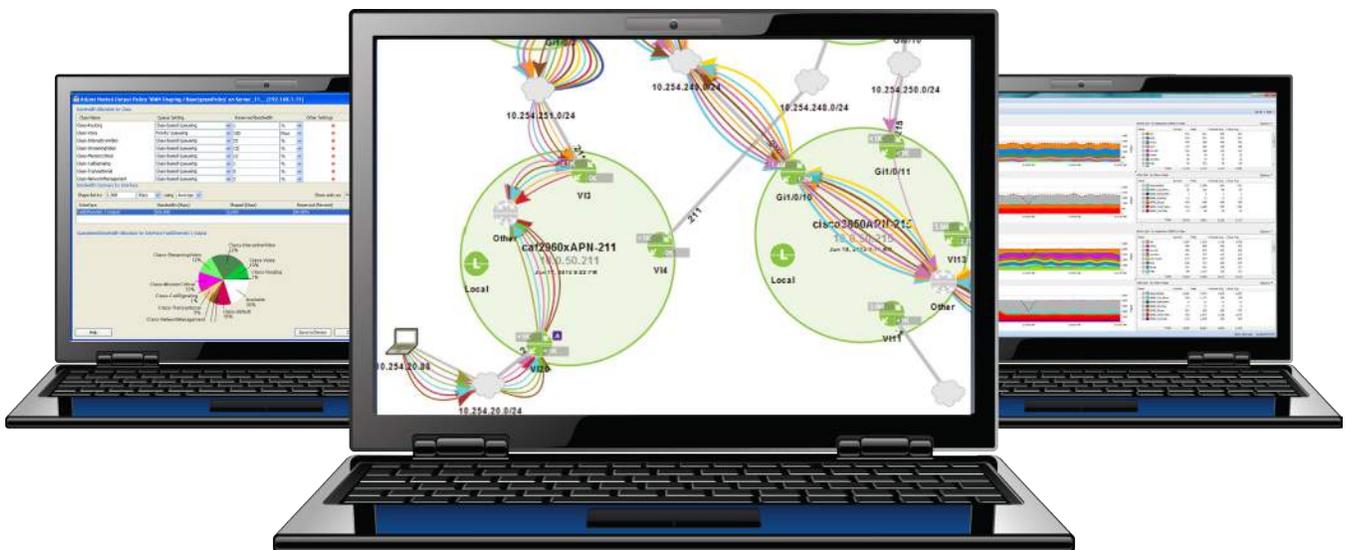


# LiveAction™

Simplifying the Network

## Application-aware Network Performance Management with QoS Control



**See**  
Visualize



**Point**  
Troubleshoot,  
Decision Making



**Click**  
Control, Deploy



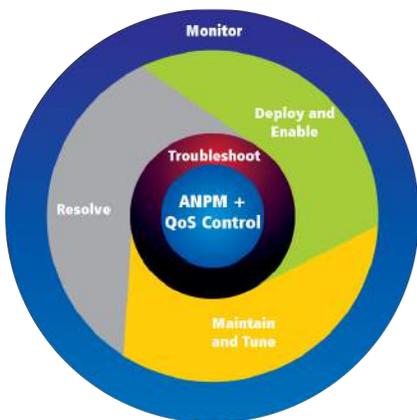
**Fix**  
Improve

# LiveAction Application-aware Network Performance Management

LiveAction is an application-aware network management software with QoS control, designed to simplify network management. LiveAction features an innovative visual display, real-time big data analytics and deep control of routers and switches for unparalleled ease of network administration. Through a highly expandable and distributed 3-tier architecture of clients, servers, and node collectors, LiveAction can support large-scale enterprise networks containing tens of thousands of devices and provides a single-pane-of-glass view across the entire enterprise.

LiveAction's latest release provides application dashboard, application path analysis, data center support with Nexus 7K QoS monitoring and Gigamon/Ixia integration, topology auto-collapse, and enhanced reporting to quickly resolve business critical performance issues. LiveAction is Cisco's recommended management platform for Intelligent WAN. It provides GUI-based management and situational awareness for intelligent path control and application performance optimization.

## Solution to Improve Application Performance



LiveAction is a fast, simple, and cost-effective tool to monitor and resolve application performance issues.

