FINAL - OSW 50

[00:00:00] Introduction

Karsten: Welcome to the Open Source Way. This is our podcast series, SAP's podcast series about the difference that open source can be. And in each episode, we'll talk with experts about open source and why they do it the open source way.

[00:00:21] Meet our Guests: Johannes Ott and Maximillian Techritz

Karsten: I'm your host, Karsten Hohage, and in this episode, I will talk to Johannes Ott and Maximilian Techritz about OpenMCP. We'll find out what that is.

Hi, Johannes, and hi, Max. Nice to have you here.

Johannes: Hey, thank you for having us.

Max: Hello.

Karsten: All right. Great to have you here. One thing I'd like to mention in advance is that when we say MCP, we do not mean the Model Context Protocol from the AI space. We mean Manage Control Plane, and we'll find out in detail later. Let's now look at who Johannes and Max are.

Johannes is a software engineer leading the product experience and community work in the project. He found excitement in software development as an iOS developer. That was during the "golden fintech startup days", as he says, and that's also why he moved to Berlin. He no longer does iOS, but infrastructure instead, but still enjoys software in general.

Max is a software engineer, and he started his career also as an iOS developer, but has now been working on infrastructure orchestration topics around Kubernetes for over three years. I sometimes ask about fun facts before, and what I got here is Max moved twice in the last one and a half months and says this is the full Berlin experience. And Johannes has somewhere in between after

studies left the company, on good terms, and is now back since seven years, if I recall that correctly.

Max, what exactly do you mean by the full Berlin experience?

Max: Yeah, well, finding an apartment is a full-time job here in Berlin. So that's why, yeah, one and a half months and two apartments. That was my life.

Karsten: Okay, so you had an intermediate one or something?

Max: Yeah, actually twice. But now I've found something for a longer period of time.

Karsten: Okay. And Johannes, the thing with leaving the company and coming back, is that also a Berlin thing? Like, 'the date is not a date...we'll just WhatsApp in between and maybe we meet and maybe we don't...and maybe I stay with the company or I don't?'

Johannes: Well, it could be, but this is not kind of what I was trying to go for. Rather saying, I came here for the cool opportunities that Berlin definitely, especially during those iOS days, had in stock for us, but still enjoying it.

Karsten: Okay, okay. That sounds like you actually wouldn't need to work anymore, but let's not get into this.

[00:02:57] Open Managed Control Plane: What Is It?

Karsten: We have a different topic that is OpenMCP and asking Johannes, the product owner, if I get it correctly, what is that and what does it actually stand for, the MCP?

Johannes: Cool. Yeah, Manage Control Plane: what is that? Manage Control Plane is an offering we have brought to the engineers in-house here at SAP. And we are bringing this engine and the code behind open source now and here you will find it under the name OpenMCP.

What it does is it combines all tools our engineers need to set up and configure their cloud landscapes and put them behind one simple approach or even one simple syntax. And that means all system and components will look and feel the

same to all of our engineers, where today they are facing a wide range of different tools, CLIs, technologies, processes in order to accomplish the same. So we are really tackling a methodology which introduces these benefits to all aspects of your cloud landscapes. That begins with the infrastructure, considers accounts, databases, secrets, clusters, workload, initial content, all the stuff you need to really describe this entire full stack and put it behind one syntax.

Because we believe this is already quite a simplification, which is a good reason to adopt this tool. So while we're seeing traction in different organizations all over the company globally, but where we think it really begins to bring the big, big value is stability. Because with the Managed Control Planes, we do not only lead the teams to put this landscape description behind this one simple syntax. We make sure that anything you have defined here stays as desired. So you don't just roll out a landscape, but also tomorrow, you can be sure that whatever you define there as desired is still in place. And if it's not, the managed control plane will go ahead, try to get this state back into where it should be. And if it fails to do though, at least inform or warn you as an owner of this landscape.

[00:05:00] Deep Dive into OpenMCP

Karsten: Okay, then maybe let me ask you again, Johannes, if I get you correctly there, why is there a need for it? Is that not what you described, taken care of by other tools, platforms underneath it or whatever?

Johannes: Yeah, wonderful question, because also when we started with this managed control plane offering, we are actually a team coming from very different areas here within SAP, different industries, different regions. And we have all worked on numerous products, actually brought them live here within the company. And surprisingly, we all experienced a very similar pattern around this whole topic of cloud infrastructure handling. And that is many teams have their own solutions and processes to cope with the challenges.

Every team spent significant amount of time maintaining this infrastructure setup. And the third thing we observed is that hardly any team is proud of what they are doing in this area. And reuse or collaborations are rarely seen. Then we wondered, 'How can this be?' Similar to how you just asked it. Well, isn't that a very common question? So how come we don't have a shared answer to that? And this is why we began to look outside of SAP. How are other market players? How are other open source projects actually tackling this?

