



Global Data Hosting Company:

Driving Network Automation with Multi-Pod ACI

A WhiteSpider Case Study





Situation

A global data hosting company, headquartered in the UK, is one of Europe's leading cloud service providers. With over 15 data centres worldwide, the business has a large customer base which includes globally-recognised brands and major public-sector organisations.

Some years ago, the business deployed Cisco's Dynamic Fabric Automation (DFA) across its UK data centre estate. This platform simplified and automated network services, enabling the firm to respond faster to customer requirements and reduce operating costs.

When the time came to refresh their network infrastructure, the business wanted to ensure it remained at the cutting edge and continued to

offer excellent customer service; the firm needed a highly-automated and centrally-orchestrated data centre network. Early on, the business decided to adopt Cisco's Application Centric Infrastructure (ACI) technology. This project would later become one of the largest ACI deployments in Europe.

"Our customer demands are changing on a daily basis," explained the Group Technical Operations Director. "We require an automated infrastructure that can match the pace of business. We need to spend our time working with our customers to manage their applications, not provisioning individual devices. ACI's policy-based approach enables us to achieve this."

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Group Technical Operations Director

Cisco ACI

ACI is an innovative, policy-driven SDN architecture. Based on a Spine/Leaf topology, ACI uses the powerful Nexus 9000 switching family to deliver a high-performance, simplified network design. As a result, an ACI fabric can be quickly expanded to meet changing requirements.

In an ACI fabric, management functions are abstracted from the physical infrastructure. Once policies are defined, manual provisioning is no longer required, and operations become faster, more consistent and more secure.

"Many people perceive ACI to be a highly complex architecture", said

Phil Lees, CTO at WhiteSpider. "This is because ACI takes a fundamentally different approach to networking. It's more programmatic and actually makes the whole management of the network simpler.

"At WhiteSpider we've been building ACI skills into our team for a number of years, developing a level of credibility and expertise which very few others can match. Our technical capability is widely known, especially within Cisco. Consequently, we were approached to design and deliver this project which would become one of the largest ACI solutions delivered in Europe."

Right:
A Spine/Leaf Network Architecture



“ The guys at WhiteSpider gave us confidence from day one. The team not only had a great technical knowledge, but they quickly grasped the challenges we were trying to overcome as a business. ”

Group Technical Operations
Director

“ ACI provides open, programmable interfaces, which we could simply integrate into the company's management infrastructure. ”

Phil Lees, CTO,
WhiteSpider



Solution

To deliver the project, the hosting company approached WhiteSpider, one of the only UK partners with the experience to deliver a such a large installation and complex migration. The Multi-Pod ACI fabric – recommended and designed by WhiteSpider – was set to be deployed in a 2,000-rack data centre, which operated on a 100Gb internet connection, and another slightly smaller facility.

WhiteSpider delivered the project in four stages:

Technology Audit

WhiteSpider performed a detailed audit of the existing environment, which was followed by in-depth workshops with IT teams and key stakeholders to refine the project scope and agree outcomes.

Design and Policy Creation

WhiteSpider created design documentation and, with Cisco in their lab, built a Proof of Concept to allow the hosting company to perform migration testing and create policy templates.

Implementation

Working with the company's technical teams, WhiteSpider installed and configured the Multi-Pod ACI fabric, including the APIC Controller, End-Point Groups and Fabric Discovery.

Migration & Handover

Using the configuration created in the test lab, WhiteSpider planned and led the migration from DFA to the new ACI network, before undertaking extensive knowledge transfer and documentation.

Outcome

WhiteSpider successfully deployed one of the largest Multi-Pod ACI fabrics in Europe: the fabric extended across 2 data centres and included 8 APICs and 12 Spines switches. With tight deadlines to meet, WhiteSpider and Cisco worked closely with the hosting company to deliver and migrate the fabric as planned. “The guys at WhiteSpider gave

us confidence from day one,” said the Group Technical Operations Director. “The team not only had a great technical knowledge, but they quickly grasped the challenges we were trying to overcome as a business. Importantly, they had a great working relationship with Cisco, so were able to quickly identify and resolve issues as they arose.”

Key Benefits

High Performance Network.

ACI runs on Nexus 9000 switches which increase performance and port density, allowing critical applications to run more effectively.

Automation of Repetitive Tasks.

Configuration of new devices and end point groups can be automated, reducing the time IT staff spend on menial, administrative tasks. New customer environments can be spun-up in minutes.

Simplified Network Topology.

ACI is based on a Spine/Leaf topology, which is more scalable and simple to manage than traditional network models.

Improved Business Efficiency.

Project performance is enhanced by rapidly delivering IT resources to the business as needed.

About WhiteSpider:

Established in 2012, WhiteSpider specialises in providing consultancy, strategic advice, and practical support in enterprise service architectures. The company helps organisations to standardise their IT and communications infrastructures by using a unique new service framework - ea⁴ - developed specifically with the needs of global enterprises in mind. Head-quartered in the UK, WhiteSpider works with global companies across 12 industry sectors, including Financial Services, Pharmaceuticals, Healthcare, Construction and Motor Sports.

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