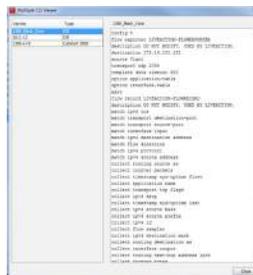
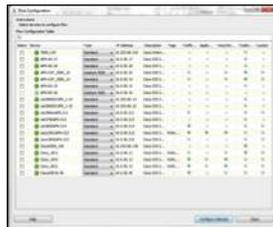
1. See—LiveAction's unique interactive topology and end-to-end flow visualization provide a holistic network view for more effective network management.
2. Point—LiveAction's visual displays including QoS markings, congestion indicators, hop-by-hop application analysis, and QoS change status enable quick diagnosis of performance issues.
3. Click—LiveAction easily enables Cisco Flexible NetFlow (FnF) through bulk provisioning, so networks can quickly leverage Cisco advanced flow technologies such as NetFlow, NBAR2, AVC, and Medianet.
4. Fix—LiveAction's full graphical QoS configuration allows you to fix application performance issues by creating, editing, and deploying QoS policies simply and accurately. Its graphical display provides instant validation of QoS policy changes.



Graphically configure FnF to enable Cisco advanced technologies to monitor performance data, thereby increasing IT's visibility of application and network behaviors.

### Benefits

- Reduce time and cost of FnF configuration and deployment on groups of devices by 50%
- Reduce errors in manual FnF configurations of one device at a time



### Simple FnF Configurations

With two screens, LiveAction will instantly audit your device capabilities, enable FnF on all eligible interfaces and deploy Cisco advanced technologies for flow monitoring

Perform in-depth Flow and QoS traffic monitoring for baselining or trending. Also, proactively monitor and alert based on key threshold violations that impact QoS.

### Benefits

- Instant application performance visibility via an application dashboard
- Granular network awareness and alerting for quicker notification of impending network issues
- Increased network availability and reduced end-user complaints
- Easy-to-see graphical network traffic baseline



### Visual awareness and monitoring

With LiveAction, you can literally see and trace your traffic flows from end-to-end across the network in both real-time and using playback of captured data. Drill down to device and interface level for even more details on flows, routes, QoS policies, and IP Service Level Agreements (SLA) test results.

# What is LiveAction?

LiveAction is a unique application-aware network performance management tool available with intuitive real-time visualization, accurate point-and-click configuration of Cisco technologies such as QoS, NetFlow, IP SLA, PFR, AVC, ACL, Routing and PBR, switching and spanning tree. Through the use of visual icons and in-depth topology graphics, in addition to text, tables, and graphs, LiveAction offers an accurate rendering of complex networks to provide a quick understanding of problems and available solutions. From this deep understanding, users can take advantage of LiveAction full QoS control feature and its highly intelligent graphical interface to optimize network and application performance by adjusting QoS accurately and confidently.

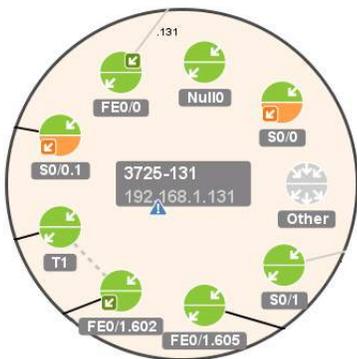


## Troubleshoot      Resolve      Maintain and Tune

Enable faster and more effective troubleshooting by providing end-to-end traffic flows, application dashboard, application path analysis, PFR workflows, alert drilldown, visibility of QoS policies and NBAR2 performance metrics. Powerful Flow-DVR feature enables play, review, fast-forward of past events.

### Benefits

- Guided workflows, search, interactive and real-time network awareness allow quicker troubleshooting of issues and validation of changes
- More than 50% reduction in time-to-find performance problems and service quality improvement
- 30% reduction in trouble ticket volumes and "break-fix" churn to allow more efficient IT operation and improved end-user productivity



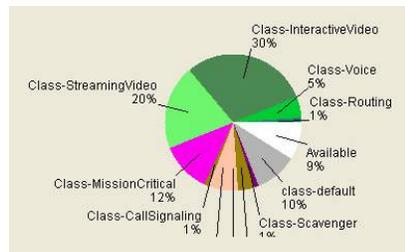
### Instant, visual troubleshooting for up to 1,000 interfaces per device

No other management tool provides a faster and more visual approach to troubleshooting congestion on your network. LiveAction highlights congested devices (large circle) and interfaces (smaller inside circles) with an amber color so you can pinpoint problems instantly. Click the interfaces for more information and use LiveAction's configuration tools to fix problems on the fly.

