Deutsche Bank Adopts "Everything-as-a-Service" Strategy for Applications with Avi Networks and Red Hat

INDUSTRY

Finance

ENVIRONMENT

Red Hat OpenShift

PROBLEM

- Traditional load balancing solutions unable to support Deutsche Bank's rapid increase in scale.

- Deutsche Bank needed modern application networking that would offer integration with the cloud, low static infrastructure costs, high availability, operational efficiency, and decreased time to market.

WHY AVI

- Avi delivers flexible, automated load balancing for both northsouth and east-west traffic for containerized applications.

- Avi's high availability minimizes that system failures are detectable to end users.

- Avi's CI/CD pipeline significantly reduces the turn to market.

RESULTS

- Changing host IP addresses or DNS names is now a matter of seconds, not days.

- PaaS team scaled the number OpenShift nodes in 2016 by a growth rate of 30x globally in2019.

- Projects that used to take 6 to 12 months can now take 3 weeks from inception to production.

BACKGROUND

Deutsche Bank provides commercial and investment banking, retail banking, transaction banking and asset and wealth management products and services to corporations, governments, institutional investors, small and medium-sized businesses, and private individuals. Deutsche Bank is Germany's leading bank, with a strong position in Europe and a significant presence in the Americas and Asia Pacific. Paul McDonald (Vice President of Community Management) and Adam Spencer (Product Owner for Fabric) both work in Engineering Services and are directly responsible for Deutsche Bank's digital transformation efforts and Platform as a Service (PaaS) modernization strategy.

CHALLENGE

Deutsche Bank's infrastructure backs a variety of applications, including applications to manage internal products, run calculations, test components of SDLC life cycles, deal with data transformation, support swift payment processing, regulate cutting-edge chatbot automation, and much more. Deutsche Bank's leadership realized the need to "revisit and effectively digitize its IT landscape," leading the company to formulate its "Everything as a Service" strategy in late 2015, according to Paul. Specifically, Deutsche Bank needed solutions that offered integration with the cloud, decreased time to market, lowered static infrastructure costs, and improved operational efficiency and high availability. After entering into PoC with several products, the team settled on Red Hat OpenShift for its container platform and Avi Networks for load balancing and application delivery.

BENEFITS

Paul and Adam cite several benefits that solidified the team's decision to use Avi:

- **Load balancing with OpenShift**. Adam states, "The feature we use most on the VMware NSX® Advanced Load Balancer™ is load balancing. Deployment with OpenShift was a key use case for us." Whereas traditional application delivery controllers (ADCs) provide inflexible architecture and static capacities, and open-source proxies lack enterprise-grade features, Avi delivers flexible, automated load balancing for both north-south and east-west traffic. Adam adds, "Avi is completely agnostic and polyglot. It really doesn't matter which environment you want to run, you can run Avi on it."

vmware®

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ADAM SPENCER,
PRODUCT OWNER FOR FABRIC

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PAUL MCDONALD,
VICE PRESIDENT OF
COMMUNITY MANAGEMENT

- **Automation and built-in features**. In Adam's words, "Functionally, nothing else on the market really integrates the way Avi does with OpenShift." For example, with traditional environments, Adam notes that changing a host IP address or DNS name takes days or even weeks to change. However, with Avi automating that process, it is now "a matter of seconds, not days." With Avi,the team can also provide internal compliance controls, operational controls, and other features that are built-in automatically for the bank.

- **No more downtime due to patches**. "With Avi's automated features, application owners at Deutsche Bank don't have to worry about the impact of patching the underlying infrastructure anymore; we take care of that by what we call 'repaving'" Adam explains. Each week, the IT team takes out one third of the underlying cluster and rebuilds it with the latest builds and patches. The constant repaving and rebuilding process in the background allows application teams to focus on software development, rather than spending crucial time patching infrastructure. Paul notes, "All that stuff used to be a dream. Now that we have it, it has greatly amplified our ability to get things done."

- **High availability**. The high availability of NSX Advanced Load Balancer ensures that "Chaos Monkey" scenarios (where failures are intentionally created to test the reliability and recovery of applications and infrastructure) are minimal and undetectable to the end user. Paul points out: "For our end consumers, the fact that they don't even know that we use Avi speaks volumes for how effective it is at its job. The best things in life are those that you don't know exist but just work."

- **Time to market**. Adam says, "We have the concept of ideas to production in a day, where a developer starts and deploys code into production on the same day. The only way we can achieve that is a) by having a platform that is flexible and capable of running those sorts of workloads, and b) having an SDLC process and a CI/CD pipeline." Adam proudly notes that, with Avi, "Projects that used to take anywhere from 6 to 12 months can now take 3 weeks from inception to production."

NEXT STEPS
Paul, Adam and their entire PaaS team at Deutsche Bank bring an entrepreneurial approach to IT modernization and have concrete plans to deliver reliable as-a-Service experiences to their internal customers, eventually spanning all of the bank's applications.

Adam also mentions that "we've only touched the tip of the iceberg, and have yet to start using all of Avi's capabilities." They currently use Avi for ingress into the environment, but are exploring using Avi for east/west traffic and global server load balancing (GSLB) as well, the IT team also foresees potential to use Avi's Intelligent WAF. In summary, Adam concludes, "It's all of Avi's features supporting our platforms that give Deutsche Bank the speed to be able to do what we want to do, and we look forward to continuing a robust partnership with Avi."