

Bruce Cowper on How System Center Supports Desktop Virtualization

From The Efficiency Platform Expert Interview Series

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About This Document

This is the transcript of an interview conducted with Microsoft Canada Virtualization Lead Bruce Cowper in January, 2010. The interview provides insight into the ways that Microsoft System Center supports desktop virtualization; it is also captured in a podcast available through IT in Canada's *The Efficiency Platform* microsite (<http://theefficiencyplatform.itincanada.ca>).

Mary Allen: I'm Mary Allen, editor at IT in Canada, and I'm here today, at the very beginning of the New Year, speaking with Microsoft Virtualization Lead Bruce Cowper about how the System Center set of solutions may be deployed to support virtualized desktop and other user environments.

Bruce, my first question is really a follow on to a point you made in a presentation before Christmas with Citrix, in which you described the System Center family as "the heart of the whole Microsoft virtualization solution." Can you quickly explain System Center capabilities and why it's really the heart of Microsoft virtualization?

Bruce Cowper: One of the approaches of not just Microsoft but a lot of virtualization vendors is making the virtualization effectively ubiquitous and commoditized within the organization. And by that, I mean that, essentially, the virtualization becomes a foundation layer. The biggest challenge that organizations generally have around any form of virtualization solution is not the deployment; it's really about how you manage and maintain - not just the virtualization layer - but your systems that are sitting on top of that virtualization layer, throughout their life cycle. And by that, I mean things like patch management, deployment, allocation of resources, disaster recovery - those types of scenarios.

And that's why we put System Center, really, at the center of the virtualization solution. And it's for two primary reasons. One is System Center addresses the biggest challenges people have on a day-to-day basis with virtualization. And the second thing is that when we look at the virtualization solutions as a whole, you're talking about desktop virtualization, server virtualization, and other different technologies, System Center is the tool that effectively binds them all together.

Mary: I'm still not really understanding the specific link you're making to virtualization, though, because, presumably, System Center is designed to help with all those scenarios that you described earlier -- patch management, et cetera -- that are also used in a non-virtualized setting. Is that correct?

Bruce: Very much so. And in fact, what we encourage people to do is to think about how they manage and maintain their virtualized infrastructure in the same way that they would approach their physical infrastructure. The virtualization layer could, and should, essentially become just a platform, effectively, that they're running on. In fact, we look at it from the point of view of the virtualization layer may be Microsoft, or it may actually be another vendor. So that part is one layer within the infrastructure they have, but that they should think about managing and

maintaining and securing their infrastructure in pretty much the same way, whether it's physical or virtual. And sure, there are some nuances with virtualization, but the approach is very much the same.

And there are two big reasons for that. The first is that people are generally much more familiar with how they manage and maintain a physical set of infrastructure, so that they can start applying the same techniques and approaches that they use in their physical environment to the virtual. And that's really important, from a training and education and even a resource perspective.

The second one is that a lot of companies have invested in tools to help them manage their physical environment, and what we encourage them to do is to think about how they can use those same investments in the virtualized world as well. And the reason for that is that the less complexity that we introduce into how people manage and maintain their environment, whether it's physical or virtual, the more success they actually have in being able to manage and maintain and secure that environment. So they're very much interlinked.

Mary: So, how is System Center different from other IT management tools? If customers are already familiar with a set of tools that they may be using to manage their physical environments, how is System Center different than what they might have been using before, and how would it simplify management of IT systems?

Bruce: We see System Center, effectively, as a management platform. If you think about it from the point of view of what visibility you have, for example, into your infrastructure, with a lot of management tools, you may get visibility into the hardware layer. Some give you visibility into the virtualization layer. Many of them will help you manage and maintain things like services -- so patch management, system performance, that sort of thing. And they're often designed for fairly specific purposes.

The System Center suite is designed, really, to provide a platform for management, in terms of, not only is it able to peer from the hardware layer - all of the major vendors, whether it be IBM, HP, Sun, Dell or whomever it happens to be, have what are called management packs: so essentially, connectors that connect directly into the System Center suite of tools - so that you can effectively manage that hardware environment. But, for example, all of the software that Microsoft and a lot of our partners produce also have management packs for the management platform, the System Center suite, so that you're able to look into the whole environment, right from the hardware layer, all the way through the virtualization, and even into the user experience.