Create and edit QoS policies using a graphical policy editor built around Cisco best practices to resolve application performance issues. Also immediately validate your QoS changes using highly granular, real-time traffic visualizations and statistics.

### Benefits

- Accelerate IT problem resolution and maintain the required level of service needed to meet business priorities
- 70% reduction in time to understand and edit complex QoS policies
- 50% reduction in time to restore voice/video quality and fix critical application performance problems



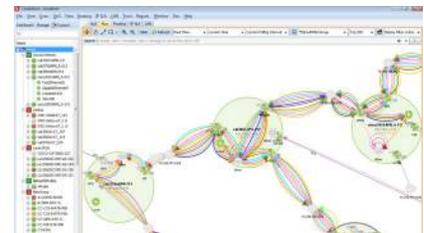
### Graphical, interactive QoS policy editing

LiveAction is the only network management tool that provides a fully graphical interface for creating and editing Cisco QoS policies. The software's built-in wizards and templates ensure speed, accuracy, and compliance with Cisco best practices.

Simplify maintenance and tuning with proactive system-wide awareness and visibility of QoS policies. The system and application dashboards provide overall network and application health; search and filter allow quicker investigation of relevant information across hundreds of reports and millions of flows; easy-to-use graphical QoS policy editor enables fine-tuning of existing policies; and highly granular queuing statistics let you know exactly how applications are performing.

### Benefits

- Consistent user experience and application performance
- 30% reduction in trouble ticket volumes and "break-fix" churn allowing for more efficient IT operations and improved end-user productivity
- 70% reduction in time to understand and edit complex QoS policies

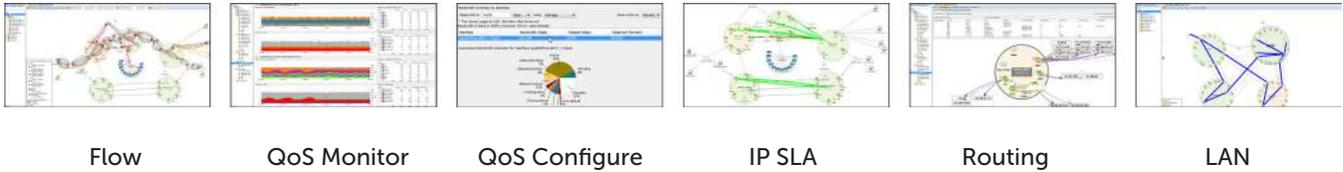


### Maintain optimal application and network performance

Changes in network traffic may occur due to the introduction of new users, new applications, or even changes in company policies and direction. With LiveAction, you can track these factors and adjust your policies to reshape network traffic, improve application performance, and then fine tune and validate your policies and bandwidth allocations accordingly.

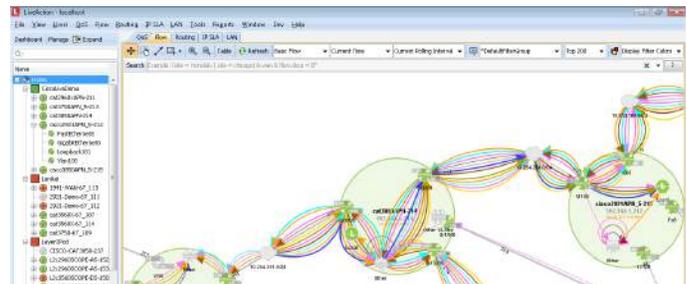
# Application-aware Network Performance Management with QoS Control

LiveAction is a sophisticated network performance management and QoS control software that enables you to optimize end-user experience and business application delivery by effectively managing your application-aware network performance. There are six single modules in LiveAction - Flow, QoS Monitor, QoS Configure, IP SLA, Routing, and LAN – that provide network engineers with a comprehensive toolset to accelerate troubleshooting and resolution of performance issues, thereby, reducing costly downtime.



