

ACI Cloud Networking and Nexus

**LEADING DIGITAL BUSINESS
TRANSFORMATION SERIES:
MODULE 4**



WHAT DOES DIGITAL TRANSFORMATION LOOK LIKE?

Digital transformation isn't just about new bits of kit working at ever faster speeds. It's about reshaping infrastructures and altering the physical and virtual landscape.

Networking in the data center has a key role to play.

While many apps and workloads are firmly sited within stay-at-home data centers, many others are shifting to the public cloud. This raises a whole new set of challenges for IT teams.

OUT WITH THE OLD

Established data center design structures are being challenged. The conventional three-tier network topology is beginning to look outmoded.

At the same time, businesses are demanding something once seen as impossible – the ability to have both layer 3 to the edge routing, as well as live migration of apps and workloads.

HOW TO DELIVER THE BEST OF BOTH WORLDS

A new topology

Everyone now recommends a two-tier leaf/spine topology for data center network design.

It delivers significant advantages, like predictable traffic flows, layer 3 routed links with Equal Cost Multi-Path design, 400G Ethernet links and scaling without complexity. It's also totally compatible with existing legacy infrastructures supporting 2- and 3-tier fabrics.

A new protocol

Delivering the combination of live migration and layer 3 routing to the edge also requires a new protocol – VxLAN:

- Delivers better scalability – 16.7 million segments
- Encapsulates and carries both layer 2 and layer 3 reachability information

HOW CAN CISCO HELP?

Introducing CISCO ACI

Our Application Centric Infrastructure with two-tier leaf/spine topology delivers major benefits:

- **Optimized for east-west traffic** – 75% of data now flows this way
- **VxLAN at its core**
- **Combines hardware and software** in a holistic approach that reduces the burden on IT teams
- **Full scalability** with no added complexity
- **An intelligent system** that knows what needs to be achieved and actions the necessary steps with minimal input from users



- **Connects with any endpoint**, any vendor
- **Security is built-in and pervasive**, rather than being an afterthought
- **Created with an open API** – so users can employ any tool from any vendor to interact with and configure the system
- **Multi-tenant aware**
- **Uses industry-standard protocols** – VxLAN, BGP, OSPF and more
- **Works with multiple sites**

All these features combine to free up IT teams from day-to-day operations. So they can focus on strategic solutions that will help drive their business forward.

ACI ANYWHERE FOR APP AND WORKLOAD MOBILITY

Modern apps should be able to run wherever they're best suited. And they need full freedom of movement between the Data Center and public cloud.

With ACI Anywhere, wherever a workload needs to live – a major data center, back-up facility, remote office or in the cloud – ACI can stretch to meet user requirements.

Multi-site

ACI can extend gracefully beyond the walls of one data center to up to 12 separate fabrics/geographical locations. Businesses are able to take advantage of a common admin approach, set of tools and visibility.

Remote Leaf

Perfect for sites such as a remote data center, branch office or even a co-location facility where users might simply need to link up a couple of servers.

Virtual Pods

One Intent. Any workload, any location, any cloud. Extend all the capabilities and features of ACI using a software-only solution delivering policy-driven automation to satellite data centers and public clouds.

Cloud ACI

Seamlessly connects to public cloud providers using native cloud constructs with no need for additional tools or policies.

HOW CISCO SUPPORTS YOU

Cisco is here to help businesses meet the challenges and exploit the opportunities of digital transformation.

Our approach to networking in the Data Center and beyond, is totally focused on helping operations and data teams gain the tools they need to manage ever increasing burdens.

It's about simplifying instead of complicating. And it's about freeing-up people so that they have time to think about how IT can become a strategic advantage that will energize your company and set it apart from the pack.

[Request a call](#)

