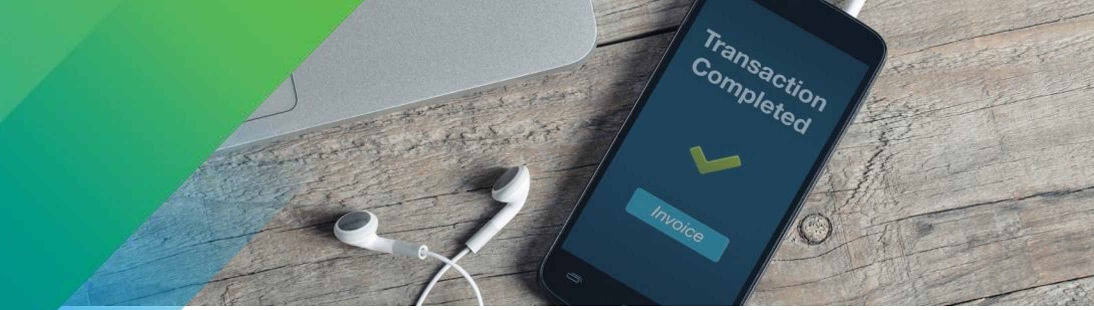
CASE STUDY



Scale and Secure Apps Across Data Center, Edge, and Cloud at an Online Financial Services Company

INDUSTRY

Large Online Financial Services

ENVIRONMENT

On-prem, edge, private and public cloud

PROBLEM

- Needed modern application networking that would offer uniform integration across globally distributed load balancing / app security architecture.
- Inability to scale physical appliances significantly hampered application performance.
- Limited visibility into application performance and end-user experience.

WHY AVI

- Separation of data plane from control plane, delivering single point of control while enabling on-demand autoscaling.
- API driven solution with point-and click simplicity enabling self-service and full automation.
- Ability to automate application delivery across on-prem and hybrid cloud environments.

RESULTS

- Eliminated configuration inconsistencies that resulted in customer experience and performance degradation.
- Real-time analytics reduced troubleshooting time and allowed for improving application behavior and performance

BACKGROUND

The online financial services company is a leader in digital payments, reaching more than $15 billion in revenue in 2018 with its global presence. With about 300 million active user accounts, over 100 currencies in more than 200 markets and 10 billion payments in 2018, the company understands that keeping things easy for its customers is key to building loyalty: easy to set up an account, easy to transfer money, and easy to resolve an issue. That's why the company prioritizes improving customer experience through technologies. Network traffic increases about 20% year over year with high demand periods including Black Friday and Christmas. To meet this ever-increasing demand with unpredictable peaks and to keep things easy, they committed to architecting a modern network — replacing legacy hardware with software defined infrastructure, like VMware NSX Advanced Load Balancer, and cloud services to support future growth and to deliver exceptional customer experiences.

CHALLENGES

Their globally distributed networking infrastructure supports and manages a range of applications and functions, including internal applications, testing, CI/CD components of software development life cycle, payment processing and the tools to measure and report on industry compliance standards. With hundreds of load balancers in dozens of data centers around the globe, they need a solution to offer integration with the cloud, to apply consistent configuration automation across their globally distributed infrastructure. They also need increased security visibility for fraud prevention and high availability while improving operational efficiency. The team also had a goal to avoid the need to add additional hardware to accommodate increased demand.

Key requirements:

