

openSAP Invites, Episode 23 - Learn How SUSE Linux Enterprise Server Can Help Move SAP Workloads to the Public Cloud

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Transcript

Robert Nichols: [00:00:09] Welcome to openSAP Invites. I'm your host, Robert Nichols. SUSE is a global leader in true Open-Source Solutions, an SAP partner whose mission is to give customers the freedom to innovate anywhere. SUSE Linux Enterprise Server, or SLES for short, is a leading Linux platform for hosting SAP workloads, including SAP HANA, SAP NetWeaver, and SAP S/4HANA. The alliance between SUSE and SAP spans two decades of collaboration and innovation. Today, I'm excited to welcome two experts from SUSE, Richard Mayne and Christian Holsing. Richard Mayne is a training architect at SUSE. His focus is on SUSE Linux Enterprise Server for SAP applications and high availability. Richard has many years of experience designing, building, and delivering technical training. As an openSAP project manager, I first partnered with Richard to deliver two openSAP courses in the spring and fall of 2021. Richard and his courses on SLES were very popular with our learners receiving high satisfaction scores and much praise about Richard's effective teaching style. Christian Holsing is the manager of SUSE solution management team for SAP, leading several products and initiatives of SUSE supporting SAP workloads. Christian is based in Germany and has a long experience in the industry. In previous roles, he was the product manager for SLES for SAP. Before that, he spent 17 years at IBM in various roles in product management and strategy teams. He started his professional career in 2001 as an SAP implementation partner. Richard, Christian, welcome to openSAP Invites.

Richard Mayne: [00:01:53] Thank you.

Christian Holsing: [00:01:54] Thank you for having us, Robert.

Robert Nichols: [00:01:56] Well, thank you both for taking the time today to discuss SLES. But before we do that, I always like to get my guests to share something personal about themselves outside of work. Richard, as you know, we have spent many weekly status meetings together this past year. And I happen to know that you live on an island off the west coast of Scotland with your two rescued greyhounds. Being curious that I am, I'm always asking Richard about his life on the island, everything from being dependent on ferries to whether he can see the aurora borealis. So, Richard, please do share with our audience what life is like living on an island off the Scottish coast, which I can only imagine is a love affair as it sounds like a place to be to author the next great novel.

Richard Mayne: [00:02:36] It is. It's a great place to live. But you do have to enjoy weather by that I do mean rain. And it's interesting that you brought up the subject of the aurora borealis because we had an amazing show on Saturday night. For once, it wasn't raining, and the sky was clear, and we had the big like shafts of light going up into the air. They would appear for a few minutes and then one would disappear and three more would appear. So, it was pretty, impressive. But yes, the negative side might be when the weather is bad, and the ferries don't get across. If you go to the shops, you have empty shelves with the basics like bread missing. So, you need to be independent, keep your freezer full of food in case the ferries don't arrive. So, so the pluses and minuses of living on an island off the west coast of Scotland.

Robert Nichols: [00:03:34] Richard, I don't remember. Did you tell me that you learned to bake bread because of that? Because of shortage of bread? It sounds familiar. One of our conversations.

Richard Mayne: [00:03:42] We did. But I must admit, I bought a machine where you just measure it like a science project. You throw it all in, you press some buttons, and then you go and do something else. So, like we record a podcast, for example, and magically when you go back down 3 hours later or whatever, the bread is ready for you. So. But you are correct. Well, remembered, Rob.

Robert Nichols: [00:04:03] Oh good. And speaking of baking bread, Christian, I happen to know that you have some really good cooking skills. I know you live in Nuremberg, where SUSE's headquarters are located. For me, working for SAP, I've had

the opportunity to visit many cities in Germany, but I've never been to Nuremberg. I know that some of my most memorable experiences in the cities of Dresden and Heidelberg was taking cooking classes with my colleagues there. So, I'm curious, Christian, please tell us about Nuremberg and tell us about your cooking skills and maybe describe one of your best dishes.

