for developing the deployment process for TelePresence as well.

*Julie Nordquist:*

Is this something that's unique to Cisco, this process?

*Suresha Bhat:*

It's not really unique but it's something that we have made Cisco-ized, I would say, and made it really apply for Advanced Technologies and also doing technology deployment at its kinda cutting edge and, you know, imaging elsewhere as well, so it's not unique but it's actually Cisco-ized process.

### **Cisco TelePresence Deployment Process**

*Suresha Bhat:*

Now let's take a look at what are the basic competence of this process and how it applies to TelePresence deployment methodology, so – and I mentioned the basic elements were prepare, plan, design, implement and operate and optimize.

So let's look at the whole prepare piece of the puzzle and prepare basically is to look the overall picture, put a program approach to it, assess some of the requirements and highlight the high level plan or strategy.

And in that for TelePresence, the focus is really about the site survey, where we're gonna deploy, what are the business case, and after that, we will look at what are the current situation in these, you know, locations.

TelePresence is not like a software product you just run a script and it upgrades everywhere. It is very physical. It has hardware complements. It has network dependencies, as we saw in the design and architecture section, and then also you have to think about the overall support and scalability of the solution, so –

*Julie Nordquist:*

What's the importance of qualification checklist?

*Suresha Bhat:*

Great point. When we look a particular site or a pair of sites for TelePresence deployment, let's say, so we have to qualify those sites by going through what's in there, what it needs to have, what is the current state, what is the future state, and how can we get it there for, you know, readiness.

So we do this process not only for Cisco, but also this is the same exact process our Advanced Services follows with customer deployments as well.

*Julie Nordquist:*

Great.

*Suresha Bhat:*

Thank you. And then comes the whole project management piece of it. To give you an example, there are two major parts to this puzzle. That is hardware-software readiness, logistics and also the overall plan of deployment.

In each TelePresence site, deployment is a project and all the multiple deployments are also projects, so you've got to look at both aspects of things.

So that's what we do in project planning phase is to look at the scheduling, what kind of readiness needs to be done on the site from a room perspective, from network perspective, and also the whole logistics of it.

*Julie Nordquist:*

What kind of challenges have you had around planning? What would be something that would either help you or not help you in your project

planning?

*Suresha Bhat:*

Good question to think about. Most of the challenges are really about scheduling and also the changes in scope for a particular site. What happens when you plan is you have to, let's say, pick a site that needs to have TelePresence and you currently do not have sufficient bandwidth, so you plan on upgrading the bandwidth.

Sometimes this is dependent on circuit providers and how quickly they can deliver the circuit and everything else can be planned but there are certain things that cannot be planned.

The other thing is really when you pick a site for room readiness there are permits needed and these permits are dependent on the local city and state government, so those things could take a long time to come through before you actually have a date for deployment and these are the highest lead time items that you need to worry about.

*Julie Nordquist:*

Oh, very interesting.

*Suresha Bhat:*

Yes, and that becomes very complicated when you take the whole logistics of it. That's what we do in the whole design section is not only plan on, okay what is exactly there onsite and from a networks perspective, what kinda hardware you have, what kind of software you have for the line cards, what kind of, you know, quality of service could be applied.

Other than that, you've got to also think about the whole infrastructure of the building. Is it a leased building? Is it a owned building? And then can we actually run certain cables into the room? Can we have the power supplies we need to have in there?

Another thing that we need to think about is also when you're upgrading the LAN circuit to have, you know, the right kind of hardware that we discussed in the design, so you need to think about the power supply requirements as well as the AC.

As you put TelePresence centers into a particular room, you also increase the overall ambient temperature of the room, so you need to have sufficient, you know, AC provided for that room and also during off-hours, you know.

One of the key things about TelePresence, as we discussed, is it changes the work culture. People are coming and staying in the evenings, early mornings, and if your building provider doesn't supply enough air, you know, sufficient air circulation, that could become an issue, so all these things need to be talked through.

*Julie Nordquist:*

Interesting, thank you.

*Suresha Bhat:*

Exactly. Then comes the whole deployment or implementation. It has a couple of \_\_\_\_\_, the actual implementation of the quality of service, validating it, and then the deployment itself of the equipment so you've got to have the equipment ready. Who's gonna deploy it? Are they trained?

And then once they deploy it, how do we do a quality assessment of the deployment and accept it as a solution. Deployment includes multiple things, not just the physical implementation and, you know, assembly of the equipment but also enabling that solution, turning the switch on.

Essentially, you're registering this \_\_\_\_\_ on the Call Manager and making the end turn call test and then probably, if you have the ability, you do tests with all of the sites you have to ensure how the quality looks and then certification of the whole thing.