## Interactive network topology with end-to-end flow visualization

LiveAction is the only tool that provides real-time, end-to-end flow visualizations across your network. Clicking on a flow highlights its entire path hop-by-hop. You can also examine historical views to analyze flows at any date and time in the past with the Flow DVR feature. Use graphical Application and Flow Path Analysis to visually troubleshoot voice and video performance issues. LiveAction provides IWAN intelligent path visualization and Pfrv3 dashboard enabling customers to effectively validate the IWAN Return-on-Investment (ROI). In particular, when Pfr makes a path change to protect the applications because of an Out-Of-Policy (OOP) condition, LiveAction renders the end-to-end path changes graphically from the branch-office master controller or border router through the service provider(s) to the data center where the applications reside, providing more meaningful and actionable information than the standard Pfr command-line interface (CLI) outputs.



## Proactive application performance and remediation

LiveAction provides unique QoS control to resolve performance issues and eliminates the need to resort to other tools or command line interface (CLI). With LiveAction, IT engineers can immediately identify and locate problems, take corrective actions on the spot, and then validate any changes made all within a single LiveAction session.

## Point-and-click configuration of Cisco technologies

In addition to its intuitive graphical interface, LiveAction comes with extensive device expertise to make configuration fast and accurate. LiveAction graphically configures FnF, ACLs, policy-based routes, IP SLA tests/responders, and QoS policies, thereby turning-up Cisco advanced technologies faster and more efficiently.



## Single-click QoS audit and performance reports



LiveAction generates a highly accurate and intelligently organized QoS audit report in seconds with just a single click of your mouse. This report will show your QoS policies in great detail including configuration settings, performance issues, drops, and policy errors.



# App-Aware NPM with QoS Control

## Topology Level

LiveAction generates clear and detailed topology views of your network allowing you to literally "see" device connections, routes, flows, interface bandwidth, and more all in real-time. The interactive display lets you pan, zoom, and drag individual network elements across the screen for an even better view. In addition, for large-scale networks, you can auto-collapse a group of devices to keep the topology less busy.

### Product Tabs

Click on these tabs to switch from QoS to Flow, Routing, LAN, or IP SLA. Each tab provides a different overlay and user options specific to the selected view.

### Search

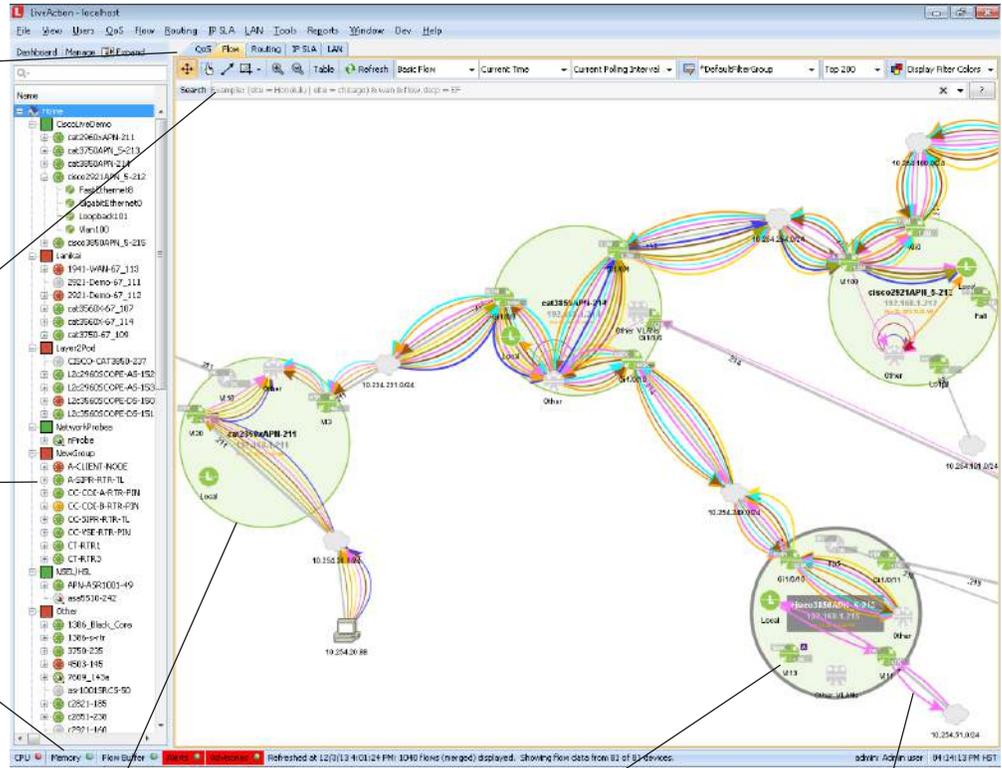
Quickly find specific information with an easy key word search approach across hundreds of reports and millions of flows.