And that's really important - not only understanding, for example, that my services are running, my machines are patched at the back end, and they're secured, but that the experience that the user is getting is correct. For example, they're getting good performance; they're getting a good response rate, and that things are actually working for them. Because one of the ways we look at how businesses really help themselves with management is to look at how management can effectively automate a lot of the tasks that they may do on a regular basis.

So, for example, if I know that there is a capacity issue on a server, understanding there's a capacity issue means that I can proactively deal with it. And so that's really the point of a lot of the management tools is to give that holistic view into the infrastructure, from the hardware all the way through to the user experience, including that virtualization layer. And that's the key piece that often differentiates it from a lot of the other third party vendors.

Mary: This is pretty impressive. So, with System Center, you end up with a centralized view of all the systems that are part of the IT infrastructure. How challenging was it to prepare this suite of products with this range of

capabilities, I mean, with this view into different vendor products, whether they be hardware, software, or the virtualization platform itself?

Bruce: The initial trick for us was making it a platform that could be expanded, not only from the point of view of, say, other vendors plugging into it, but also from the point of view of the administrators and the IT folk and even management within a customer's site being able to customize it to get what they need out of the tool. And so those were two really important design principles that we put into it, bearing in mind that System Center covers a range of products that all interlink, everything from, say, antivirus, all the way through things like Operations Manager, which is the monitoring tool, to Configuration Management, which is the patch management and software management tool, to things like Data Protection Manager, which is the backup and recovery tool, to System Center Virtual Machine Manager, which is the virtualization tool.

So it covers a suite of different technologies that all plug in and work together, and so it was a big challenge getting all of those product teams to provide things like common interface, common connection, and common data aggregation, so that we could provide what we like to call a single pane view on an infrastructure and its current state.

Mary: So, how long was this in development, Bruce? How long did it take to coordinate with all the research teams across Microsoft and then develop software that you were sure could interoperate with all of the different vendor products?

Bruce: Essentially – it's taken a long time. I mean, when I look back to some of the individual tools, like System Center Operations Manager which used to be called Microsoft Operations Manager, or MOM. And when I look back to some of the early versions of those tools, which are sort of five or more years old, they were very much stand alone. And what has happened - over I'd say the last two and a half, three years, especially - has been that customers had started to tell us that they needed those tools to integrate properly. So a lot of it was driven by customer demand.

And the second thing was we actually brought the product teams in under the same group within Microsoft so that, effectively, they had the same guiding principle for the same product group. So they were, therefore, effectively forced to sort of provide connectivity and provide proper integration – a) as a result of customer demand and b) by virtue of the fact it became a much bigger priority with Microsoft.

And to give you an idea about the customer demand side, what we found, from a security perspective especially, was that customers had stopped investing a lot of their security budgets in things like point-in-time solutions. A lot of them had switched, and are still doing so, switching to management solutions, with things like integrated security and what have you. Along the lines of, if you don't know what you have and you can't manage it, you can't secure it. You can't secure what you don't manage. And so it becomes very much a symbiotic relationship. And so those types of requests about making an integrated product suite have been a big driver. And it's meant that it has taken several years to get it right, but I think that we're actually getting there.

Mary: Interesting. Now, System Center can help an organization manage across various vendor products, but also, I understand, across different devices that employees in an organization might be using in the new working environments that we find ourselves in.

I'm talking here, for example, about virtualized desktop. And I was wondering if you could talk a little bit about virtualized desktop in the Canadian context. Are you seeing much movement in this direction here, in Canada, and can you explain what customers are looking for or hoping to achieve in virtualized desktop?

Bruce: There's certainly an awful lot of conversation around virtualizing desktops. You'll find a lot of the vendors are all sort of driving customers in that direction, and customers are asking the questions themselves.

The vast majority of scenarios that customers have been deploying over the years have been, for example, thin client solutions, so Terminal Services, Citrix, ICA, and some of those others that have been typical sort of one-to-many. So, in other words, a server providing many desktops for shared applications.

And the big driver behind that has been organizations being able to take much better control of applications and application utilization within their organizations. And also for things like shared desktop or shared machine scenarios. So, in other words, if I have several people sharing a computer, or a number of computers, if all of my settings, my applications and everything else, follow me around, those are really big drivers behind things like virtualized desktops, especially around thin client.