This is when we began to check out open source tooling supported by the Cloud Native Computing Foundation. And we experimented with their compatibility

to SAP-related services and platforms, and this is kind of how the whole journey then started. We received amazing feedback and interest on that collaboration of us throughout the company. And we quickly learned inside as well as outside of SAP, the enterprise market does really have a lot of potential to grow into this direction and needs a control plane methodology.

Karsten: All right, Johannes. Sounds like an important project that should be pretty well received also. Now back to you, Max. Can you explain a bit more detail what OpenMCP does and how it works?

Max: Sure. Well, let's look back at where we and also many other development teams and organizations came from. Automation was done writing CLI or bash scripts, but that is not fully automated. It still requires manual effort. First of all, it's hard to read and also hard to maintain. Also, every tool has its own look and feel with update cycles, it's time-consuming, it has constraints also with integrating it into the architecture. And of course, a change to one tiny aspect of an application in the cloud landscape might also affect several tools along the deployment chain. Most striking, it's even a common scenario like how do I order a new database that this question gets asked. We all know these handbooks where you see like 30 pages of instructions how to set up a database instance, which configuration you have to take, or service accounts that needs to be configured in order to connect to your application. That is tedious. And again, every team is going through this pain every time for every single database.

We are solving this challenge by using one API. You can describe the complete cloud landscape, your application, the infrastructure, and the services around it, end-to-end with an API where you can describe how much storage should the database have, or in which region should the application be deployed, or after how many hours should credentials be rotated. Every single aspect put behind one API, completely declarative by design. And for the techies in the audience, this should sound familiar, we fully run on Kubernetes. Kubernetes is the most proven cloud technology out there, and it runs on so many cloud landscapes around all over the world today. With Kubernetes, we benefit from the broad open source ecosystem, and in particular, with the Cloud Data Computing Foundation.

So the Cloud Native Computing Foundation offers so many out-of-the-box tools to orchestrate any kind of resources in the cloud. Our platform, Open Managed Control Planes, is harmonizing all of these different tools into one platform using Kubernetes as the foundation. That is in the end what the broad community understands as a control plane methodology. And that is what we

are offering with our open source activities around OpenMCP as well. A platform that is harmonizing these different tools in the Kubernetes ecosystem

as a managed service, making it easier to consume for our users. Just to name a few different tools here, we are using tools such as Crossplane, for example. Crossplane is an open source tool that allows you to describe the desired state of cloud provider resources and treat them as a Kubernetes resource. As an example, you can describe a database instance running at a Google data center or an S3 bucket running at Amazon, defined and orchestrated from the Kubernetes control plane. Or another tool when it comes to secret handling and rotation. There you have external secrets operator. It's also a very successful open source tool. But again, you could use any other Kubernetes tool that your organization might be already using today.

And last but not least, ensuring policies, which is in particular relevant for larger organizations that want to enforce rules and best practices. But yeah, you can use here Calvano or Open Policy Agent. Again, there is no need to reinvent the wheel here, but benefit already from the existing open source world. We have seen from so many teams of any size that these challenges are reoccurring. And that is why all of the aspects of your cloud landscape can be put behind one API with one stack instead of different tools with different stacks, programming languages, and their own behaviors.

[00:10:35] Which Teams Benefit From Using OpenMCP?

Karsten: I think I understand. And let me ask you a bit from another perspective, what are the teams that mostly benefit from that? Is that mostly development teams or mostly operations teams or don't we separate anymore because it's DevOps these days? Who has the benefits?

Max: Yeah, so first of all, larger organizations definitely can benefit the most. I'm talking about organizations with several development teams. Development teams with many landscapes that are separated, connected, or spread across many tools or cloud vendors. And of course, teams that will grow in terms of organization, regions, or future complexity. And again, having one API to describe all of the aspects of a cloud landscape is really the key to be excited for. So this allows also teams to share and reuse templates of Kubernetes resources, which again is our cloud landscape definition.

And OpenMCP introduces also a mindset for different teams to share best practices. Other teams can use those best practices right away. So every role can really be excited -- let it be backend developers, let it be frontend developers, or simply any engineer that is building applications. Because OpenMCP allows them to reuse best practices fitting their organization needs and also allowing them to focus again on application development.

[00:11:57] Requirements for Using OpenMCP

Karsten: Okay, and then the other way around maybe, what is the required setup at organizations, if you wish, the prerequisite for organizations that want to use OpenMCP?

Max: First of all, not much because the whole stack of Open Manage Control Plane can be really deployed in any organization that supports Kubernetes. And here really to mention, it can be like public cloud, can be on-premises, and the beauty of it, air-gapped environments. We can all really ship this in environments where they are disconnected from the internet.