### Hierarchical View

Left side of screen shows devices and interfaces in a hierarchical view.

### Status Bar

Bottom of screen includes status indicators for CPU, memory, flow buffers, alerts and more. Alerts can also be sent via e-mail for remote notification.



### Devices and Live Network Topology

This view shows devices (large circles), interfaces (small circles), interconnections, flows, interface bandwidth, congestion, and more. Click on a device, interface, or flow for more details. Click and drag to rearrange or resize items for even better visibility. Devices can also be logically grouped or auto-collapsed to streamline management of larger networks.

### Interfaces

Top half indicates ingress. Lower half indicates egress. Numbers indicate bandwidth. Green=active  
Dark green=QoS policy applied  
Amber=congested  
Gray=down

### Flows

Curved lines indicate traffic flows.

## Device Level

Dive deep into the setup and activity within your switch or router. See routes as well as flows entering, traversing, and exiting the device. View the whole picture or use filters to display specific items.

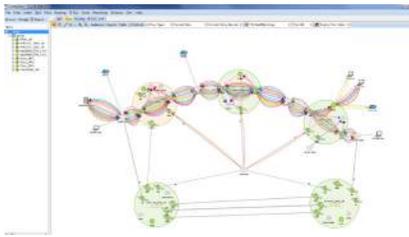


## Interface Level

Need even more detail? Click down to the interface view and observe actual traffic performance in real time. View pre and post-QoS activity and see the effects of your QoS device configuration changes in seconds.



# LiveAction Features



## Flow

LiveAction Flow starts with a network topology view that provides a unique end-to-end flow visualization of live traffic across the network. For large-scale networks, devices can be grouped or auto-collapsed by location, type, or other attributes for simple management. In addition, users can quickly drill down to individual devices or interfaces for more detail such as IP addresses, DSCP values, byte rates and count. This makes it easy to visualize trouble spots on the network and gain a better understanding of traffic patterns.

- Application and Flow path analyses
- Application dashboard
- Cisco Performance Routing v3 dashboard
- Cisco Performance Monitoring (PerfMon)
- Cisco Application Visibility and Control
- Cisco Converged Wired/Wireless and User Identity
- Cisco ASA Network Security Event Logging
- Cisco ASR 1K High Speed Logging
- Topology-based traffic flow view
- Supports NetFlow v5/v9, IPFIX, sFlow, and J-Flow
- Aggregate flow or individual flow views
- Display end points by IP address, name, application port name number
- Filter and search
- Flow DVR of historical data
- Adjustable flow polling rates
- Built in Domain Name System (DNS) name resolution
- Topology export to Visio
- Gigamon GigaSMART and Ixia flow integration



## QoS Monitor

LiveAction QoS Monitoring provides the ability to track QoS performance on a per-class basis. Engineers can gain a deep understanding of traffic and QoS behavior using LiveAction's application (NBAR), class or queuing views. Monitoring and alerting of priority queue drops provides proactive notification of potential voice quality issues.

- NBAR2 application visualization
- QoS Dashboard
- Rate-based NBAR graphs
- Pre and post-QoS graphs
- Detailed graphical display of CBQoS statistics
- Peak and average rate statistics
- Class and interface drop graphs
- Congestion indicators from topology and device views
- Built-in CBQoS MIB viewer
- Custom NBAR definitions
- GRE tunnel visualization
- Automatic QoS graph resynchronization on policy changes
- Unknown port discovery
- View QoS graphs across routers
- Historical views and reporting
- 95<sup>th</sup> percentile, quarterly, yearly, and collated reports



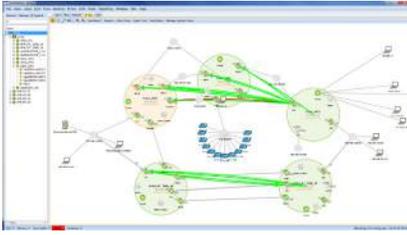
## QoS Configure

LiveAction QoS Configure enables IT engineers to create, edit, and apply QoS policies for Cisco routers and Layer 3 switches on live networks with consistency and confidence. Use the QoS wizard and built-in templates to apply policies based on Cisco best practices or use the QoS GUI editor to build your own policies.