Christian Holsing: [00:04:42] Well, I actually have to correct you on one thing, because SUSE is although SUSE is headquartered in Nuremberg. I'm actually living near Heidelberg, so very close to

Robert Nichols: [00:04:52] Oh! I didn't know that.

Christian Holsing: [00:04:54] The SAP headquarter. And it's actually for me, a 30 minutes drive down to Waldorf and St. Leon. So, but obviously I am in Nuremberg relatively frequently to meet with my engineering colleagues. So, that's interesting you're asking about a good in favorite dish. So, I mean, I am really trying to do a huge variety of food. I just find it incredibly relaxing, especially having people over and do a large amount of different kind of foods. So, I mean, I really got into barbecue a few years ago and probably beating most people in the numbers of barbecue gear that's in my house. So, but not everyone. I remember a good colleague from SAP years ago that we always had like, what did you do on the weekend and what fancy thing did you cook kind of discussions. So that was really kind of cool. But yeah, I'm really playing with, you know, barbecue with Asian style food or whatever. I just like the variety, the flavors. And recently, more, more, more and more vegetarian, and non-meat dishes. So, really trying to learn new things. You know, people would say they try to teach an old dog a new trick from time to time. But yeah, so, I mean, it's quite interesting. So, the last compliments I got was for homemade pastrami, which you hardly get in Germany. And, you know, people really enjoyed this and asked for more. So, I think I'm not doing completely bad on preparing these kinds of things.

Robert Nichols: [00:07:00] Oh, that sounds good. We just had a an unseasonably warm day here in the Philadelphia area yesterday, and I took advantage to clean out my grill. Looking forward to now the warmer days and being able to grill out more often than being inside the kitchen. I really enjoy barbecuing as well. So, Christian, maybe you can

start us off by telling our audience, who is SUSE and what can SUSE provide for SAP customers?

Christian Holsing: [00:07:26] So, let me just give it a shot and try to explain that. So [00:07:32] SUSE was basically the first company that saw the potential of turning open-source Linux into something that becomes enterprise ready, a so-called distribution, which basically means we look at various open-source projects, we package them together in an operating system with supporting components around it and provide support for it for enterprise customers. [00:08:04] And we've been around for a very long time, and we were also very early part of the Linux Labs in in SAP. So, really helping and supporting SAP on the journey and the old ECC days and R/3 days when Linux was starting to become a platform. And when the thing really took off and we became more integral and more important partner is when SAP started to develop HANA and the SUSE Linux Enterprise Server became the development platform for SAP HANA. So obviously we have a very, very close relationship with the HANA development team, with SAP Engineering, with partners in the ecosystem. And I would say that the majority of all HANA based SAP systems run on top of a SUSE Linux Enterprise Server. So, we are the market leader here for on-premises and cloud deployments and we really try to innovate together with SAP Labs and SAP engineers to bring new tools and new functions into the product. That helps simplify the adoption and the move for those customers that are now at the point where they migrate to HANA as the database or move to S/4HANA. So, there is quite some innovation, some tools that that are part of our flagship product SLES for SAP that we make available to customers.

Robert Nichols: [00:09:48] Can you tell us more about the relationship between SUSE and SAP?

Christian Holsing: [00:09:52] Well, absolutely. So, as I said before, we're really, really close as to partners really driving innovation and that starts on multiple levels. So, as I was mentioning before, a lot of them, you know, getting HANA on Linux in the initial setup, that was something where we collaborated very closely. I think we're mostly known for our work in the high availability environment. We're, you know, to make HANA high available, accessible. Limit downtime in general for our mutual customers here between SAP and SUSE, we innovated on that. We still have the known experts in this area in SUSE and they work on a daily basis with the with HANA development, with

HANA product management and especially with customers to address new challenges, new requirements, new scenarios. And even more importantly in these days, also with the cloud service providers who we have very strong relationships with as, as well as SAP. So, we're really trying to co-innovation here, listen to what customers need. And, and when it comes to specific set up flagship projects, flagship deployments from an SAP side, we're also usually partnering there. So, like last year, we worked very closely with one of the Hyperscalers with SAP, an implementation partner, together to really implement one of the flagship customers. Get them out of some, you know, what's, what's a good English word, bumpy or, you know high tide waters into smooth sailing. And from that perspective you know we're really trying to help support where integrated also with SAP support system so customers if they have a problem on the SUSE Linux Enterprise Server for SAP, they can just open the ticket through the SAP support system, and it will find us. So, there are multiple levels of integration of a good relationship that benefits our mutual customers here between SAP and SUSE.