And then comes the whole operate and optimize. It's not just enough that you have the TelePresence up and running, but you need to also make sure that it is in a very operatable condition; there are people to support it, like we talked about in the support module, so all that needs to be taken care from end to end. This plan actually covers that.

*Julie Nordquist:*

You talked a little bit about acceptance testing. Who does that?

*Suresha Bhat:*

It's done usually with the person who takes the delivery, so in the case of Cisco IT, actually has a group of people who are engineers who know how to run all the test plans on a deployed solution 'cause we deploy solutions with the partnership with Advanced Services Advanced Technology Partners, so they are the owners of delivery.

We take ownership of delivery after they implement and then we make it operatable. That's the process we follow. It doesn't have to be the same for customers so you could always do a different thing in there, but ultimately you've got to make sure the deployment of the solution is through the CTX certification level and then the quality of the call is \_\_\_\_\_.

*[Crosstalk]*

*Julie Nordquist:*

Can you tell us what CTX is? Sorry I didn't mean to interrupt you.

*Suresha Bhat:*

No. I will cover that in more detail at the later part of the presentation. CTX is Cisco TelePresence Experience, so it's a very nice term. You might be familiar with THX and all that audio-video standards.

It's really about the overall experience, not just video quality but audio quality, ambience, so Cisco has developed a set of guidelines that, you know, you can use to measure the experience in a TelePresence room locally and remotely.

*Julie Nordquist:*

So basically that acceptance test is really gonna make sure that it meets that CTX requirement.

*Suresha Bhat:*

Yes, it's kind of both so it is a philosophy. You can't generate quality after you deploy. You gotta think about the CTX level even before you start deployment, very early, even during the planning and prepare phase itself.

So that is really what drives us to say, "Okay, what is the ultimate end goal of this particular site? How does it look? How should it look? How should it feel? How should it, you know, react to different variations in light temperature and ambient, you know, impact?" So we need to make sure all that is taken care before \_\_\_\_\_.

*[Crosstalk]*

*Julie Nordquist:*

That makes sense. Thank you.

*Suresha Bhat:*

Yeah, so those the things we need to worry about from a program and deployment standpoint, so let's look at how this manifests into what we did in Cisco on Cisco.

### **How We Started Cisco-on-Cisco TelePresence**

*Suresha Bhat:*

So in the prepare phase, you know, we talked about a few things, you know, planning and site readiness and what have you.

The most important thing is to identify what is your value proposition. What are the sites you're gonna look at deploying the TelePresence equipment? So what we did at Cisco was when we started out about a

year ago, our basic value proposition was a \_\_\_\_\_ travel. Now we know that there's a lot more to it than that.

It solves business transformation, enabling different type of services, what have you, so when we started out, we needed to get some hard justifiable numbers for TelePresence deployment. We actually looked at our global travel.

We looked at what are the sites that people travel to most, to and fro, of course, and then we identified how business critical these are sites are for TelePresence deployment. So we came up with prioritized site list. That was the first step.

So we know now if we put TelePresence in these locations, we could drive down the travel this much and that can actually fit back into our deployment cost itself, so we got approval from senior management to deploy TelePresence in these locations.

### How We Started Cisco-on-Cisco TelePresence

*Suresha Bhat:* We also did an analysis of the operating model. The reason we did this is to – an operating model for the type of TelePresence equipment didn't exist before. We did, of course, have really a conferencing operation models and, in fact, communications and what have you.

*Julie Nordquist:* What do you mean by operating model?

*Suresha Bhat:* How do you scale. How do you support. How do you operate? You got to – as I said, you got to look at the end goal, all in the prepare and plan phase, so we looked at how we want to operate this, how do we want to manage cases, how do we want to manage the users, how do we want to manage the adoption.

Looking at that, we kinda started coming up with what are all the different departments of the organization that we need to get involved. What will be cross-functional impact that we will have on this project? What are the foundation dependencies that we need to have ready for this to succeed?

Once we identified that, we could now put the cross-functional team together. That leads to my next bullet point.

### How We Started Cisco-on-Cisco TelePresence

*Suresha Bhat:* So what was important is to identify all the underlying dependencies. In the design and architecture section of the presentation, we talked about Call Manager, WAN architecture, room readiness, logistics and what have you.

So all these needed to be identified and then also identified owners for these tracks. That's what we did next.

### How We Started Cisco-on-Cisco TelePresence

*Suresha Bhat:* So once we had identified all the dependencies, we put together a very cross-functional team and then we gave them the charter of, okay, here's the high level milestone we need to reach.