- Full MQC QoS configuration support including WRED, CBWFQ, and Priority Queuing
- Graphical inbound/outbound QoS editors
- Read existing QoS policies inside routers
- Apply or remove QoS configurations across multiple interfaces
- Copy policies to multiple devices
- Hierarchical policy creation for advanced configurations
- Custom NBAR and NBAR2 based matches including high level attributes, HTTP URL, MIME, HOST and RTP protocols
- Built-in ACL editor
- CLI command preview
- Built-in rules for QoS settings that highlight violations
- Configuration audit trail
- System-wide QoS audit
- LAN Service Policy



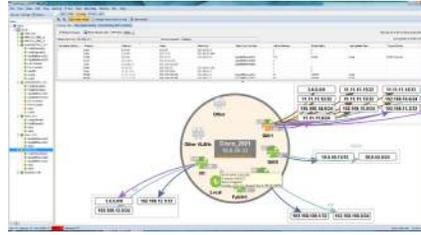
“If you run or need to run QoS on your network, I could not possibly give any other product for QoS management a higher recommendation than LiveAction.”



### IP SLA

LiveAction IP SLA makes Cisco IOS IP SLA operations easily accessible for generating and monitoring synthetic network traffic to baseline network performance, test policy changes, or proactively monitor key network paths. Synthetic traffic types include data (HTTP, FTP, DNS, DHCP) and voice that can be used to measure latency, loss, jitter, and mean opinion core (MOS) for VoIP. With IP SLA VO support, LiveAction enables easy pre-deployment capacity planning for video applications. Its highly interactive graphical interface delivers the functionality and flexibility of IP SLA features without the need to learn and use Cisco device command lines.

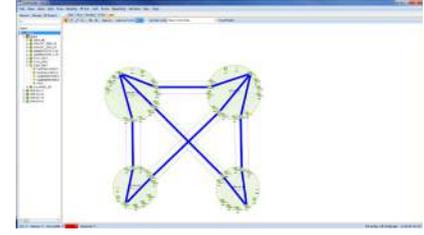
- Test Types: DHCP, DNS, ICMP Echo, FTP, HTTP, Jitter, UDP Echo, video
- Latency, MOS performance measurements, loss, jitter,
- DHCP: destination, source, circuit ID, remote ID, subnet mask
- IP SLA VO (video operations) for Medianet
- IP SLA topology view (real-time)
- IP SLA dashboard
- Set up responder at destination
- Edit, save, delete test configurations
- Export to CSV file
- Large-scale wizard-based IP SLA provisioning in full-mesh and hub/spoke configurations



### Routing

LiveAction Routing provides real-time routing visualizations for Cisco networks that can identify reachability problems, routing loops and asymmetric paths affecting traffic quality. In addition, the module's policy-based routing viewer/editor provides a high degree of control over traffic policy allowing users to route traffic easily and predictably over user-specified paths.

- System topology view of active routes
- Device route table views in graphical and tabular form
- Virtual routing and forwarding tables
- Export - Exports route, route table, device forwarding tables to CSV files
- Troubleshooting - Shows routing loops and asymmetric routes, unstable conditions, black holes, and error summarizations
- Policy-based routing (PBR) - Configuration/editing of PBR and Set statements, edit existing route map configurations, check for compliance with PBR rules, displays PBR usage, displays static routes and PBR issues, exports route map statistics



### LAN

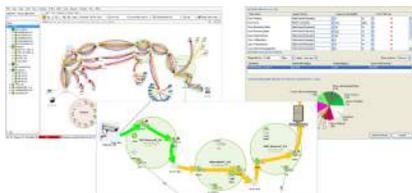
LiveAction LAN provides real-time Layer 2 visualizations for networks, including trunk interfaces, port channels, VLAN associations and bandwidth percentages.