The other big driver behind that has been application compatibility. So, for example, if I want to deploy things like Windows 7, or a newer operating system, but have older applications that are not compatible, those types of solutions, like thin client, et cetera, give me a great way to sort of abstract the applications from the underlying operating system -- so, in other words, provide application compatibility.

The second big scenario that we're getting a lot of customers deploying and looking towards right now is the sort of VDI-type solution. So, rather than just virtualizing individual applications, I'm going to virtualize the whole desktop so that, rather than the desktop running, say, on my local piece of hardware, it's actually running in the data center.

And the big advantage for Canadian companies behind that has been the ability to perhaps prolong the lifespan of their existing hardware. So, rather than having to invest in something that's relatively expensive as a physical piece of hardware on a regular basis, being able to say, "Well, OK, the horsepower and the investment that I'm making is in the data center at the back end, where it's much more efficient for me to do so because I am sharing that investment across a number of users."

And so, what we've seen is a lot of companies, right now, deploying perhaps even small numbers of machines in a VDI-type scenario. What a lot of companies are telling me right now is that they're looking to, really, how they expand that, because the real sort of financial benefits to an organization, and management benefits, et cetera, are really realized when you embrace something like the desktop virtualization in a lot more broad context within the organization. What they're telling me is, "If I do it for a small number of users, I'm not getting my ROI as readily as if I embrace those types of technologies across the organization."

Mary: So they're not able to achieve economies of scale? Is this what you're suggesting?

Bruce: Well, if you look at things like server virtualization, it's fairly obvious where you get a lot of your ROI from. In other words, things like data-center consolidation. I go down from X number of physical boxes to a number of virtual machines with a smaller number of physical boxes. I get all sorts of other tools that I can leverage because the machines are now virtualized. And there are also licensing opportunities, et cetera, with a lot of vendors there. So the ROI is a lot more obvious.

On the desktop side, the ROI is often not that obvious until organizations really look holistically at where they can leverage the technology. So, right now, as I say, a lot of companies are going very piecemeal. A great example is, I was talking to a company recently who wanted to get a handle on the number of licenses of a specific product that they were using. And this is an expensive piece of software. And it worked out it was much cheaper for them to turn

around and say, "Well, we've only got 50 licenses for this particular product. And so I'm going to make 50 desktops remotely available to whomever needs them - I may have a hundred people that might want to use those types of applications." So they looked at desktop virtualization as a way to save money specifically on one application through the licensing. So rather than putting 100 licenses on 100 desktops and only half of them really being used, they said, "OK, we'll do 50 virtual licenses, and now we know that all 50 are going to be used properly." So they looked at things like that type of scenario as a specific instance within their organization to save money.

What we're seeing is that the ROI when you do things like that is a lot less than if they turned around and said, "Well how about we now rationalize all of our applications within our environment and make sure that the users, for example, only get the applications across the board rather than this just one. So that we really are able to do things like not just rationalize the licensing, but rationalize the management side of those applications."

A great example is I was talking to a federal government body recently that had 18 different versions of the Adobe Acrobat Reader within their organization. And that was a nightmare for them to manage. If they looked at publishing those applications through things like desktop virtualization, they could go down to one version of the application or a smaller number, which is much, much easier for them to manage and maintain across the life cycle. And the reason that they ended up with 18 different versions, was because they really didn't have a handle on the applications that were out there. And so they're looking at taking back by using desktop virtualization a lot more holistically across their organization.

So that's the key point. It's not a piecemeal deployment within an organization. An organization, to get the ROI, really has to step back and understand how they can use it across their infrastructure and across the life cycle of their environment.

Mary: Can you describe for me, Bruce, how System Center would be used in a thin client environment? And maybe, could you use the Microsoft-Citrix relationship as a model to describe how System Center supports that type of desktop virtualization?

Bruce: Absolutely. So I'll take a subset initially of that, because under the Microsoft-Citrix relationship, there are a number of different types of desktop virtualizations. I'll take the VDI type of scenario just so that we've got a starting point.