We, to be honest, we recommend to use Gardner. Gardner is another open source tool that got initiated by SAP. And it brings a managed Kubernetes offering on top of any data center, on top of any cloud provider that you could think of. But in the end, Open Manage Control Planes is really open to all, cloud providers or data centers, because in the end, you just need Kubernetes. And that's why you can even deploy this stack in a Google Cloud Kubernetes engine.

Karsten: Okay.

[00:12:58] Collaboration and Growth: From Inner Source to Open Source

Karsten: Okay, and the whole thing is open source? Has it always been?

Johannes: No, it has not always been open source. We actually started with an Inner Source approach. We chose Inner Source because we ourselves did not know, is that a problem just relevant for us? Or does it also maybe bother or raise interest in other teams? So we started Inner Source and on a regular basis invited a group of engineers back then, I believe it was roughly 15, that we simply pulled into a small community call. We showed off what is currently

working with our proofs of concept, asked about their opinion, what is working and what is not. And in this mode, we kept developing for around half a year. And we kept saying, Hey, it is growing, it is growing. And now, one and a half years later, we have grown just within SAP to a community counting nearly 500 members, which was a really, really cool experience for us.

Again, the feedback, the contributions were very, very encouraging; also, at that time, our manager. Big thanks to her, who always basically pushed us for engaging with the stakeholders early on, starting in our source, and then ultimately bringing this also open source has really been on our back and our support from day one.

We did go the way to really bring the offering then productively based on this amazing feedback and the collaborations, ultimately, and this is now where the open source is finally coming in -- we, along this way, qualified to become part of the investments by the European Union. And our project is therefore now selected to be donated to the NeoNephos organization, an umbrella of the Linux Foundation. And that really, in the end, means our entire work is going open source, available for all companies to adopt inside and outside of SAP. The entire business industry can basically benefit from that and contribute to.

[00:14:50] IPCEI Participation, European Commission Funding, and KubeCon London

Karsten: Nice. And did you also just say, or did I only imply that between the lines, that that also means European funding for it?

Johannes: Exactly. So here we are very proud to be part of the IPCEI program of the European Commission that is investing strategically in critical areas for the European Union. And, we in our team actually learned along the way this-- learned about and that Max also coped with it is extremely prominent and costly, not only here within SAP, but also really a big, big challenge affecting our partners, customer, and basically every larger tech developing company here in Europe. And with recent political shifts, which are putting big, big pressure on the entire cloud infrastructure orchestration topic, this has really then gained even more focus. And this is how we became proud part of this European Commission.

Karsten: All right. So then, OpenMCP, I guess, is also being used in the other larger European open source projects?

Johannes: This is where we're going to. So now through this program, we have the opportunity to reach out to also non-SAP engineers, exchange with them, interact with them. Maybe Max can also share a little how it went. We had the exciting opportunity to present this at the KubeCon this year in London, where we are now officially allowed and encouraged to reach out to everyone, see contributors. And the feedback so far has been very similar to what we also experienced in-house. This is a common problem where open source and open standards are the only answer we can and should go for. And really seeing this channel through public investment fed up the topic dramatically has really given it a better direction than before. So here, we also actually want to say thank you for all the people inside and outside of SAP investing and believing in this open source part. I know it has been quite a ride to get there, but we really want to say thank you. And the public drive has really given this project and initiative good focus. Without it, we wouldn't be where we are today. So thank you.

[00:17:06] Getting Started with OpenMCP

Karsten: Okay, just in case I haven't been at KubeCon, which I personally haven't, but that doesn't matter, or haven't heard about it through the European and other public drive of it, how do I get started, maybe, Max?

Max: Yeah. So first of all, as an employee at SAP, our tool, our platform is generally available. So it's ready to use as of today. And there are certain ways to find us through our portals. We have an internal documentation developer webpage where you can get started very easily. And of course, the call to action for everyone who's outside of SAP, we want to enable this also in your organization, or at least we want to give you the touch points really to reach out, to get in touch with us, to discuss your use case, to discuss your needs, because then we can grow the platform and we can really make use of having a European platform with open managed control planes where the cloud orchestration capabilities are not just something that is important for SAP, really for every organization, for a larger organization, also outside of SAP.

Karsten: Okay, I just made a note, 'Publish private phone numbers of Max and Johannes with the podcast'.

Johannes: Right.

[00:18:11] Community Contributions: NeoNephos Foundation and Cross Plane Day

Karsten: As we are at this point, getting contact with you, how are contributions going so far? Is that seeing also a rise with it becoming a European project or how's that?