- VLAN trunk, port channel names
- VLAN associations within a device
- VLAN highlighting through a network
- Input/Output bandwidth of each VLAN and port interface
- VLAN Path Visualization
- Spanning Tree Protocol visualization and reporting
- Trunk and access bandwidth information through network polling
- Layer 2 QoS statistics including CoS, DSCP and IP precedence
- Dropped packets, interface warnings through network polling at the VLAN level
- Find IP/MAC addresses



**“With LiveAction, we’re now able to fine-tune QoS policies and get highly granular statistics to see exactly how policies are performing. Ultimately, it helps us deliver a high-quality end user experience and increase the return on our voice, videoconferencing, and collaboration investments.**”

# LiveAction Solutions



## Voice and Video Optimization

**Problem:** Network administrators need to determine the causes of poor voice and video quality and how to get these multimedia applications working properly

### LiveAction Solution:

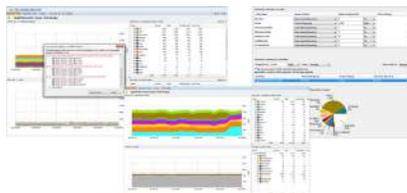
- QoS markings and congestion indicator on the topology map provide instant recognition of performance issues
- Hop-by-hop Application and Flow path analyses accelerate troubleshooting of voice/video performance issues
- Dashboard view, filter/search, workflow drill down for quicker problem determination
- On-the-fly QoS policy adjustments to fix performance issues and optimize application traffic

### Cisco Technologies Used:

- NetFlow, QoS, NBAR
- Cisco Application Visibility and Control
- Cisco Performance Monitor

### Solution Benefits:

- **Reduced Down Time**—Fast diagnosis and resolution of voice and video application performance via rich visualization. Resolution time has been estimated to be 60% less than that of traditional troubleshooting via CLI
- **Enhanced User Experience and Quality**—Consistent quality and response time increase customer satisfaction and improve Service Level Agreements (SLA)
- **Faster QoS Changes**—Accurate configuration changes across complex Cisco QoS deployments with simple point-and-click operations



## QoS Configuration

**Problem:** Use of CLIs to configure complex QoS policies is time consuming and error-prone

### LiveAction Solution:

- Graphically create QoS policies to classify, mark, and protect mission critical application traffic based on NBAR2. LiveAction builds CLI configuration and provides a CLI preview prior to deploying to the device
- Copy and deploy an existing policy to multiple devices with a few clicks
- Create ACLs directly from a flow off the topology view with a single click
- Create and deploy a policy directly from NBAR2 applications with a single click

### Cisco Technologies Used:

- QoS, CLI

### Solution Benefits:

- **Fix Application Performance**—Full GUI-based QoS configurations allow on-the-fly changes of QoS policies to quickly resolve performance issues
- **Enable Faster QoS Deployments**—Accurate configuration changes across complex Cisco QoS deployments through simple point-and-click operations and bulk configuration
- **Easy Validation of QoS Changes**—Easy validation of QoS policy change impact through visualizing traffic in real time



## Application Performance and Troubleshooting

**Problem:** How to quickly pin point root causes of application performance problems

### LiveAction Solution:

- Application dashboard for instant visibility of application performance
- Search and filter enable targeted problem determination
- Alert dashboards allow focused and early detection of issues
- Workflow drilldown from alerts to applicable flows for quicker root cause analysis
- Correlation of AVC metrics to easily pin-point network or application performance issues
- Hop-by-hop Application and Flow path analyses provide faster determination of problem location
- Solve application performance problems with simple point-and-click editing and applying of QoS policies

### Cisco Technologies Used:

- NetFlow, QoS, AVC, PerfMon, IPFIX

### Solution Benefits:

- **Faster Application Troubleshooting**—Application dashboard, site-based performance, built-in workflows, and alert drilldown provide intelligent correlation of various indicators to pinpoint root causes
- Visual color-coded representation of PerfMon and AVC path analyses indicates where performance issues reside
- **Improved Application Performance**—Network and application response time visibility via NBAR2 Deep Packet Inspection (DPI). Full NBAR2 QoS control enables easy mitigation of performance issues
- **Increased Productivity**—Deep understanding of application traffic with end-to-end flow visibility



### WAN Bandwidth and Intelligent WAN Management

**Problem:** Network administrators need an easy way to understand bandwidth usage across many WAN links and to reduce bandwidth cost while optimizing performance