Robert Nichols: [00:12:41] And what key initiatives are SUSE currently working on for deploying SAP workloads on SLES for SAP applications?

Christian Holsing: [00:12:48] So, let me just start this and then maybe Richard also wants to wants to add and step into this. So, the major initiative that we are doing right now is a is a project called Project Trento. We started to investigate this at some point last year, seeing that the high availability set up that I was referring to before is perceived by customers that switch to Linux for the first time as somewhat complex. So, the whole administration pattern is different from a Windows world. In Windows, for example, you see user interfaces for configuration, often on Linux. Most of the things are done in various configuration files, so it's a different pattern and you need consistency. There is different technology. And as I said before, we have this integrated support and we also looked at the support data and saw that, you know, quite a few support cases were in the area of high availability. And as we really try to maximize uptime and be the best operating system for providing and running SAP workloads on, we were really thinking, well, how can we help this? Can we help customers? And Project Trento is basically a tool where we initially introduce a set of checks that customers can use to check the high availability, set up the whole configuration of the environment for consistency and especially against the best practices that we maintain from a user perspective for the various deployment foundations. So, Trento will GA end

of April from a from the current point of view and it will have checks for all major Hyperscalers so that a customer can really use it to safeguard their SAP deployment, their HANA set up and have it checking before they go live. If it applies and if it complies with the best practices guides for the respective Hyperscalers because they are slightly different, there are slightly different recommendations, parameters and so on. And there is also the notion of human error. I mean, I used to work as an admin myself quite a few years ago and I widely remember that I was trying to configure something, got a phone call or a Slack message or something and forgot to set the parameter on the second server. And then you move into production, and you try to find the needle in the haystack, and you know, trying to is trying to automate that. It's trying to automate or checking the environment before the customer goes into production and also on an ongoing basis. And we intend to also have an alerting capability built in. So, if an admin makes a mistake or there is a change in it that we proactively also alert the admin that they can take action before they see an outage or a failover. Or in some customer cases we saw that they had a failover case on the SAP HANA database and the HA Stack just had one faulty parameter and it was an edge case. But the failover didn't work, which for SAP customer obviously means downtime. If one of the HANA servers is down and the failover to the to the second HANA, just doesn't work. So that's what Trento is focus is at this point. We will also include a monitoring project that we've been working on for the last one and a half years to be able to have a full stack monitor, just integrate it into SLES for SAP. And full stack in this case means monitoring the HANA performance through the regular SAP APIs, but also the status of the HA stack as well as the status of the underlying operating system and even the hardware. So if people are interested in in that aspect, we just published a white paper together with Intel that basically shows customers how to configure monitoring of DIMMs so the memory on the machine and we're really trying to get it to the point that we can identify if one of the of the DIMMs has a problem and the admin should take action and down the road it might have an impact on HANA performance. Because this is also one of the, another needle in the haystack that is very hard to find if you don't know what you're looking for. Right. And besides that, we also continue our other usual tooling like automatic applying SAP nodes to the system with SAP tune and a few, few other aspects. So, Richard, do you want to add anything to this? Did I forget something?