So when we think about VDI - so the virtual desktop infrastructure - there are effectively four primary components to think about. The first one is, I have a physical desktop of some variety, a physical device of some variety, whether that's a cell phone, a laptop, a desktop computer, that sort of thing. The second thing is my desktop is running on a server within my data center, a virtual machine in my data center, which is sitting on top of a physical server. So the first one is the physical device that I'm using. The second one is the desktop that I'm actually using. And the third one is the physical infrastructure that is running my virtual desktop at the backend. The fourth component is then the applications that you're using in that environment.

Each one of those components needs to be managed and maintained across its life cycle. So, for example, when I look at things like System Center Configuration Manager – so one of the components – it's designed to be able to manage the things like the software deployments, the application deployments, and also things like patch management, version control, and all of those things aimed at the applications. So I would use that tool's functionality to provide me with the ability to manage and maintain the software, the applications in that environment.

I then have System Center Virtual Machine Manager, which is the tool that helps me with my provisioning, my deprovisioning, and the management of the virtual machines - the virtual desktops that are running in my data center. So that tool is providing me with the ability to not only help me with all of the provisioning side of it, but making sure that that virtual desktop is getting the right physical resources: memory, CPU performance, hard disk space, those sorts of things. There's the second component of it.

Then of course we need to monitor that whole environment from the device that I'm using, say my laptop, as the interface to that virtual desktop, but also the physical machines at the backend and all of the other components. And that's System Center Configuration Manager. So that's one of the tools within the suite, that is then helping me monitor and maintain that environment from the desktop machine or the laptop that I'm using as the user, right to the hardware and the infrastructure at the back end.

There is often another tool in place - Data Protection Manager. And the Data Protection Manager is designed to do snapshot backups. So that say there's a hardware failure in the data centre, heaven forbid. Well, Data Protection Manager is designed to help me take regular snapshots of those running virtual machines, those running virtual desktops, to protect things like data integrity et cetera.

And of course the next layer is things like the antivirus and the anti-malware tool, which are things like System Center and the Forefront suite of tools, and how those tie in. So that at the end of the day, the System Center suite may be touching that whole scenario in about four or five different places. And the important thing is that because they all integrate, what the admin is seeing is a single pane of glass to help him manage and maintain that environment.

Mary: And so System Center is making it possible for there to be one IT manager that performs all these different functions in all areas of the virtualized desktop environment?

Bruce: Well common statistics are that people spend about 70 percent of their time dealing with managing and maintaining their existing infrastructure. And what we've found with a lot of our customers is that the more they're embracing especially the holistic approach to management, to your point, the more time they're getting back in their day. I was with a customer recently who was saying that they get back effectively, between the two of them in a fairly reasonable sized company, essentially a day a week of their time that they can use to deal with new stuff or to help them really optimize their infrastructure. So they've certainly found that it's been a big help.

One of the other areas that is worthwhile considering, especially for IT managers, is that very often there may be a translation issue between what they need to be able to present to the business so the business is making the right decisions, is seeing the results of the investment that they're making in their infrastructure as a whole. And often that can be lost in translation when you try and convert effectively what is a set of technology tools into what would be a management view. A great example of that is compliancy. The whole ability to understand, "Am I compliant, am I not compliant? What impact are these tools having?" And one of the big things about being able to collate the data together within tools like the System Center suite, is also the ability to then translate those into information that's used by other parts of the business. So you may only have one IT admin, for example, managing and maintaining these on a regular basis. But you probably have use of that data elsewhere in the organization, like the CFO understanding what investments they should be making, the CIO understanding how they're managing and maintaining data integrity and that sort of thing. So that's also a very important consideration because that can be often a big time issue for a lot of admins in helping them produce that sort of information. So a lot of the tying of that information, collation of that information can be incredibly useful to the business in other contexts as well.

Mary: So these are reporting tools that you're talking about, Bruce?

Bruce: Very much so. If you look at the reporting that I would get out of Operations Manager, for example, which is monitoring the whole organization OLAP. I'm going to get information as the admin on how are my systems sitting today: are my virtual machines getting enough resources; are my users getting the right experience? As a CIO, for example, I'm probably going to be asking different questions, such as "So how was my uptime this year, or this month? How many trouble tickets did I actually receive and how long did it take my IT department to deal with those challenges? What am I needing to think about in terms of capacity, in terms of future investments?" And so it's important to get that sort of information out as well across the board. And so the idea is that that same information can be presented in other ways to help different parts of the organization, generally through the reporting tools.

