



Cisco ACI **Health Check by** **WhiteSpider**

WhiteSpider is an industry expert in enabling business transformation through the power of digital technologies.

Working across the globe we design, deliver and manage Software Defined technologies that transform IT operations, secure business infrastructure and enhance user experience.

Service overview

Cisco Application Centric Infrastructure (ACI) remains the industry-leading software-defined networking solution for modern datacentres. Its policy-driven architecture, resilience, and scalability make it ideal for organisations seeking automation, security, and operational consistency.

ACI deployments can range from compact single-pod fabrics to large, multi-tenant enterprise environments with thousands of endpoints. Over time, fabrics evolve – policies are added, applications move, endpoints change, and operational processes drift. Small issues that go unnoticed can accumulate and lead to degraded performance, reduced security posture or instability.

WhiteSpider's ACI Health Check gives you a clear, expert-driven assessment of your fabric's current state, helping reduce the likelihood of future outages and ensuring the fabric remains aligned to best practice.

What we do

The ACI Health Check assesses the APIC cluster, spine and leaf switches, policy constructs, endpoint behaviour, L3Out connectivity, VMM integration and segmentation design – including both traditional EPGs and modern Endpoint Security Groups (ESGs).

We combine APIC-based telemetry, targeted data extraction and deep manual analysis to produce a detailed assessment. All findings are consolidated into a structured report and reviewed with your IT team.

Benefits

A WhiteSpider ACI Health Check enables you to:

- ✓ **Increase stability:**
Identify faults, errors, misconfigurations and underlying issues before they impact operations.
- ✓ **Improve performance:**
Detect congestion, TCAM shortages, interface errors and misaligned policies.
- ✓ **Strengthen security:**
Validate ESG/EPG segmentation, contract usage and endpoint behaviour.
- ✓ **Optimise design:**
Ensure VRFs, bridge domains, gateways, L3Outs and access policies follow best practice.
- ✓ **Enhance operational readiness:**
Validate backups, monitoring, AAA, firmware versions and lifecycle management.
- ✓ **Maximise investment:**
Surface unused features, misconfigured objects and optimisation opportunities.

Typical activities

Below is an overview of the core areas WhiteSpider assesses during an ACI Health Check.

APIC Controllers

- Cluster health, quorum, and replication status
- CPU, memory, disk utilisation and system alerts
- Software version, recommended release alignment, end-of-life review
- APIC fabric communication and node registration
- Backup configuration and off-fabric storage validation
- AAA, RBAC, authentication sources and access hygiene
- Faults, events and alarm history

Outcome:

Ensures the policy engine is stable, healthy and aligned with supported software.

Fabric Infrastructure (Leaf & Spine Nodes)

- Hardware model lifecycle and compatibility review
- Firmware version consistency across nodes
- Spine and leaf health, uptime, and operational state
- Interface utilisation, error counters, CRC/FCS issues
- Redundancy validation (dual spines, VPC pairs, uplink resilience)
- TCAM utilisation and resource pressure
- Endpoint scale utilisation and table growth
- Management plane reachability (in-band/out-of-band)

Outcome:

Validates physical infrastructure integrity and performance.

Policy & Tenant Configuration

- VRF, Bridge Domain and EPG structure
- Subnet and gateway configuration within BDs
- Policy models (contracts, filters, QoS, fabric policies)
- EPG domain bindings and AAEP/VLAN pool correctness
- Redundant or unused policy objects
- Policy drift or inconsistencies from intended design

Outcome:

Ensures predictable behaviour and a clean logical architecture.

Endpoint Security Groups (ESGs)

Modern Segmentation Review

- ESG creation, naming and alignment to application/security strategy
- EPG-to-ESG mappings (static, dynamic or selector-based)
- ESG contract and policy relationships
- Distributed firewall rule health (hit counts, redundant rules, gaps)
- Cross-tenant or cross-VRF ESG usage
- ESG and EPG coexistence (hybrid designs)
- ESG scale and limits relative to APIC and fabric version

Outcome:

Keeps modern segmentation aligned, secure and operating as intended.

L3Outs & External Connectivity

- Routing peer availability and stability
- BGP/OSPF configuration consistency
- Redundancy validation for external connectivity
- Static route usage and redistribution behaviours

Outcome:

Ensures clean and resilient North–South connectivity.

Endpoint Behaviour

- Endpoint stability and churn analysis
- Rogue endpoints or unknown/unexpected hosts
- Endpoint mobility anomalies
- EP table growth and utilisation trends
- Virtual vs physical endpoint balance

Outcome:

Keeps endpoint learning predictable and prevents hidden forwarding issues.

VMM Integration (If Applicable)

- vCenter integration state and health
- DVS or AVS operational checks
- VLAN pool alignment and domain bindings
- Hypervisor host discovery and consistency
- VM-to-EPG mapping logic

Outcome:

Ensures clean integration between the virtualisation environment and ACI.

Operational Readiness

- Backups, restore validation and retention
- NTP, DNS, Syslog, SNMP configuration
- APIC image upgrade readiness and workflow review
- Fabric cleanup (zombie objects, stale faults, unused policies)
- Environmental monitoring (fans, power, temperature)

Outcome:

Confirms strong operational governance and long-term fabric reliability.



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