Richard Mayne: [00:18:37] No, that's right. So along with that as well, so on my side, so I'm in the technical training side of things. Then those best practices that Christian

has just mentioned and this whole perception that it's difficult to deploy SAP workloads on SLES for SAP application, Trento is part of the push to go and check that it is configured correctly and compliant with these. But what we've been doing in technical training is we've been taking these best practice documents that are created by our engineers and I repurpose that and turn it into a more formal type of training. So, whether that be face to face training delivered by our training partners, or it could also be e-learning delivered directly to customers. And as part of this push, as Christian said, we are the sort of leading proponent of having SLES for SAP applications out there. With SAP workloads, we need to educate our partners. So many of our partners take these courses that are available for no cost to a SUSE partner, so they can learn about these best practices rather than just reading the document. Excellent, though the documents are. Because I had to read them to create the courses. Maybe, nice to see it in a more formal training set up.

Robert Nichols: [00:20:17] So I know Trento was a limited availability beginning at the end of last year, 2021. I just want to reiterate or confirm you said general availability will be in April.

Christian Holsing: [00:20:30] Yep. That is what we're marching towards. So, we're still accepting customers for ramp up. So, if customers want to get their hands on it, I mean, reach out to us. There is a blog post on both SAP.com and SUSE.com with the contact to reach out to. So, we're completely open to that. The source code as we're an open-source company is also posted on GitHub. Literally everything we do is open source. So, we're also looking for contributions. So, if partners want to contribute rules or support us on the development journey, feel free to reach out. Feel free to contribute to the product. Together, we make this this initiative better.

Robert Nichols: [00:21:25] I'll make sure to include those references in our show notes for our listeners. So, I know SUSE has some great solutions for customers hosting SAP workloads, both on premise and in the cloud. Richard, what does SUSE offer for people who want to learn more about deploying and managing their SUSE based systems?

Richard Mayne: [00:21:45] Well, as we've just spoken, answering your previous question, one thing we've been doing is taking the best practice documents that are created over a period of time, working with customers. Things change a little bit of

engineers learn or this is maybe a better way to do it. Those parameters that Christian was talking about and turn those into training. And we also have basic training as well. So, if, for example, you're currently running your SAP workloads on Windows and looking at moving over to Linux, we have a whole range of training available through our SUSE Training Partners, so you can look them up on our SUSE.com site and find a training partner near you. So, things are changing gradually. We will be able to travel again eventually, won't we? So, you can then travel and go to a training partner and get the training. And also, SUSE have e-learning offering, which is offered direct to customers. So, if that works better for your organization, you can acquire the e-learning directly from us. And then I wouldn't be doing my job on an openSAP podcast if I didn't mention, of course, the collaboration between SUSE and SAP. In this case, it's the openSAP platform. So, as you mentioned at the very beginning in your introduction, Rob, you've had the pleasure or otherwise of working with me for about two years now. So, openSAP platform has very kindly hosted courses. So, at the moment two that I've created in collaboration with openSAP are up there. So, one is all about high availability. So, find out the basics of high availability on SUSE Linux Enterprise. And the second one we created was very specific. So, it's all about hosting SAP HANA with system replication workload in a scale up configuration on SUSE Linux Enterprise with high availability. So, the great thing of course about openSAP is no money required. So, you can sign up for free and get all the advantage of the training. Direct from SUSE. Hear my voice again if you want to do that and listen to me delivering the lecture components where you learn about the theory and why Christian's team have developed this component and how it works. And then we also, on the openSAP platform, record demonstrations as well. So, you can then see a demonstration of how it's configured and those are both available in our e-learning. If you come direct to SUSE as well, you get to hear the lecture, so learn the theory and also, you're able to watch videos, demonstrations of me actually performing the configuration that we've just described.

Robert Nichols: [00:25:16] Well, Richard, I can confirm. It has been a pleasure working with you on those openSAP courses. And as I mentioned, the learner satisfaction for those courses were really, really high. I know that the learners really enjoyed those courses. The feedback is there in those discussion forums about that. So, anyone who's even a bit curious about learning about SUSE and making sure that it's running 24 seven and there's no downtime, should certainly look for those courses out on openSAP. And then you also mentioned, you know, one day we're going to start

traveling again. And it just made me think about how the next time I go visit the SAP headquarter offices, I know where I can go get a good home cooked meal in Heidelberg area.