Here are the various tracks that actually will help us get ready for TelePresence deployment and we said, "Okay, here are the things that we need to get ready for. Go ahead and make it happen." So we provided the, you know, support and the resources and then put together this cross-functional team. This is a very critical piece.

*Julie Nordquist:* What kind of challenges did you have pulling together a cross-functional

team?

*Suresha Bhat:*

Of course, as any company would face this, there's a lot of operational duties, a lot of, you know, projects that these things already are in engaged in, so carving out the time and the resources to get together and also to focus on the high level milestone timelines.

The TelePresence, again, as we have already said, it goes into your existing infrastructure. You don't have to redesign it but you've gotta prepare for it because you've got to support this high visibility, \_\_\_\_\_ level communication and that depends on how solid, how foundationally strong your rest of the dependency tracks are.

So getting that together and getting that communication upfront, establishing that, you know, service level agreement and relationships is very critical to the success of the program.

*Julie Nordquist:*

And the commitment of all those teams to do it.

*Suresha Bhat:*

You said it right. It's really commitment of all those teams to make it happen because it's everything that they need to do in addition to what their normal jobs are.

*Julie Nordquist:*

Definitely.

#### **How We Started Cisco-on-Cisco TelePresence**

*Suresha Bhat:*

Yeah. So then we also looked at the overall LAN and WAN assessment as a key item because it takes time. This is one of the largest lead time items. As I mentioned earlier, when you order a circuit – let's say you're upgrading from a DS3 to OC3.

It takes about close to, you know, 60 to 90 days to get it provided, you know, delivered, tested and what have you, so you've got to plan your sites as well as the upgrades the sites may need.

You don't have to start an official project to do this. You just have to check what you have in there and start thinking about how you want to scale that site.

*Julie Nordquist:*

How did you decide to do prioritization? Like how did you decide which ones you were gonna do first? Was it completely dependent on when the circuits would be ready or were there other factors?

*Suresha Bhat:*

It's a combination of multiple factors. The important thing is that it should have some business value. We didn't just do it because it had circuits ready. It was a major site. It was a sales critical site.

If it was a site that would have a high impact on travel reduction and business transformation, we selected that and then we looked at what kind of network that site had. It was not also the site is hot not; it's gonna be cool later.

It's actually what is gonna be pretty hot in the next, you know, couple of months and how that site is gonna grow. It depends on the sales, you know, propositions, depends on prospects we have at Cisco, so based on that, we looked at the site prioritization.

Sometimes a site might have enough bandwidth and sometimes it may not. When we started out, we had to upgrade about close to three circuits. We did about 17 site deployments and in that we needed to upgrade about three sites to get ready for that.

In the Phase 2 of deployment, we actually had to upgrade a few more sites and we found out that upgrading is not necessarily a bad thing

because we got a lot more bandwidth. Sometimes we paid less money to get that upgraded. As you know, bandwidth cost is, you know, going down in the industry, so this really helped us prepare the whole site.

*Julie Nordquist:* And also supports – I think I mentioned this before in our other segments but it also supports other advanced technologies that we're rolling out.

*Suresha Bhat:* Absolutely, so it was alignment with other technologies we are rolling out, how this whole solution is gonna be acting as a Unified Communications, you know, solution package. That was also considered.

### **How We Started Cisco-on-Cisco TelePresence**

*Suresha Bhat:* All these points really led to have a site list and a lot of times we get the question, "Why 110? What is this magic number?" It's not really a magic number. It was what we could do with the available resources.

And what we also assessed was if we had these many sites within Cisco and we looked at how our sales is growing, how our market value is perceived, and we wanted to enable as much business value recovery as possible, the only way to do this is to really have TelePresence out there and not only from sales perspective, from internal corporation perspective.

If you really want to achieve the benefit you're talking about in a market, you've got to show it. You've got to actually have the units available for people to go book them and use them and also have reduction in travel, business transformation, subject matter expert in front of the customer.

So we came up with based on the budget and what have you, this number. This is really our target for fiscal year FY '07 which ends in July.

*Julie Nordquist:* Did you feel like this was a pretty aggressive target for such a new technology?

*Suresha Bhat:* You bet it is. But it is the challenge that we face at Cisco is that we want to get it done. We want to get it done faster and we want to show how we did it so it can be done with our customers, too, so we are pretty close to it. We have close to 85 and the clock is ticking already on other deployments, so we are doing pretty good on this one.

*Julie Nordquist:* Fantastic.

### **How We Started Cisco-on-Cisco TelePresence**

*Suresha Bhat:* Thank you. So all of this really leads to how we can deploy the solution quickly and enable the operation of it very, very efficiently.

