Closing the Loop for Effective Network Operations Management
Today's Presenters

Jim Frey – Managing Research Director

Jim has 25 years of experience in the computing industry developing, deploying, managing, and marketing software and hardware products, with the last 19 of those years spent in network management, straddling both enterprise and service provider sectors. At EMA, Jim is responsible for the Network Management practice area. Jim's past experience prior to joining EMA include serving as VP of Marketing for NetScout Systems, as well as VP, Strategic Marketing for Micromuse.

Tomer Hagay - Consulting Systems Engineer

Tomer has 19 years of experience in the networking industry and spent the last 7 years working for Cisco as a Consulting Systems Engineer (CSE) for Network Management. As a CSE, Tomer works closely with customers to design integrated NMS/ OSS solutions, based on specific requirements and technologies. Prior to joining Cisco, Tomer lead the deployments of end-to-end OSS solutions for SP and Enterprise while working for a systems integrator.
Logistics for Today’s Webinar

Questions

• Log questions in the Q&A panel located on the lower right corner of your screen
• Questions will be addressed during the Q&A session of the event

Event recording

• An archived version of the event recording will be available at www.enterprisemanagement.com

Event presentation

• A PDF of the PowerPoint presentation will be available
Closing the Loop for Effective Network Operations Management
Agenda

• Operations Monitoring and Assurance
• What is Cisco Prime Assurance Manager?
• Functional Requirements for Effective Network Ops Mgt
  • Monitoring and Reporting
  • Alarm and Event Handling
  • Managing Multiple Data Sources
• Wrap-Up/Takeaways
• Q&A
Monitoring and Assurance in Operations
The Operational Imperative for Modern IT

- App/Service Performance & Quality Demand never higher
  
  *Shift to Cloud brings increasing services orientation*

- Job #1: Driving MTTR to Zero, MTBF to Infinity
  
  *Requires integrated monitoring of devices + relationships across traditional silos*

- Management Tools & Technology Must Be Ready Enablers
  1. *Extending monitoring to cover entire end-to-end environment*
  2. *Automating to accelerate recognition and analysis & get proactive*
  3. *Building business awareness to align actions with organizational priorities*
Which of the following strategies does your organization most prefer to follow in acquiring and deploying network management products? (by organization # of employees)

- Fully integrated multi-function platforms: 37% (42% if less than 1,000 employees), 35% (37% if 1,000 - 9,999 employees), 37% (40% if 10,000 or more employees)
- Tightly integrated best-of-suite from a single vendor: 15% (19% if less than 1,000 employees), 18% (24% if 1,000 - 9,999 employees), 14% (17% if 10,000 or more employees)
- Loosely integrated best-of-breed from multiple vendors: 20% (24% if less than 1,000 employees), 17% (20% if 1,000 - 9,999 employees), 15% (16% if 10,000 or more employees)
- Loosely integrated best-of-suite from a single vendor: 17% (20% if less than 1,000 employees), 17% (20% if 1,000 - 9,999 employees), 15% (16% if 10,000 or more employees)
- Standalone best-of-breed from multiple vendors: 11% (15% if less than 1,000 employees), 11% (15% if 1,000 - 9,999 employees), 10% (10% if 10,000 or more employees)
“Assurance” Defined

A Holistic Approach to Operations

• Aggregation of fault and performance monitoring disciplines, focused on maximizing availability/reliability
• Roots in the telecomm service provider industry, as in “Service Assurance”
• Especially appropriate strategy for IT as shift to cloud services (internal, external, or hybrid) progresses
• Spans reactive and proactive; planning + monitoring + optimization
• Requires integration; empowers collaboration
• New Key Objective: Understand end user experience
• Application awareness links network to business value
Introducing…
Cisco Prime Assurance Manager
Cisco Prime for Enterprise
Innovative Product Portfolio

Prime Infrastructure – a bundled solution for complete wired and wireless lifecycle management
Prime Collaboration – delivers products to simplify the deployment and management of voice, video and collaborative services
Prime Assurance – provides visibility across architectures for effective troubleshooting of performance, application, and end user related issues
Cisco Prime Assurance
Application-aware network performance visibility and troubleshooting

- Provides end-to-end visibility for service-aware networking and assurance for applications, services and end-users
- Correlates and aggregates network instrumentation for consistent end-to-end visibility and faster troubleshooting
- Complete network and traffic instrumentation and analysis

Improve service levels with complete end-to-end network visibility
Simplify troubleshooting with normalized data from multiple sources
Reduce end-user and application downtime with lower TCO

© 2011 Cisco and/or its affiliates. All rights reserved. This document is Cisco Public Information.
Cisco Prime Assurance for the Enterprise

Cisco Prime™ Assurance:
- Centralized service assurance Dashboard
- Reporting and trends
- Network readiness assessment
- Network abstraction
- Provides northbound APIs

