Easing the Transition to Cisco ACI and Cisco SD-WAN

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SevOne

Real-Time Network Performance Monitoring

Founded
2005

Employees
350+

Headquarters
Boston, Massachusetts

Technology & Innovation Center
Newark, Delaware

Regional and Development
London – Singapore – Bulgaria

70% of the top Global Carriers
50% of the top Global Banks

Network Insight with Speed at Scale
NEXT GENERATION Technologies Drive Digital Transformation

Digital Transformation

CISCO SD-WAN
CISCO SDN
CISCO NFV
CISCO Wi-Fi First
CISCO 4G to 5G
Digital Transformation Drives Network Virtualization

Digital Transformation Promises:

- Efficiency
- Agility
- Reliability

Virtualized Networks

Traditional NPM

- Dynamic Topology
- Elastic Growth
- Efficient Utilization

- Rigid: Collection Framework
- Limited: Collection Frequency
- Unreliable: Real-time Insight
# NEXT GENERATION Virtual Networks Drive New Requirements

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Different Teams + Different Tools = Different Insights

- Network Ops & Engineering
- Incident Management
- Service Management
- Security Operations
- Compliance Management

NETWORK & MACHINE DATA
- Polling
- Streaming
- Device Discovery
- Network Topology
- Service Awareness

- Logs
- Flows
- Metrics
- Experience
- Metadata

Business Apps, Wi-Fi, Multi-Cloud, SDN, SD-WAN, MPLS, BACKHAUL, ETHERNET SERVICES, 3G/4G/5G
This Transition Requires a Data Platform
This Transition Requires a Data Platform

Business Apps 3G/4G/5G Multi-Cloud SD-WAN MPLS Wi-Fi SDN BACKHAUL ETHERNET SERVICES

NETWORK & MACHINE DATA POLLING – STREAMING – DEVICE DISCOVERY – NETWORK TOPOLOGY

Business Agility
Fast time to deploy new services
Increase confidence to innovate

Business Efficiency
Improve MTTR across teams
Optimize staff and reduce TCO

Business Reliability
Improve SLA compliance
Increase customer satisfaction

SevOne Data Platform

Service Management
Network Ops & Engineering
Security Operations

Incident Management
Service Management
Network Ops & Engineering
Security Operations

Lines of Business – Workflow – Strategy

Business Agility

Business Efficiency

Business Reliability

Service Management
Network Ops & Engineering
Security Operations

POLLING – STREAMING – DEVICE DISCOVERY – NETWORK TOPOLOGY

Business Apps Wi-Fi Multi-Cloud SDN SD-WAN MPLS BACKHAUL ETHERNET SERVICES 3G/4G/5G

This Transition Requires a Data Platform

- Business Agility
  - Fast time to deploy new services
  - Increase confidence to innovate

- Business Efficiency
  - Improve MTTR across teams
  - Optimize staff and reduce TCO

- Business Reliability
  - Improve SLA compliance
  - Increase customer satisfaction
SevOne Data Platform

ALL THE DATA

Extract | Enrich | Interact

DATA PLATFORM VALUE

METRICS
- Apps Services
- 3G/4G Wi-Fi
- MPLS + SD-WAN
- SDN/NFV

FLOWS
- Multi-Cloud
- IoT HVAC BMS

LOGS
- Customer SLA Reporting
- Dynamic Capacity Planning
- New Service Planning

EXPERIENCE
- Service Monitoring & Troubleshooting
- Automated Infrastructure Provisioning

METADATA
- VALUE
- FLOWS
- LOGS
- EXPERIENCE

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DATA PLATFORM
Real-Time Performance Monitoring for Transition to Next Generation Networks

SevOne Data Platform

Extract | Enrich | Interact

Network Insight with Speed at Scale

- NFV Service Assurance
- SDN Monitoring
- SD-WAN Monitoring
- Wi-Fi Monitoring
- Backhaul Compliance
Benefits of Network Virtualization

**Increased Flexibility & Agility at Lower Cost**

- Dynamic Scalability
- Deliver New Services Faster
- Improved Customer Experience
- Improved Security
The Challenge

Accelerate Pilot to Production

- Rate of Change
- Multiple dependencies between layers
- Multiple technologies
- Real-time response requires real-time monitoring
Three Steps to Operational Insight
SevOne Data Platform

STEP 1
Pre Deployment
Baseline performance of existing infrastructure
Throughput, response time, error conditions

STEP 2
During Migration

STEP 3
Post Migration
Three Steps to Operational Insight

SevOne Data Platform

**STEP 1**
Pre Deployment

**STEP 2**
During Migration

**STEP 3**
Post Migration

Single view of service KPIs on old and new infrastructure

Operational visibility of both environments
Three Steps to Operational Insight
SevOne Data Platform