### **How We Deployed Cisco-on-Cisco**

*Suresha Bhat:* So let's look at a few key things of deployment. You need to survey the site. It needs to be a good location.

It cannot have windows, as we know in the discussion we had earlier, and what's really important is you need to be able to do modifications to it, not too much but get it up and running with the, you know, right level of ambience requirements and not do too much field work.

Because if you're really building the whole room, you're spending a lot of money on that one, so you need to really look at the right solution, right place. That's the key; you know, always – location, location, location.

### How We Deployed Cisco-on-Cisco

*Suresha Bhat:* And then comes the whole assessment of the room readiness. Once you build it, you need to test it like any other thing. You need to make sure that it has enough lighting, enough sound, ambience levels are maintained to the CTX level.

Once you have all that taken care upfront before the equipment gets deployed, you're pretty much about 60 percent done with your CTX certification. That's the key part because anything that you need to do on the equipment can be done quickly. If you want to change the construction of the room, it's gonna take a long time and permits and what have you.

### How We Deployed Cisco-on-Cisco

*Suresha Bhat:* Ensure proper network. It's not just enough that it's delivered and tested, but you've got to really ensure quality of service throughout the network from where you are to where you're gonna call, other deployed sites, and you need to ensure point-to-point as well as multipoint network readiness, so it's really important to have all that taken care before you do the deployment.

### How We Deployed Cisco-on-Cisco

*Suresha Bhat:* Then comes the whole Advanced Technology Partner agreement, you know, alignment and agreement, of course. What we did at Cisco is that we didn't just hire a bunch of engineers and analysts and technicians to do this deployment.

We try to leverage as much as possible, as you know – real lazy people here – so what we did was we partnered with our Advanced Technology Partners who are authorized to sell and deploy TelePresence. This has two benefits.

One, since this is such a new technology, our partners can get hands-on experience on deploying TelePresence. Now they are ready to go to customer sites and deploy TelePresence as well. Second thing: We can improve the process and then take that process and make it available for customers. So that's what we did.

*Julie Nordquist:* That's great.

*Suresha Bhat:* Exactly. This is our philosophy at Cisco. \_\_\_\_\_ walk the walk but we do this with our partners in conjunction as well.

*Julie Nordquist:* And it's really great for our partners 'cause it brings them in the loop very soon at the time that the technology is hot; get – you know, just being deployed and gets them ready to start selling to our customers.

*Suresha Bhat:* Absolutely and it's also a fertile training zone for all kinds of new technology and also identifying how to do it faster, better, cheaper so all those things.

### How We Deployed Cisco-on-Cisco

*Suresha Bhat:* And, of course, the whole logistics of getting the equipment purchased and shipping.

You may think it's, "Oh, what is that? I order it; it comes to the door." This is a huge system and maybe in the future we'll make it very, very small, but right now it's actually – you know, it's the whole experience, life-size.

Of course, one thing people probably cannot do in the very near future

is to shrink us, so life size really is – is pretty big. So the big plasmas and the equipment included, the furniture, so that needs to be managed well.

You know, you need to ensure that you have proper storage and you need to ensure that you have proper recycling and other facilities. I'll talk about them. So you need to ensure really when the equipment arrives you have a place to keep in the location because sometimes you may not be there as a project \_\_\_\_\_.

[Crosstalk]

*Julie Nordquist:* And it's a high-value –

*Suresha Bhat:* Yes.

*Julie Nordquist:* – piece of equipment.

*Suresha Bhat:* It's high value equipment, yes.

*Julie Nordquist:* So you don't want to just leave it sitting in the room.

*Suresha Bhat:* Exactly and also this has got, you know, electronic complements and they ship in wooden crates so you don't know what exactly the crate contains. You can look at the bill of materials and all that, but you've gotta really open it and see if everything is intact, so it's really important to have a plan for that.

#### How We Deployed Cisco-on-Cisco

*Suresha Bhat:* So once you have all these taken care, you're pretty much prepared. Now let's look at the day of deployment and how it happens during and after the day of \_\_\_\_\_.

[Crosstalk]

*Julie Nordquist:* Just a quick question. So you talked a little bit about storage and – what was the other thing – recycling. Is there someone onsite that is helping you coordinate this or how does that work?

*Suresha Bhat:* My next slide covers that.

*Julie Nordquist:* Oh, okay.

#### How We Deployed Cisco-on-Cisco

*Suresha Bhat:* Pretty good question. Pretty good question. So you talked about how people manage local deployment. It's really important to have logistics planned out for your global deployment as well as for each local site and they vary.