Max: Definitely, definitely, for sure. So we're investing heavily in contribution guides. Also, with all of this coming up with the NeoNephos story and the foundation, we're following regular Linux foundation best practices for steering, for communication.

So there are steering committees involving and so on and so forth, really to have also the contributors on the right side to know, 'Okay, how can I contribute? How's this project feeling? How's the other project?' Because OpenMCP is just one of many projects that will be donated in the NeoNephos organization. But we would also love to meet you basically in a very human manner through different events. Like, as was already mentioned with the KubeCon London, that was three months back, where we had so many, many good interactions with people around the world even, and not just Europe, who really see the value of OpenMCP and bringing this infrastructure orchestration capabilities to an open source standardized level with sharing best practices.

Also, a call to action. Our next event is coming up. It's called Cross Plane Day. Cross Plane is already also another framework in this whole Kubernetes ecosystem that is really targeted for bringing managed resources to the Kubernetes ecosystem, where you can basically define your S3 bucket in AWS, in YAML or in Kubernetes. You can basically describe your database instance in GCP in YAML and with Kubernetes. And there is a certain Cross Plane Day where we can have discussions, where we have talks prepared during the day to talk about cloud orchestration capabilities. And we may have an enterprise contact, but we all love the collaboration and the open nature of this initiative, so that's why let's keep it human. Let's get in touch and join our sessions there.

Karsten: Okay. Johannes, anything to add?

Johannes: Yeah, since you also asked about how active the contributors are here, really just adding to this Cross Plane day that Maximilian mentioned, where we at SAP invited 18 larger organizations to be part of this, and also we

saw individuals. And just as an anecdote here, these events, cool to see as soon as we also meet with them, engage with them in person. This is where afterwards we see feature requests, contributions, coming in, and this is exactly the path we want to go to. And hopefully, it's not going to be just 18, but even more companies next time. So please, please meet us and contribute us.

Karsten: It actually almost sounds like in open source, we're kind of sometimes finding back to what made SAP originally large. You just said before, many organizations are not really proud what they do for infrastructure management. So, I assume it's kind of made out of gaffer tape and matches or something, and here comes standardization all of a sudden. You know, like as back when it came to the standardization of the business process 40 years ago, right?

Johannes: Yeah, and bringing, most importantly, the people affected by it together. This is, I believe, and we really believe in tables. So having all these people in virtual or non-virtual tables, but nevertheless making sure we get the people together and talk. So couldn't agree more.

Karsten: All right. Okay, then I at least got one thing right here.

You mentioned most of that, I think, but it's traditionally our before last question. So I'm asking you, is there anything of ways to find out more or ways to get in contact that you haven't mentioned yet? Then now would be the time.

Max: Yeah, well, let's see. There's our github.com page, github.com/openmcp-project, where you can find all of our repositories, documentation, contributions guides that will be found there. Also, the neonephos.org webpage, where you can basically see all the projects that get donated and that are sponsored by the European Commission.

Karsten: And we usually, by the way, include all these most important links with the podcast on the SAP podcast web page.

[00:22:07] Key Takeaways and Calls to Action

Karsten: Now, finally, we have talked for almost half an hour now. If you would want to compress that, condense that into three key takeaways. I don't know if you want to take turns or is that a job for the product owner? Go ahead.

Johannes: I guess that one is on me then. Cool. Yeah, pressing those into three key takeaways. I would say cloud landscape definitions belong into code and simple tooling. You cannot achieve robust cloud landscapes on a jungle of tools that your engineers are not comfortable in or with. So that is, I guess, our biggest, biggest learning, or this is where we are coming from. And so far, stakeholders and community agrees strongly, and this is why they keep pushing us.

Second one, engineers are proud to work for public projects. And we are, as an organization and our contributors, pretty exciting about this project and this open source touch it brings and also the EU connections we are experiencing here.

And I would say the third one is more a call to action. If you want to bring OpenMCP or this managed control plane offering into your organization, please, please get in touch with me and we will get you there and happily enable your organization for this stability and simplicity improvement.

Karsten: Nice. Okay, here we come back to the point: publish private phone numbers of Johannes and Max with the podcast or something in the ways.

[00:23:37] Conclusion

Karsten: Anyway, thank you, Max. Thank you, Johannes, for being our guest today. It was great to have you.

Johannes: Thank you for having us.

Max: Thank you very much, Karsten.

Karsten: And thank you all out there for listening to *The Open Source Way*. If you enjoyed this episode, please share it.

Don't miss the next one. We are kind of on an irregular schedule by now, but you're probably well subscribed and we'll find out when there is anything new. And you'll find us on sap.com/podcasts and in most of those places where you find your other podcasts, be that Apple, Spotify, or any of the open source clients that there also are, of course.

Thanks again, and bye-bye.