Christian Holsing: [00:26:00] Absolutely, Rob. Let me know when you're in town. We figure something out.

Robert Nichols: [00:26:05] You know, it's the first thing that came to my mind when I realized you're not in Nuremberg and you're in Heidelberg, so

Christian Holsing: [00:26:11] Well.

Robert Nichols: [00:26:11] Don't be surprised if I come knocking on your door.

Christian Holsing: [00:26:14] Yeah. You can teach me another barbecue trick, right? I mean, we all

Robert Nichols: [00:26:17] Oh, absolutely.

Christian Holsing: [00:26:17] Learn from each other. That's what we do here between SAP and SUSE. But, I mean, I personally also believe in this, so we can all benefit from each other here. And, you know, I'm pretty sure you have a good barbecue dish that I'm not aware of, so let's just play this out.

Robert Nichols: [00:26:37] Well, it sounds like a deal.

Richard Mayne: [00:26:38] You can do some swapping trans-Atlantic barbecue tips with each other, can't you? So.

Christian Holsing: [00:26:45] Absolutely.

Richard Mayne: [00:26:46] Hopefully I'll get invited.

Christian Holsing: [00:26:48] We figured that part out, Richard. You can. You can. You're a good instructor. You can teach us maybe something or we learn something from you.

Richard Mayne: [00:26:56] I don't think barbecuing. No, I will learn from you too. Definitely.

Robert Nichols: [00:27:00] So, Christian, as we all know, the public cloud plays a big part in customers IT infrastructure these days. How can SUSE help customers move their SAP workloads to the public cloud?

Christian Holsing: [00:27:11] So. That's an interesting question. So, let me just put something on the table that we're really driving for, because for us, the public cloud is just basically another deployment method. So, from the SLES for SAP perspective, the product is completely consistent, and you get the same features that you have for on premise deployment, also for a public cloud deployment. I mean, as I said before, some of the of the specific tunings are slightly different because of some specifics that the Hyperscalers have. I'm pretty sure Richard is touching on some of this. Also, our best practices guides do and Trento, which is just another way of delivering best practice guides in the end. So, if there is one thing on Trento you want to take away from it, then it's the best practice guides it's code basically, which simplifies the checks. But having said all of that, public cloud is, is really if a customer wants to transition there, they get there. SUSE Linux Enterprise Server for SAP applications the very same way, the very same versions, the very same service pack, and the very same packages, which basically means that the move from a SUSE perspective is very simple. Dependent on how customers want to go, they can just lift and shift the system. They can basically install the OS and start moving SAP workloads through the usual migration procedures that SAP is publishing. So, there are various options and it's very smooth. And there is also one big difference from our end to other vendors. The images that you start from in the public cloud are maintained by our engineering teams. So, we really have control about the images in the public cloud. We update them frequently. And from that perspective, I can wholeheartedly say here that, you know, really the customer experience is the same for an on premise or a public cloud deployment. And even if you have a multi-cloud deployment with actually just on a on a call with a partner before we join this meeting here, even for them, they want to go multi-cloud. And even there, you

know, we update all the images at very much the same time it's available on all Hyperscalers and that really smoothens from my perspective the migration from an SAP workload into the public cloud. And you know even if customers want to deploy hybrid and just say like, hey, I leave my SAP production environment on premise, but I want my development system in the cloud. All the procedures, all the patching mechanisms, functions, everything is consistent. And the customers just do not need to establish different patching mechanisms or anything. It's basically just working the same way. And I don't want to end up in a in a business discussion and licensing discussion, but we also offer multiple ways for customers in the cloud to subscribe to our offerings. There is the notion of a pay as you go and an hourly option like the Hyperscalers offer it. So, the operating system is just part of that, and you can just go through the marketplace. On the Hyperscalers there is an option of a reserved instance, which basically means you have to compute reserve for a year or a month or whatever the option is, including the operating system. And there also is an option of basically use the subscriptions that you own and also use them in the cloud, which we call internally BYOS, which stands for Bring Your Own Subscription. So, we have choice. And I really think that there is a good way also from the subscription management for a customer to get going on the cloud and explore the benefits of having SAP workloads on the Hyperscalers and actually being able to really increase the size of machines when the HANA database is growing, for example, or at compute for application servers, if you know it's the closing of the month or the closing of the year, they need more compute. I mean, I think that's really where the flexibility of the public cloud offerings is for customers at this point.