The plan stays the same for global, but the local logistics vary because of the conditions of the location, people available, as well as, you know, the environment. You know, it could be sunny. It could be raining. So you need to plan for all that. It could be a local holiday.

All those things need to be planned, so one of the things really important is to track your shipment. Make sure it actually reaches the location on the right time and then also ensure you have proper storage.

Now other than that, you need to have couple of people really available to help you. That is not a mandatory. You might have a better process. What we did at Cisco is that we reached out to the local teams where we identified a local facilities contact and a local IT contact.

There are two key things. One is you have an network port in the room. That needs to be patched correctly and it needs to be correctly configured to enable the quality of service, so that internal verification can be done remotely.

But if you don't have the port \_\_\_\_\_ for some reason or something locally happened, a wire got cut or a tree fell down on the network cable, who knows what happens, right? So you need to really have the local information flowing back to you from a program perspective.

So also during the deployment you may need a few equipment, maybe a \_\_\_\_\_ cable needs replacement, you know, it got twisted or something, so, you know, it's good to have somebody locally available from an IT perspective to get you some of those, you know, requirements.

*Julie Nordquist:* So it wouldn't require someone dedicated to fly out to every single 110 locations and plug in a cord or something.

*Suresha Bhat:* No, no. You're right. You're right. That's the key point here is that you can pretty much leverage your local teams available to help you with this.

Once you have an Advanced Technology Partner who knows how to deploy the unit, all you're providing is maybe a couple of hours a day or maybe once in – you know, a couple of hours just checking on the progress, but other than that, you can manage it centrally.

*Julie Nordquist:* You may answer this question later, but how long does it take to set up the room?

*Suresha Bhat:* Very good question. Now that we have got it pretty good. We can get up a room – a room up and running with the entire equipment deployed in about three days.

*Julie Nordquist:* Okay, great.

*Suresha Bhat:* That includes a couple of things that customers may not need to do like we upgrade software and we do a lot of testing with most of other locations that are online. We have close to – I talked about it – about 85 units deployed, so we try to call them all the way to ensure that different latencies, different jitters, we know how that particular location behaves.

That tells us a lot about the network and the conditions that are going on and the overall ambience, so that really kinda gives us the comfort feeling, but we can get it up and running in three days and then we do about a day to do the CTX certification.

That is really measuring the light, sound, ambience and making sure that everything is certified and released to production. This also includes the whole single click operation we talked about earlier.

So what it means is that you need to make sure that room is properly tagged as a TelePresence room in your global calendaring system and you need to also ensure that the schedule that you have on Outlook follows through to the phone in the room, so all this end to end can be done in about three to four days.

*Julie Nordquist:* Terrific.

*Suresha Bhat:* Yes and our partners are doing this \_\_\_\_\_ us and they're all trained. We have like, as I said, close to 22 partner alliances and most of them are going through the training and deployment process as we speak.

*Julie Nordquist:* Great. Thank you.

## How We Deployed Cisco-on-Cisco

*Suresha Bhat:* Then comes the whole week of deployment. I talked about three to four days, so what happens normally during this time and what we need to watch out for is really few key things.

First of all, equipment delivery to the location and since this is a huge set of equipment, what we did at Cisco – and this is one of the best ways but we can also improvise on this – we actually book a conference room next door to the room the TelePresence room is going so we can stage that for equipment.

And we just need it for about two to three days maximum and if we do not have such a space, you can always store it downstairs where you receive equipment or you can have a staging area.

In some places, we actually rented storage area because other offices were small and then we stored the equipment there and then what we did was to dismantle the boxes, the crates, and only ship the boxes as we need them to the location.

You don't need all the stuff in the first day. You can actually first put up the frame and everything and then ship the plasmas out there, so this actually saves us ton of time and effort.

Then we also plan a lot of recycling. You know, Cisco is a very environmentally conscious company and we recycle all the crates, boxes, the \_\_\_\_\_, all that that comes with the packaging and it takes some time and effort to plan the recycling and garbage disposal, so it's very important step. I would recommend everybody do that.

*Julie Nordquist:* It's not something you always think about, that you need to take care of afterwards.

*Suresha Bhat:* Yes. We are very good at opening the boxes, box goes to the bin, but really think about where that boxing is really going.

*Julie Nordquist:* Really shows that you guys thought about every single detail of this deployment.

*Suresha Bhat:* Yeah. I mean the biggest value proposition of TelePresence is travel reduction but emission control as well. We talked about the whole global economy and TelePresence is really gonna change the way we actually do business, so not being there in person but really being there, you know, virtually is really key, so this all ties into that messaging.

And second thing is during the deployment, these people keep asking us. We do registration of the solution, the codecs, on the Call Manager, the day the box is opened. People ask why. Why can't you have the MAC address supplied to you earlier?