**STEP 1**
Pre Deployment

**STEP 2**
During Migration

**STEP 3**
Post Migration

Scale solution to accelerate migration

Drive automation use cases
SevOne SDN Monitoring Solution 2.0 for Cisco ACI

- Built in knowledge to monitor the transition to and ongoing operations of Cisco ACI
- Leverage the power of the SevOne Data Platform with pre-defined KPIs, automated baselines, integrated troubleshooting workflows and standard dashboards including:
  - Automated Monitoring and topology displays
  - Tenant-driven logical display
  - Tenant health scores – real-time & historical
  - Endpoint group topology visualizations
  - Integrated Troubleshooting Workflows
  - ACI Fabric and Switch Capacity Analysis
  - ACI Fabric and Switch Metadata Enrichment
  - APIC Status Monitoring
SevOne SDN Monitoring Solution for Cisco ACI

Support for Cisco ACI Infrastructure Metrics

**UNDERLAY**
- APIC Status
- Controller CPU
- Controller Interface
- Controller Memory
- ES Virtual Machine
- Fantray
- Hypervisor NIC
- Leaf/Spine CPU
- Leaf/Spine Memory
- Management NIC
- Physical Interface
- Power Supply
- Sensor
- Storage
- Supervisor card
- VM
- Tunnel

**OVERLAY**
- ACI adjacency
- Application Profile
- Bridge Domain
- Endpoint
- Endpoint Group
- Fabric Capacity
- Fabric Status
- Fabric Group Reference
- Private Network
- Switch Capacity
- Tenant
## SevOne Enables Smooth Takeoff to SDN

### Customer:
**Major Asian Airlines**

### Situation Overview:
An increasingly mobile and connected workforce using the web, smartphones, tablets and other connected devices to conduct business in new ways resulted in fluctuations in demand for bandwidth and capacity needed to support applications and network services.

### Network Modernization:
- Deployed Cisco ACI platform as the foundation of a new SDN environment, delivering:
  - Ability to dynamically and efficiently provision employee devices with optimal amounts of networking capacity and bandwidth
  - Flexibility to adapt to future network requirements

### SDN Challenges:
- New SDN environment required a network monitoring solution capable of:
  - Ensuring smooth transition to new networking environment
  - Enabling delivery of reliable, high-quality network services
  - Accommodating next phases of growth and planning for future requirements

### SevOne Delivered:
- Unified monitoring of traditional and software-defined networks during migration to avoid implementation problems
- Full visibility into software-defined networking’s highly dynamic provisioning to facilitate network management
- Real-time visualization of virtual and physical layers to ensure service quality and reliability
- Efficient implementation to provide short time-to-value
SevOne SD-WAN Monitoring Solution for Cisco SD-WAN

- Built in knowledge to monitor the transition to and ongoing operations of Cisco and multi-vendor SD-WANs

- Leverage the power of the SevOne Data Platform with pre-defined KPIs, automated baselines, integrated troubleshooting workflows and dashboards supporting:
  - Enterprise & Multi-Tenant MSP Operations
  - Service and Network Monitoring
  - WAN KPIs
    - Utilization, Latency, Jitter, Availability, Packet Loss
  - Path Details
    - Site to Site activities
  - Application
    - Per App KPI, app path taken, alternate path
Common SD-WAN Management Challenges

- **Lack of visibility** of site-to-site performance
- **Lack of awareness** of new SD-WAN policies are working as intended
- **Lack of data** to plan new SD-WAN policies
- **No Unified Views** for transition from MPLS to SD-WAN
- **Multiple tools** monitoring the legacy MPLS and new SD-WAN creating silos of data

- **Additional complexity** can turn a minor issue in a major one
- **Unable to measure** the utilization of legacy WAN and SD-WAN as a single system to make decisions regarding budget and cost optimization
- **Unable to measure effectiveness** of new SD-WAN investment
This initiative plays a major part in our overall enterprise digital transformation strategy.

**Challenge**

Enterprise clients and Verizon operations require an end-to-end view of services spanning the physical and virtual network.

**Solution**

- Analyze performance of the hybrid WAN to help enhance delivery of applications to users.
- Correlate disparate metrics into a single-services view spanning the SD WAN, application performance and the supporting infrastructure.

**SD-WAN**

Provide speed to intelligence at scale across the global enterprise footprint.
Conclusion

- **Ease the Transition**
  - Monitor your existing physical network and new software defined infrastructure from the same dashboard.

- **Deploy with Confidence**
  - Deploy Cisco ACI and Cisco SD-WAN with confidence, knowing your new software defined infrastructure is monitored automatically.

- **Assess Business Impact**
  - Understand how infrastructure performance affects the applications and services available in your Cisco ACI and Cisco SD-WAN based networks.

**Real-Time Performance Monitoring for Transition to Next Generation Networks**