Mary: My fourth question has to do with the press release that came across my desk a week or so back that announced an expansion of the Microsoft - Citrix partnership through a new product called the Citrix Essential 5.5 for Microsoft HyperV. Now this release explained that Citrix had developed some disaster recovery services that will now be available through this product to customers of HyperV or of System Center. So I'm wondering in that scenario, who is actually providing the disaster recovery capabilities? I thought there were some DR capabilities built into Windows products, like HyperV or Windows Server 2008. Are these capabilities then complementary, or are they doing the same thing? And I'm wondering if they're doing the same thing, how do you as a vendor explain this when you're approaching the customer?

Bruce: The good news is that these tools - for example, the Citrix Essentials tools - are designed to be complementary. One of the things I talked about earlier was that System Center is really a platform of management tools. And what Citrix has done is they've created effectively a management tool which interfaces directly with System Center, HyperV, Server 2008 R2, et cetera. And it's interfacing directly with the Microsoft management and platform tools, but it's also interfacing directly with all of the Citrix-specific tools. So for example, the services that they put on top of the Microsoft platform for things like user experience. So tools like HDX, other tools that are really Citrix-specific. Citrix Essentials is designed to be the management layer interface between things like the System Center platform of tools and the Citrix-specific applications. Yes, it very much is complementary.

Mary: Thanks, that makes a lot more sense, and actually repeats a point you made earlier in our conversation about the efforts Microsoft has gone to to make sure that System Center can integrate with other vendor products. So this then is another example of the multi-vendor functionality that you've built into the product.

Bruce: Very much so, and to be perfectly honest, we got a lot of feedback from not just other vendors, but from customers saying, "Hey, you know what? I'd really like to be able to use your tools, but they've got to interface with Citrix, with VMware, and with other vendors." So it's been a big area of focus for us, to make sure that we have that interoperability.

Mary: I think you've answered my final question, Bruce, which was about the strategy behind the greater interoperability in Microsoft's current product lineup, which is essentially a response to customer demand.

Bruce: It very much is. When I look at a lot of the organizations that I deal with, even customers who may say, "We're a Microsoft-centric organization. We like Microsoft tools, et cetera." You'll generally find they'll have some form of other infrastructure in there, often for specific purposes. I mean it could be a firewall at the perimeter of the network. It could be antivirus. It could be specific applications that they're using that they need for their business. And at the end of the day, the important thing for the customer has been to get to a point where, for example, they

get single pane of glass or one set of tools to manage it. I often get, in the virtualization contexts, comments from customers who say, "Hey I've already made my investment in VMware virtualization, " or "I've made investments in Citrix virtualization, " or "Hey, I run a number of Linux machines within my infrastructure, so we're not entirely a Microsoft shop." My argument is, "Actually I'd rather not ask you to rip and replace those. I'd rather ask you how are you managing and maintaining those over their life cycle? And then let's talk about how we can save the business money." Because I find, especially in the current economic climate, those conversations resonate much more effectively with customers that are wanting to do things like infrastructure optimization. They don't want rip and replace, and they want to be able to continue using their existing investments. And those types of conversations are really key with customers, but they're also key to helping Microsoft and other vendors think about how they do business in the future. Because meeting the customer needs is obviously going to be number one priority.

Mary: Yes. I'm thinking that using the System Center family of products would be of enormous benefit to IT managers who are not able to rip and replace current deployments in difficult economic times, but also to managers that are facing additional challenges from our more dynamic workplace. I'm thinking, specifically here, for example, about mobile workers or home workers and the range of different devices that employees now insist on using, and about, also, new ways of accessing applications.

Bruce: Very much so, and one of the big things that we're seeing, especially within Canada as well, is a lot of IT managers going down that path of investment. So, they're saying, "Well, the only way we can really make big savings within our organization is by looking at how we optimize, how we manage and maintain the environment across its life cycle."

And so, yes, you're very right in that those types of scenarios, tend to be point-in-time scenarios that get a lot of IT managers thinking. And once they look at it they realize, "Well, let's see what we can then do with these tools, perhaps in a broader context." And that's where they start really getting their savings or their reasons for going with management tools within their organization.

Mary: Wow, I'm glad I had a chance to speak with you this afternoon because it's a very large topic, and there are lots of pieces to System Center that are now more clear to me. Is there something that I've missed, Bruce, though, that you feel it's important to add?