What happens is this is actually packaged from manufacturing so the codecs are all packed up into the wooden crates so you don't have the MAC address right there, but also two things.

When you actually really have them onsite, sometimes you may need to upgrade and change and put a new codec in there for some reason and at Cisco, we're actually always deploying solution before it goes to customers so we make the process very clear.

The first day itself, we get the MAC address from the partners and then we enter them into them into Call Manager and the system is ready from an enablement perspective.

*Julie Nordquist:* And so that's what's required within Call Manager. You need the MAC

address.

- Suresha Bhat:* Yes, pretty much the MAC address so you can register the system into the Call Manager, like any IPD wise, so basically that, and then we have the upgrade process, so we also sometimes roll out the solutions before we – we roll out the solution but we have a software update after that.
- So we usually try to make sure that the systems are all on the same release, very important thing. You have upgrades on \_\_\_\_\_. We have new \_\_\_\_\_ that are certified gold releases. What we do is once we deploy the solution, we make sure that solution is on the same \_\_\_\_\_ before we make a call to any other location. This is really about maintaining that quality throughout.
- Julie Nordquist:* What happens if you get equipment on arrival and it's not working?
- Suresha Bhat:* Interesting. Yeah, it happens sometimes, usually because of shipping management. Sometimes the boxes get, you know – in one cases, we got the box left out in the rain or not the actual box, the whole wooden crate, so sometimes those things do happen, you know.
- We need to plan for that so we plan on keeping certain spares. In some of the cases, remote locations, because we ship most of the shipment from Houston, Texas, so for a China deployment, since there's a heavy customs delay, we did plan on sending a few spares.
- So we did send some spares as well as like – I wouldn't recommend sending a whole unit or anything like a spare. Basically, the primary codec is the only key spare you need because it's got the audio and you can use a primary as a secondary as backup as well, so –
- Julie Nordquist:* Would you ever – could you ever deploy the unit not fully? Like would you put one screen, one plasma, instead of all three or you would only do the entire solution?
- Suresha Bhat:* No, we do entire solution because you don't know exactly what you're getting until you have all of them working. The best way to do it is to deploy the codecs and the plasmas. Plug them in once they're registered. Test it before you secure all the bolts.
- That way if you need to make any modifications, alignments, you can do that. I mean we have also improvised on the deployment guide and we have given that feedback to BU and, of course, if you go to our CUC, you'll see a new deployment guide out there.
- Julie Nordquist:* What is CUC?
- Suresha Bhat:* CUC is Cisco internal Web site, but CCO is our external facing Web site. You have that information out there as well.
- Julie Nordquist:* Okay, so this – what you were referring to was something that we use internally to do that.
- Suresha Bhat:* Deploy it, and because we have the product a bit before, it actually \_\_\_\_\_ so we have stuff. Once we, you know, make sure that that stuff works, we make it available to the customers. That's why we have a little difference but all that learning is going back towards the customer-facing Web site as well.
- Julie Nordquist:* Great.
- Suresha Bhat:* And then comes the whole installation and acceptance. You know, you need to make sure you have a total acceptance plan and that's what we have done and that's part of our Advanced Services delivery as well.

And it includes not only the deployment acceptance, which includes alignment of the plasmas, tables, and all those things, but also test calls, schedule management, the whole network impact.

So we also test when you are in a call what is the bandwidth utilization on that path, the network, what is the jitter, what is the packet loss with different sites that I talked about at different time of the day.

So we give a whole day test cycle to ensure that we know the behavior of the system because that lessons goes back to our operate and optimize space, so we prepare our FAQs. Maybe a site has a little different latency and behaviors. We plan and prepare for how to counter to that when it happens in reality. So those things are very important.

*Julie Nordquist:*

Great.

### **Experience**

*Suresha Bhat:*

Now let's look at the whole experience part of the puzzle and, as I said, quality is important. You think about in the prepare phase itself, so when you are in deployment, you have done the equipment deployment. You have the done the acceptance testing, so technically the solution is ready. Hoorah, we are done.

No, it's just a little bit more work. So what we do, as I mentioned earlier, is that Cisco TSB or TelePresence Systems BU has defined a guidelines for certifying a TelePresence deployment. That is called CTX, Cisco TelePresence Experience, and Cisco's TSB marketing team, really engages themselves to verify a deployment is certifiable or not. This serves a couple of purposes.

One is that we know the quality is good. Second is that we know that what we need to do if we see any issues with site. So we go back and recertify many of our locations as well, so essentially, it comprises a few things, the readiness of the room, ambience, lighting, and then sound, the vibration and what have you.

