



## Industry

Transportation

## Environment

Cisco ACE and Citrix

## Problem

- Needed to replace aging hardware load balancers
- Unable to Streamline services and automate
- Wanted to manage load balancers centrally

## Why AVI

- Programmable, Avi API-driven, automation
- Distributed per-tenant application services
- Central orchestration of load balancing fleet

## Results

- Accelerated new load balancers' deployment time by 80%
- Saved significant time and effort using central orchestration
- Automated and streamlined operations

# Zurich Airport Modernizes Application Networking and Enhances Customer Services

## Background

Zurich airport is located 13 km (about eight miles) to the north of central Zurich and is Switzerland's most important travel and meeting hub. The Flughafen Zürich AG has around 1,700 employees across five business areas. The airport offers 150 direct international destinations with 43 carriers and excellent access to regional transport networks. The facility regularly wins awards for its superb services, short transfer distances, friendly staff, cleanliness of its infrastructure, reliability of its processes and other quality indicators. Flughafen Zürich AG is at the core of the traffic hub operated by 27,000 employees from 280 companies.

## The IT and Networking Team

The 140-person, strong IT team at Flughafen Zürich AG is responsible for the building, planning, and deployment of all IT services for the company, customers, and partners in the airport area. An experienced team of seven network engineers (3<sup>rd</sup> level) is supported by a team of six network specialists serving the broader organization for all their network infrastructure needs. The Server Engineering team at Flughafen Zürich AG designs the services infrastructure and relies on the network team for load balancing services. Andy Reimann, a Network Architect with over 30 years of experience, says, "my customer is Zürich Airport itself and the countless partner organizations that work with us. The Service Level Agreement (SLA) of the shared network must fulfill the different SLAs for diverse systems running on the net. A three-level support organization is in place to accommodate this requirement."

## Applications and Load Balancing Services

A wide range of applications at the airport requires load balancing services, including core services like alarming systems, enterprise service bus (message broker), CITRIX®, PKI, and Logging. Another group of services covers office applications like OpenText Document Management System, Application Streaming, Antimalware, Web-Based Learning, Monitoring, AD Federation, Exchange, and Skype. Finally, critical flight systems like baggage handling or de-icing systems depend on load balancing services. The company uses multiple load balancing vendors and has many Cisco ACE load balancer modules in its environment.

## Goals and the Decision to Modernize Load Balancing Infrastructure with Avi Networks

The team of Flughafen Zürich AG knew that they needed to migrate their Cisco ACE load balancers since Cisco end-of-support date for the appliances was fast approaching. "We were looking at alternatives and heard about Avi when one of my colleagues visited the Avi booth at Cisco Live Berlin in 2017," says Reimann. He explains that "My colleague found Avi's architecture and central management approach very attractive. We immediately entered a PoC since the solution conceptually matched exactly what we were looking for - streamlining configuration and making it ready for centralized and automated operations." The fact that the Avi Platform is centrally orchestrated was a big selling point for the team, especially since none of the competing solutions had similar automation capabilities. Flughafen Zürich AG team found that the PoC proved that Avi worked precisely as they thought and that the platform was very stable. The user interface was simple to understand, and the solution was installed very quickly. "We also realized that we could centrally manage the Avi Controller. I don't want to buy hardware appliances anymore," says Reimann. The Flughafen Zürich AG team also liked Avi's licensing model since they could tailor the licenses to their capacity requirements.

## Benefits of Deploying the Avi Platform

Flughafen Zürich AG "achieved an 80% improvement in deployment times. 90% of all setups are Source NAT one-arm load balancers deployed on multiple write access VMware vCenter clouds. Implemented once, the networking team can deploy new load balancing services on any cloud on any network." Reimann explains, "I don't have to ask the server team to build a VM for me or allocate IPs. I can just run a config change in the Avi Controller, which can automatically spin up new SEs across VM domains close to where we need it. This ability reduces implementation time significantly." The networking team believes that old-fashioned CLI-driven box configuration is error-prone and more challenging. Even though the group continues to use policy-based GUI for configurations, they were able to increase the configurations' quality. But the journey ends when ITSM is built, and the system automatically deploys a service based on a web-based IT service offering. Avi is a prerequisite to achieving this final goal.

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## Next steps

After five years of operation with multiple upgrades on Avi software and carrier systems like ESXi hosts, UCS servers and datacenter networks, we achieved operating excellence for any application requiring load balancing services. Flughafen Zürich AG uses the technology to improve availability rather than scalability. Every new system at the airport undergoes architectural review to look for improved scalability, availability, integrity, and security. The Network Architect says, "Avi's central management with the distributed per-tenant delivery of application services can address all these needs and deploying new network load balancers is now at our fingertips."