Bruce: I would say that there is one thing that I sort of alluded to this a little bit earlier, in terms of where I see a lot of IT managers starting to make decisions right now around how they invest in their infrastructure. One of the big things that I would really encourage IT managers to do is to take the holistic view, within their organizations, of not only management but also virtualization, whether it be desktop or server virtualization. And the reason for that is that we find, in so many instances, when IT managers or IT departments have gone down the route of implementing things like this, whether it's virtualization or management, for very specific purposes, they often don't think about the broader context.

And what we found, working with a lot of customers, whether they be small customers, even mom and pop shops, or larger enterprises like banks or government departments - what we have found is that the more they look at how they can leverage the technology across the organization, and not just as a point-in-time solution, the more they really start getting the benefits from these.

The interesting thing that I have come across a lot is that customers, in many cases, own the tools or even the components of the tools (so, part of System Center Suite or they have other tools.) without realizing what benefits those can have, without fully utilizing them within their organization.

And so the one big suggestion to organizations, if they're looking down this path, whether it's for management or virtualization, is to almost take a step back and look at it holistically and say, "Where can I use the virtualization within my organization?" Or, "What systems can I be effectively managing and monitoring through System Center or the tools that I have?" And also that important bit of understanding exactly what I have today, to then be able to lay a foundation of where am I going to go tomorrow.

And so that's the one big piece of advice I think I would like to make, just because what I don't want people necessarily to do is to rush in and say, "I need management for the sake of having management." I would like them to sit back and think, "So, what are the business needs I have, and how are the tools really going to help me?" I think that's when we get the greatest benefit from them.

Mary: So, would you come into a small business, as well as into large organizations, to provide assessment services?

Bruce: Yes, and in fact we've had a funded program that we've been running in Canada for quite a while. In fact, there are a few programs. We have one in particular that's called Core Infrastructure Optimization, or Core IO. And as part of the Core IO program, the idea is to help organizations, whether they're small or large, understand how they move from where they are today towards things like being able to make better use of their infrastructure. The management and security are big components of those.

And as part of that process we've actually been offering small businesses, often through partners in Canada, the opportunity to do funded assessments. So, we have partners have gone into customer sites and been doing workshops with them and assessments.

But we've also provided a number of online tools, like the MAP tool, which helps organizations sit down and figure it out a little bit for themselves. They can put in what their infrastructure looks like or use the tools to go and discover, perhaps, a little bit more about their organization they may not know. And then we provide them with guidance on how to do it. And so there's lots of tool like that, certainly, to help people. But, especially with larger organizations in Canada, we've been doing a lot of funded assessments, just to help them understand where they can be going.

Mary: And then, presumably, you would build customized packages of all different System Center components, depending on the outcome of these assessments?

Bruce: Yes. Now, and the good thing is that we've changed some of the licensing, over the last year or so, to implement something referred to as ECI (Enrollment for Core Infrastructure). Basically, it's an enterprise customer license that is aimed at slightly larger organizations. But it's the idea that rather than people having to go and buy a number of products, they can get the whole suite - essentially, it works out that if you're buying more than, say, three of the components, you can buy the Enterprise Client Access License, which provides you with all of the components.

And so there have been a number of things that have been very effective for a lot of our customers, in terms of ways that they can effectively bundle a lot of the individual components together. And, certainly, the big thing we've found

is that customers then are going and deploying more of the tools than they had originally expected to, and because they've realized the benefits of doing so.

Mary: Interesting. So, are you having success in the Canadian market? Has this been well received?

Bruce: Well, management, especially in the System Center suite of products, has been growing very significantly in terms of revenue for us. And so, certainly, yes. But I think the biggest benefit, the biggest success that we've been seeing, is having a lot of customers coming back and saying, "Hey, that's great, that actually saves me time in our day." And so we've seen a lot of success, not only with the growth of the management market, but also with customer expectations.

Mary: Fantastic. Well, speaking of time in a day, Bruce, I've taken quite a good amount of your time. I really appreciate your sharing your insight into System Center with me though. Thanks so much.

Bruce: Oh, it's absolutely my pleasure.

Mary: This podcast is sponsored by Microsoft Canada and brought to you by the IT in Canada Pingcast network. I'm Mary Allen. Thanks for listening!

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