Then also the equipment deployment itself. Are there cables hanging loose? Are there, you know, a nonstandard equipment used in the deployment? Because it could affect the quality and then also the whole preparedness of the, you know, remote local calling, pixelizations, what have you. All that is taken into consideration.

Now you may ask how do we measure this. It seems to be soft certification. It is not. It's actually backed up by hard metrics, you know, tolerance limits and equipment, so Cisco TelePresence BU has put out a CTX kit that our partners have – we have – and customers can purchase them as well because if you want to have a plan for support and operations and you want to certify your room you can do that.

Mostly, the certifications are done by TSBU and that's what we do as well. Again, there are two things to consider. You can't be the person who does the development and does the quality assessment as well, so you got to have different perspective.

So what we do at Cisco is we engage our BU heavily and they certify the rooms that we deliver. We also partner in that process because we also do the delivery certification from our – for the delivery that we receive from our partners – Advanced Technology Partners and vendors, what have you.

So this is like a two-step process for Cisco, but for customers, this is done predominantly by our TelePresence BU and Advanced Services, so they do the final sign-off on the quality. They give you that third-party

audit perspective on delivery from partners and whoever does your deployment, so that's really a key here.

*Julie Nordquist:*

Great.

*Suresha Bhat:*

Let me talk to you a little bit about for people who are technically oriented what this really means from a CTX perspective. It is a lux reading of light on the shoulder, the surface, so you don't want anybody to shine when the light falls on them in TelePresence because that is not really a good experience.

It needs to be natural lighting and then also from an audio perspective, you don't want to have huge \_\_\_\_\_. You know, this is not a guitar studio where you need the vibration. Natural speech, you know, has to be translated the way it actually appears in the local room so we need to make sure there is not much ambient noise.

So it's something that we can't hear because human mind is good at tuning out sounds that are not required, but equipments are not that intelligent. So you really need to ensure the decibel levels in the rooms are under 42 decibels with the AC unit turned on because we forget sometimes the AC unit on but with an equipment that translate that sound very heavily so you need to really make sure that it's done that way.

*Julie Nordquist:*

When you call it CTX, is there a rating system? Is there –?

*Suresha Bhat:*

Yes. Absolutely, you're right. So there is a green, yellow and red rating system, so if everything, if all the measurements are within the premise of the limits then we get a green and if they are beyond certain limits in certain areas, so you get a yellow.

Yellow means you need to remediate the room. It doesn't mean that it's a disaster but you need to remediate. Maybe it could be paint or some lighting changes or acoustics or maybe building a soundproof wall behind it.

And then your red is literally you've got to change the location or the equipment or something like that. There could be serious issues with the network. There could be issues with a foundation, all those kind of stuff, so red literally means that you cannot release the room to production.

*Julie Nordquist:*

Why would you get a non-green if you've already followed all the processes that you talked about previously?

*Suresha Bhat:*

Excellent question and we haven't automated everything, so there is a lot of human interaction involved, a lot of changes that happen. Let me give you some example. We cannot standardly – we cannot buy the same type of lighting in China that we buy in United States.

There are different readings. We have different frequencies, you know, 60 Hz versus 40 Hz, 220 versus 110, what have you, so you need to make sure you have right type of lighting in different regions. This is a global solution so there are a lot of restrictions in changes.

You cannot probably sometimes get the same color of paint in different countries, so we have standards, we have options, but when you deploy them it might look totally differently because – it depends on how much of – you know, your contractor, how much of the thinner he put on or the base he'll put on or all that kinda stuff.

So the plan is great but execution, there could be variations. So it's really important to understand the variations and see that there are different \_\_\_\_\_ of the limit.