Robert Nichols: [00:32:17] In 2021, SAP launched something called RISE with SAP. The RISE with SAP solution is designed to support customers business needs in any industry, in any geography, for any regulatory requirement. Where SAP is responsible for the service level agreement, the cloud operations and technical support. Christian, can you tell us more about RISE with SAP and what is the relationship with SUSE?

Christian Holsing: [00:32:42] Yep. No. Absolutely. So, you're bringing us back to where we started somewhat on the on the relationship because the reference architecture of the systems for RISE. So, the service embraces the Linux Enterprise Server as the foundation. And you know, the way SAP has structured RISE, it's a very simple service that customers buy from SAP. And we're working in the back end. So,

SAP is not only one of our most important partners, is also one of our most important customers from a SUSE perspective. And, you know, we basically power large parts of the RISE deployment with the SUSE Linux Enterprise server in the back end. We've been doing this also for other offerings for years. We do have support staff on site. So that really from an SAP and the Sosa perspective in the background, we're working very, very hard to give the customers who consume the service in the end a very smooth offering, an offering that's available. And there are really multiple angles to this. Obviously, I was talking about product innovation. Also, some of the innovation that we see in the On-Premise product or in our cloud images is driven out of the work that we do together with SAP on RISE or SAP HEC or other platforms. I mean, also SAP HANA Cloud is something where we closely collaborate with the teams. So, there is really a lot of work and coordination going on between the two companies in the back end. That's not necessarily visible, obviously. Back to my previous point. Also, with the Hyperscalers, right, is RISE workloads are also deployed on the Hyperscalers. So, there is an ongoing discussion, ongoing work, ongoing support really happening in the back end to get the best running SAP systems to the customers.

Robert Nichols: [00:35:13] Richard, I imagine many in our audience listening audience is familiar with the openSAP courses, two of which that you were the instructor for. Are there plans for SUSE to provide more training in collaboration with openSAP?

Richard Mayne: [00:35:30] There are indeed. So, I look forward to working with you and the hidden person in this podcast. So, there's an SAP member of staff managing this podcast who kindly made me look good in some of those courses by cutting out all my ums and ahs, as it were. So, we do plan to do at least one more collaboration with openSAP. So, from our perspective, it's got our training out there into the into the wide world, as it were, and it has a very big reach compared to our normal reach for our training. And as you mentioned earlier, Rob, it allows people to come along and dip into the training. So, if they're just a little bit curious, maybe they're running their SAP workload on SUSE Linux Enterprise, but without high availability. And maybe they've been scared by the fact that, oh, it all sounds very complicated to me. I've heard some stories of it's difficult to configure. Well, as we've been talking on this podcast, we have a lot of information. We have those best practices that have been written and we've now taken some of those best practices, and we're turning them into more formal training to help educate people. And I think one or two times on my course, I actually say in the

recordings, see, it's not really that difficult. It might sound complicated, but it's not a complicated task. Like anything in life, if you know how to do it, it's not a difficult task. It just becomes a regular part of your rollout of your next HANA database that you require. So yep, we're definitely going to collaborate again with you, Rob, and your team at openSAP. Of course, I'm not allowed to give away secrets. So, I can't say what the next collaboration is going to be about. It'll definitely have something to do with SUSE. But other than that, I'm not allowed to say at this moment in time. And I look forward to collaborating with you again with everybody in the team at openSAP. It's been a good a good experience, and I hope we produced a good experience for our learners as well, Rob.

