

Worldstream selects Arista to for server solution provisioning and SDN based orchestration to improve customer experience

Highlights

Challenge

Worldstream needed to reduce the time taken to physically re-rack its hosted servers and other equipment by switching to a virtualised, SDN-based network architecture using higher performance Arista technology.

Solutions

- Arista 7050X3 Series spine / leaf switches for high performance, low latency, scale and investment protection
- Support of Multi-homing using EVPN All-Active Multi-homing Services over an EVPN VxLAN (Virtual eXtensible LAN) overlay
- CloudVision integration to streamline provisioning and enable self-service customer panel

Results

- Rapid migration that has delivered cloud-like server provisioning, improved performance and reliability with the ability to quickly scale to meet rising server solution and hybrid cloud demand
- Minimal learning curve allowing networking teams to transition skill sets without formal training

Worldstream's rapid global expansion within the hosting market prompted a major network functionality upgrade using Arista to allow it to virtualise and automate its server solution provisioning for cloud-like flexibility, improved performance, faster dedicated server order fulfilment and straightforward hybrid cloud deployment.



Project Background

Founded in 2006, Worldstream is headquartered in Naaldwijk, the Netherlands. With currently more than 15,000 dedicated servers installed in its company-owned compliant data centres and a proprietary global network backbone with 10Tbit/s capacity and 45% utilization, Worldstream is a security-focused Infrastructure-as-a-Service (IaaS) hosting provider delivering highly customizable dedicated servers as well as colocation services and denial-of-service (DDoS) mitigation to customers worldwide.

Challenge

Over the last 14 years, Worldstream has grown rapidly to become one of the largest secure hosting companies in the Netherlands. In the last 5 years alone, it has expanded by 1100% and is still one of the fastest growing hosting organizations in Europe. But with this rapid expansion comes its own set of challenges as Tim Vollebregt, Network Director at Worldstream explains; "We were building out 10 to 20 racks a week and hosting customers might have multiple elements such as dedicated servers, firewalls, switches and private clouds within their racks or rooms which needed to be physically connected in close proximity to overcome cabling issues and to improve performance. This meant we spent a lot of time physically moving servers around our data centres, resulting in delays in processing customer orders while proving time consuming for our technical teams."

Solution

The legacy networking architecture did not have the performance or SDN features to allow it to adopt a more virtualised architecture so Vollebregt and his team began evaluating several alternatives. The initial plan was to move to a leaf and spine architecture with a 100G switching core along with an EVPN VxLAN implementation to allow it to logically interconnect customers hosted equipment, even if it was in different physical racks or even across data centres.

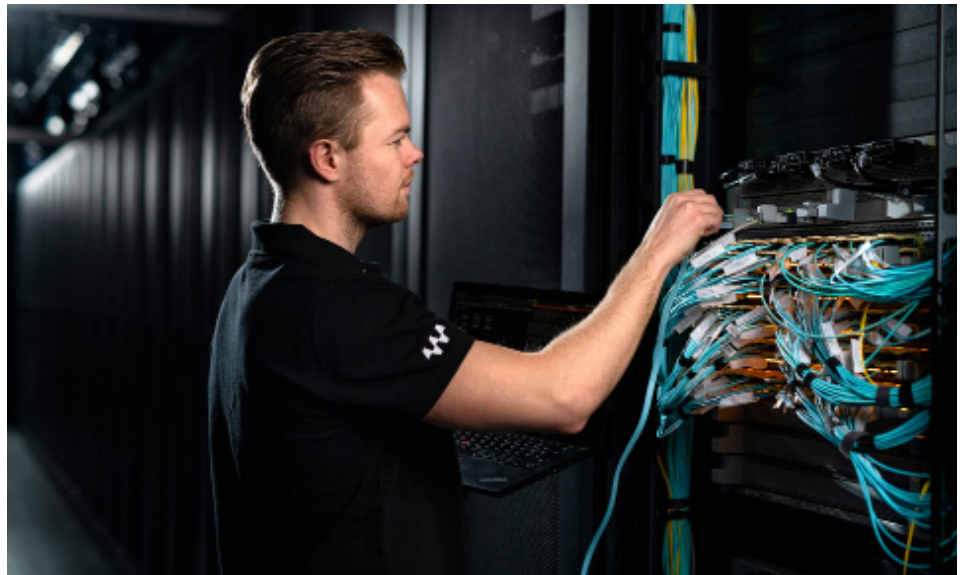


"We looked at a number of different options. Both myself and the team had very positive experiences with Arista at other places we had worked," explains Vollebregt. "We were also very impressed with Arista's SDN capabilities which would allow us to automate large parts of the provisioning process through CloudVision and our own orchestration controller software."

Worldstream deployed 7050X3 series across its data centres using a spine and leaf design. The Arista 7050X Series are purpose built data centre switches in compact and energy efficient form factors with wire speed layer 2 and layer 3 features combined with low latency and advanced EOS features for software defined cloud networking and supports a flexible combination of speeds including 10G, 25G, 40G and 100G.

In addition, it has also installed Arista's CloudVision, a turnkey solution for network-wide workload orchestration, workflow automation and real-time visibility into network operations.

CloudVision simplified the integration of Worldstream's in-house developed orchestration systems, overlay controllers, and other network services by abstracting the underlying physical network. "This is a real game changer for us," explains Vollebregt, "We had considered buying an off the shelf orchestration tool but the accessibility and feature set of CloudVision allowed us to build an innovative system that won't orchestrate how your network should look like and makes it far easier to flexibly adapt to new technologies and customer service demands."



Conclusion

In addition to leveraging Arista technology for its 10Tbit/s global network backbone, the newly deployed Arista solutions allow Worldstream to virtualise and automate its server solution provisioning, resulting in extensive benefits for Worldstream customers and its own infrastructure management team.

“The Arista-powered network allows us much more flexibility about how we deploy and connect endpoints,” says Vollebregt. “Each end point could be a dedicated server, firewall, storage or other element that could be in a different rack, data centre or a private cloud – it doesn’t matter. The EVPN VxLAN together with the inhouse built SDN controller and CloudVision connect all these elements together logically and the low latency and high bandwidth of the network provides a performance level as if everything was in the same rack.”

This means that if customers want to create or change an order, the time has now been reduced to a few minutes, instead of the old process which could result in a delay of up to 2 days as technicians physically moved and re-racked servers. “Much of the process is automated through our orchestration layer and CloudVision,” explains Vollebregt. “And we are now looking at expanding our customer control panel to allow more self-service provisioning options such as connecting into public cloud or creating links between different instances and services all via a few clicks.”

The success of the upgrade has created a solid foundation to help Worldstream with its global expansion plans. “If we decide to expand our data centre footprint into Frankfurt, Milan or other international locations, this architecture offers us a reliable and proven method of delivering rapid dedicated server solution order fulfilment and reliability at scale,” he says. “Arista has proven a really good fit for us both at a technical level and also by having an open philosophy in terms of API and standards. As we continue to grow globally, Arista will continue to be a key part of that expansion.”



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