- Julie Nordquist:* Well, and I guess that's why CTX is so important, so that when you do have those variables now you have something to actually measure it against.
- Suresha Bhat:* Exactly. As I said, you've got to identify what you need to, you know, deliver and also to measure it appropriately and then CTX is also like a conscience, you know. We deliver a solution. You know, our conscience comes and says, "Hey, this is not – may not be ready so do some modifications."
- So technically speaking, because our audience is technical, it's really hitting those numbers that you have set out to measure. The lighting needs to be under 800 lux on your shoulder.
- It needs be under 800 lux, so you go about that – above that, then you're gonna see all that pixelization, all that shininess through your circuit, through, you know, impact on the bandwidth and all that kinda stuff 'cause video is very, very – network is very sensitive to video, so any variations and bumps – bursts, you will see it.
- Julie Nordquist:* And I guess it also makes remediation not subjective, so –
- Suresha Bhat:* It becomes objective, yes. It becomes standard. Two things to consider. You have a lot of deployment. It's very important that what you see locally is also similar to what you see remotely on the plasma screens. That way you can make the whole ambience look like it's one room versus, oh, you're in some other room and in some other room.
- So those are the decisions sometimes you need to make upfront 'cause some – you know, Cisco has the decision we have made. Most of our rooms have standard color, same color. The reason we choose that, it helps us maintain a CTX balance but also for the first time, customers who see this that creates that ambience.
- One you're used to it, you don't mind it too much if it is different color remotely. We have different standards as well for that kinda stuff, but that's really important decision to make at the planning stage.
- Julie Nordquist:* Great.
- Suresha Bhat:* So finally, to speak about all the readiness and all the deployment, ultimately, your success of deployment comes based on how prepared and planned you are and then what kind of measures you have in correcting the course of action, managing the change and then also communicating that to appropriate users.
- One key part of deployment as well is communications because you have a lot of people involved and this is very true to any major project deployment.
- Only from a TelePresence perspective, it's much more deeper that it impacts your network as an application, a network as foundation, and TelePresence as an application very, very critically, so very, very deep planning with those foundation owners, with those cross-functional team owners is also very important to plan well ahead before you start the actual physical deployment.
- Julie Nordquist:* Just think if you had TelePresence to do some of your communications.
- Suresha Bhat:* You know, that was a very good point you bring up. When we did deployment of TelePresence, we didn't have the equipment so we couldn't talk to people face to face.
- Now we can in many locations but if a new location is coming up – and I

wish we had that facility so that we could have used all our, you know, communication and meeting we needed to have to get this ready but now we can. The power exists now.

- Julie Nordquist:* Great.
- Suresha Bhat:* Thank you, Julie. That's all I have for today.
- Julie Nordquist:* Thanks, Suresha. I appreciate you being here today.

#### **Cisco TelePresence Fast Track FY'07**

- Suresha Bhat:* Thank you, Julie. My pleasure. Oh, sorry. I also forgot to mention that we have a slide on Cisco's fast track implementation that we did using this methodology, so this gives you a high level timeline summary of how quickly we were able to do this deployment using the process. Let me speak to it a bit.

So there are a few dates here. Do not worry about all the details but what I wanted to highlight is how quickly the event from execute/commit to a designed review and then to implementation and launch. That was done about in six to eight weeks.

So once we had the project execute committed with funding – we had reached end of our planning phase; we were getting into the design and implementation phase – we were able to design the network parameters, implement them in about four weeks and then we were deploying on September 15.

We deployed four TelePresence rooms globally; the first deployment globally that we did at Cisco in about a week.

- Julie Nordquist:* Suresha, what allowed you to move so quickly through the planning parts, through the initial execute/commit.
- Suresha Bhat:* Prepare and plan so we started preparing doing the site analysis, the assessment I talked about. I even defined the LAN WAN readiness. All that information really helped that execution commit on that one day because we had those things ready.
- So if you have your preparation and planning phase done well, the actual deployment, the actual impact to the network, the dependency tracks and executing those actions that need to be executed happens very quickly because we are not changing the network architecture.
- We are not changing any hardware, major changes to the hardware implementations so really getting it ready. That's all it is really about, so it's application that gets deployed onto your network. Highlight of this is to show how that happened and how quickly we were able to move to actual physical implementation of the system and as I mentioned –

- Julie Nordquist:* Is that why you call it fast track?
- Suresha Bhat:* Yeah, that's the reason it's called fast track and we launched TelePresence globally on 10/23, October 23, \_\_\_\_\_ –
- Julie Nordquist:* Of last year?
- Suresha Bhat:* Exactly, and then we actually did about 20 more units in our second phase and then were are actually on our target for the 110.
- Julie Nordquist:* Terrific.
- Suresha Bhat:* Thank you and thanks for being with us and this is all I have for today.

*Julie Nordquist:* Thank you, Suresha.

*Suresha Bhat:* Thank you, Julie.

### To learn more about Cisco IT experience

*Julie Nordquist:* For additional information on TelePresence or to learn more about Cisco IT experiences with Cisco Technologies and Solutions, please visit the Cisco on Cisco Web site at the URL you see here now. This Web site give you access to more than 100 case studies and operational best practices on a variety of Cisco IT deployments.

### Cisco

*Julie Nordquist:* We'd like to thank our viewers for spending time with us and being interested in the global technology seminar series and please be sure to view the other segments of our program on Cisco IT's experiences with TelePresence including TelePresence Technology, Solution Architecture and Design and the Support and Management of TelePresence. We hope that you've enjoyed this program. See you soon.



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