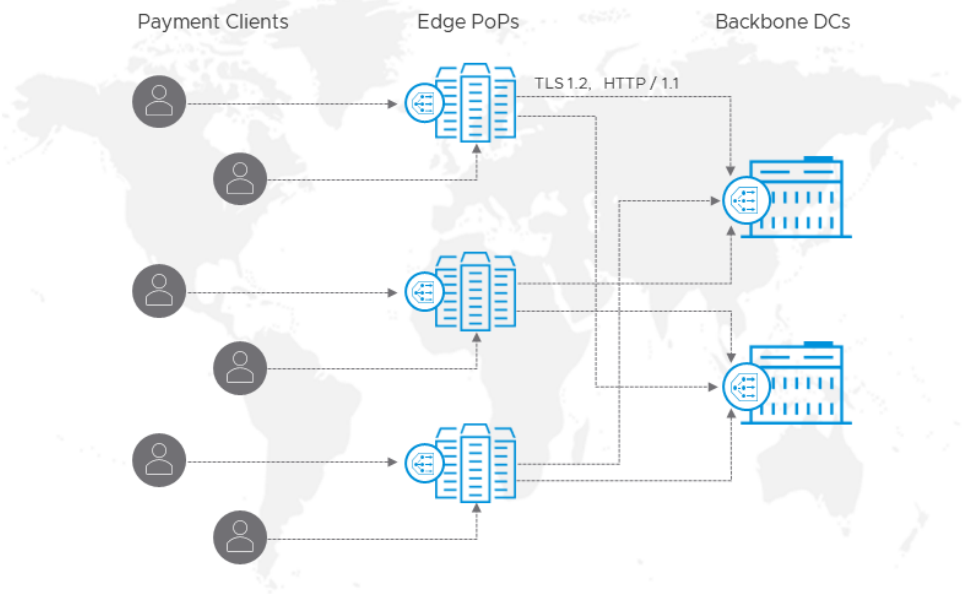
- Globally distributed, multi-cloud, edge load balancing / app security architecture
- Enhanced security for fraud prevention, credential stuffing, rate limiting
- PCI Compliance
- Reduce time to troubleshoot connectivity issues
- Elastic services with central control and orchestration
- Better secure transactions with latest TLS and HTTP versions
- Complete Ansible/Terraform based DevOps automation

"We have hundreds of load balancers in dozens of data centers around … we had the ability to leverage automation tools like Ansible and terraform. We embraced that and that's how we now manage our entire fleet of Avi load balancers from provisioning through configuration."

"Every year, year over year, the request volume on the load balancer infrastructure grows roughly 20%, and historically we would have to do in-place upgrades or buy a larger monolithic chassis. But when using Avi it is much simpler. We just add more generic compute to the cluster. Throw Avi on it and we are ready for the next holiday season."

BENEFITS

- Cost savings. Their Senior System Administrator says, "Historically we would have to do in place upgrades or buy a larger monolithic chassis, but when using Avi it is much simpler, we just add another generic compute to the cluster, throw Avi on it and we are ready for the next holiday season"
- Improved traffic management. Avi being deployed throughout their entire stack allows us to do header, payload and cookie inspection, advanced request routing and header manipulation without the use of any additional software.
- Reduced troubleshooting time. Their Senior System Administrator says, "Avi also gave us the ability to take a closer look at our application flows, it helped us to reduce our troubleshooting time and has also helped us to provide accountability to our application owners. If an application is misbehaving it is a lot easier to find it with Avi vs other platforms, because we would have to add custom logging to get that visibility which is not there all the time, but with Avi it is easier."
- Operational improvements. "When we first started using Avi we asked how can we run this in a public cloud, and they got back to us within a weekend and by Monday we running Avi in a Container on Google cloud. The deployments are the same, it's the same software and the same set of APIs'. Over the years we have written a lot of abstractions of those API's and it lets our internal customers do all the provisioning and managing of their VIP's and pools as a self-service regardless of where Avi is deployed.
- Automation. "We have hundreds of load balancers in dozens of datacenters around the globe and at that scale there is a challenge where you need to ensure consistency, and right out of the box from day one we had the ability to leverage automation tools such as Ansible and terraform. We embraced that and that's how we now manage our entire fleet of Avi load balancers from provisioning through configuration. Having codified everything, we are treading the infrastructure as code which cuts down on inconsistencies in the environment - which cuts down the issues that could arise from those inconsistencies. It helps us troubleshoot and ultimately provide a better level of service to our customers.


Payment Clients
Edge PoPs
Backbone DCs
TLS 1.2, HTTP / 1.1