Cisco Prime Network Analysis Module (NAM)
- Packet and flows analysis
- Application response time
- Voice quality metrics
- Operates standalone and with Cisco Prime Assurance

Network Infrastructure
- Prime Assurance Manager
- Cisco® NAM
- MIB
- Medianet
- NetFlow
- NBAR
- Perf Agent
- WAAS
- Packets
Cisco Prime Assurance Manager

End-to-end visibility simplifies network troubleshooting for applications, services and end user experience

- Accelerates problem identification leveraging network service and application visibility
- Improves operational efficiency with quick problem isolation
- Reduces total cost of ownership and simplifies operational manageability
Key Functions: Monitoring and Reporting
Essential Functions for Monitoring and Reporting

- **Dashboards**
  - High level, broad status + Grouping for successive levels of focus
  - Functional Dashboards for specific roles
    - i.e. Top “N”, Incidents, Service performance, VoIP quality, EUE…
  - Default dashboards + customized/retained options
- **Detailed per-device presentations per device**
  - Including config, status, alarms, top performance indicators, last change
- **Facilitated Workflows**
  - Contextual cross-linking for n-directional navigation
- **Reporting**
  - Scheduled or ad-hoc; flexible outputs (web, CSV, etc.)
  - Per device or group (with definable filters)
  - By focus/role: Asset, performance, traffic, alarms, user experience
Improve Operational Efficiencies
Intuitive user experience for quick problem isolation

- Automates the collection and normalization of key performance data from multiple sources
- Quick in-context drilldown – all the way to raw packet / flow
- Isolate and remediate application delivery impacting configuration issues via Cisco Prime integration
  
  Application-aware Infrastructure workflows to isolate network configuration issues, verify corrections and audit
Key Functions: Alarm and Event Handling
Essential Functions for Alarm/Event Handling

- Centralized/common alarm viewer – NOC “To Do” list
  - Must haves: Filtering/grouping/scoping
  - At a glance, continuous summary of alarm counts a bonus
- Integrates related, relevant events and messages
  - Traps, Threshold violations, Change events, Syslog entries
- Rapid contextual navigation for investigative workflows
  - Assigning ownership for analysis/resolution
  - Fast navigation to basic assessments (i.e. ping, traceroute, Show)
  - Equally fast in-context navigation to corrective action functions
- Methods for proactively managing what *will* raise alarms
  - Common default templates/profiles
  - Customizable as needed/desired
Monitoring Templates and Alarms
Configuration and setup for data collection and monitoring

- Monitoring templates provide flexibility for customizing and configuring data collection
  - Device and Interface Health
  - Flexible Netflow
  - Alarm Thresholds

- Alarms can be viewed through the event browser
  - Event history, forensics, syslog, traps and internal alarms are captured
Key Functions: Managing Multiple Data Sources
Intelligent Instrumentation: Data Sources from Cisco Networking Environments

- SNMP: Cisco proprietary + Industry Standard MIBs
- Events: Traps + Syslog
- Medianet: Perf-mon & Mediatrace for video traffic monitoring
- NetFlow/NBAR: App-aware network usage records
- Packet Analysis (NAM): Detailed inspection of traffic streams
- WAAS/WAE Flow Agents: WAN Optimization flow metrics
- Cisco Performance Agent (PA): Advanced source for NetFlow
- Cisco Application Visibility & Control (AVC): NBAR2+PA and modular QoS

Key Consolidation/Instrumentation Point: Cisco Prime Network Analysis Module (NAM)
Essential Functions for Managing Multiple Application-Aware Monitoring Data Sources

- Central administration
  - Image management, Access controls
  - Application ID definitions
  - Time synchronization
- Coordinated multi-point packet capture
- Coordinated performance data collection and de-duplication
- Direct application-aware analysis features
  - Application Mix
  - Top Applications
  - MOS Scores
  - Response Times
  - ...
Multi-NAM Management
Centralized visibility for distributed deployments

- Centralized visibility into all Packet Captures files from all managed NAMs
- Cross-launch into the Capture Files page of individual NAMs
- Centralized decoding and downloading of Packet Capture files from all managed NAMs
Wrap-Up
Key Takeaways

• Network Operations moving to Assurance approaches
• Integration and Application-awareness are essential to success
• Look to cross-functional solutions for best efficiency
• Ensure monitoring, reporting, and alarm management features can be linked directly to config/control activities
• Cisco’s new Prime Assurance Manager is an Operations capstone to the revitalized Prime management suite.
Q&A – Please Log Questions in the Q&A Panel

- Learn more about **Cisco Prime for Enterprise and Service Providers**. Visit: [http://www.cisco.com/go/prime](http://www.cisco.com/go/prime)