Robert Nichols: [00:38:06] Absolutely, Richard, thank you. I also look forward to working with you. And we know that it has been a good experience so far for our listeners. So are those who have taken the openSAP courses. So, besides the openSAP courses and the SUSE company website and you mentioned some references for Trento. If our listeners want to learn more, where can they find more information?

Christian Holsing: [00:38:30] So, we're working on a Trento to launch page right now. I think it should be [SUSE.com/Trento](https://www.suse.com/Trento) and that's a good starting point. And also, the SUSE blog is usually a good point to go to. So, we try to blog as a team. There is also good technical content that that we provide there. And obviously, as Richard said, our colleagues in training. So, for whatever reason, I just had a reference to a UK comedy series in mind called *The IT Crowd*. So, we probably have the best-looking instructors. I mean, maybe somebody gets this as a reference, but. Anyway. No, we also want to, you know, as Richard said, get Trento down the road into some sort of training. But if we got it right, it doesn't need a lot of training. So that's the whole point of it. It's easy to consume. So, I would say again, the SUSE blog and [SUSE.com](https://www.suse.com) and then you find a link to the blog. That's a really good point. If you haven't subscribed to it, feel free to do so. For the people that work onsite at SAP. We're also trying to blog on [SAP.com](https://www.sap.com) the community blog, so that's also a good source. Yeah. So that's I think where most of the content can be found.

Richard Mayne: [00:40:14] And from my side, from the training side. So, we're at [training.suse.com](https://www.training.suse.com). And that'll point you in the direction of our official training. And of

course, there's always openSAP.com, isn't there? So those collaborations we've done with Rob and the training that costs you nothing except your time to learn more about how to successfully deploy SAP workloads on SLES for SAP applications.

Christian Holsing: [00:40:48] And I just can reconfirm Rob that what I said before SUSE.com/Trento works. So, my brain is still working. That's a good.

Robert Nichols: [00:40:59] I will make sure to include all these references in the show notes for our listeners. So, to finally to close our discussion, can you guys summarize two or three key takeaways for our audience?

Christian Holsing: [00:41:13] So, I mean, the key two key points I think I want listeners to take away is really one that SUSE is powering a lot of the SAP HANA implementations in this world. From small to large systems, we are the market leader there, we co innovate with SAP on a constant basis. So that's the first thing. And the second thing is that we're really trying to put new features, new values into our solutions, and we're open to co-innovation with our partners and customers. So, we really want to want to hear what's what people need to really solve problems, right? So, I myself, from a product management perspective, I want to build a product that helps customers and solves their problems. And from that perspective, hopefully, as you guys said we see travel again and potentially I might also go to one or another SAP event. So, if you find this useful, you have questions, just find us. Right. We are seeing ourselves as the open, open company, which means we're very open to discuss these things. We're very open to listen to your feedback and your ideas. We're open to share our code and really want to collaborate to help customers running SAP workloads to really get the best experience in the world.

Robert Nichols: [00:42:55] Well, Richard, Christian, I had you know, I had been really looking forward to this podcast episode ever since we first talked about doing it together. I hope the discussion was informative and enjoyable for our audience. I thank you both very much for participating. It has been a personal pleasure for me partnering with the SUSE team these past few years, and I hope we will continue to have the opportunity to work together in the future, which it does sound like we will, Richard. So, thank you both.

Richard Mayne: [00:43:21] And thank you, Rob.

Christian Holsing: [00:43:22] Thank you for having us.

Richard Mayne: [00:43:23] And thank you, Christian. Yeah, thank you for having us. It was good that you gave us an opportunity to tell people a little bit more about who SUSE are what we do and our key initiatives.

Robert Nichols: [00:43:39] Thank you for listening to openSAP Invites. I also like to thank my producer, Gabriel Tomescu. If you've enjoyed this episode, please share, rate, and leave a review. Also be sure to check out openSAP's free learning offering of massive open online courses (MOOCs), microlearnings and podcasts on openSAP.com.

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