#### LiveAction Solution:

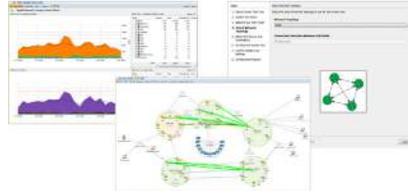
- Network-wide and site-based bandwidth utilization by day, week, and month for at-a-glance baseline
- Flows views of site(s) by day, week to observe traffic mix for normal vs. anomalies vs. trends
- Pre-QoS and post-QoS bandwidth utilization enables understanding of traffic usage across applications and links
- Full QoS control allows provisioning and adjustment of QoS policies to manage bandwidth
- Visualization of PFR (Performance Routing) before-and-after path changes

#### Cisco Technologies Used:

- NetFlow, QoS, NBAR, PFRv3

#### Solution Benefits:

- **Improved Bandwidth Usage**– Understanding and provisioning of appropriate bandwidth for highest application performance across WAN links
- **Enhanced Application Performance**– Eliminate potential sources of delay or congestion quickly, allowing applications to perform optimally
- **Easier justification of Intelligent WAN ROI**–With dashboard and visual representation of PFRv3 before-and-after path changes, customers can validate PFRv3 performance to load balance and protect application traffic during network brown-outs.



### Capacity Planning and Performance Baselining

**Problem:** Network administrators don't know how much capacity is being used and if they are running out of bandwidth

#### LiveAction Solution:

- Network-wide and site-based dashboards as well as detailed reports provide bandwidth utilizations enabling understanding of current usage and baseline
- GUI-based IP SLA tests (latency, jitter, packet loss, etc.) allow assessment of network performance
- GUI-based IP SLA Voice Operations (VO) tests load up the network with test RTP streams to ascertain if it is ready for new video services

#### Cisco Technologies Used:

- NetFlow, QoS, IP SLA, IP SLA VO

#### Solution Benefits:

- **Network Capacity Assessment**– Flow and QoS reporting enables understanding of current capacity usage by site, by application, by class, and more
- **Service-Assurance Verification**–Test network performance by measuring jitter, delay, packet loss, and plan capacity with IP SLA VO tests before deploying rich media applications
- **Out-of-Bandwidth Avoidance**– Establishing a baseline enables organizations to proactively understand when capacity is needed and avoid bandwidth depletion that can negatively affect application performance



### Cybersecurity

**Problem:** Network administrators must provide a delicate balance between strong security and convenient user access and be able to identify and mitigate security threats quickly and efficiently

#### LiveAction Solution:

- Real-time visibility and control–Fully interactive system topology, device, and interface level views with GEO IP, NSEL, and AVC
- Visualize and minimize DoS attacks and unauthorized traffic– Detect, identify and block offenders
- Network forensics visualization, analysis and test report documentation–Efficient storage, playback and analysis of all flow at 1M flows/second without aggregation
- Remediate malicious traffic on the network– Easy to use graphical editors to reroute suspicious traffic to a sensor using PBR, block/drop suspicious traffic using ACL, and mitigate/minimize suspicious traffic using QoS configuration

#### Cisco Technologies Used:

- NetFlow, NSEL, QoS, ACL, AVC, PBR

#### Solution Benefits:

- Visualize and minimize DoS attacks and unauthorized traffic
- Remediate malicious traffic on the network
- **No appliances needed**–Installs in minutes on a standard laptop, desktop PC, or server

“**Network managers need reliable and accurate network management tools to become more predictive in their ability to troubleshoot problems versus being reactive. LiveAction allows users to quickly see and identify where the problem is going to be.**”

# App-Aware NPM with QoS Control

## Devices Supported

### Cisco Series Routers

- 800, 1700, 1800, 1900, 2600, 2600XM, 2800, 2900, 3600, 3700, 3800, 3900, 4000, 7200, 7600, ASR 1000, CSR 1000V
- Recommended IOS versions 12.3 or higher or 15.0 or higher for use with the software. (IOS XE 2.6.0 or higher for ASR 1000 series). Earlier IOS versions may work but are not officially supported.
- General release IOS versions are recommended, although early and limited release versions will also work.

### Cisco Series Switches

- Catalyst 2960, 2960-X, 3560, 3650, 3750, 3850, 4500, and 6500 series switches
- Nexus 7000
- Some aspects of QoS can be set up on Layer 3-routable interfaces and VLANs (no Layer 2 QoS configuration)
- NetFlow can be used with Catalyst 3650, 3850, 6500 and 4500 switches. NetFlow Lite on 2960-X/XR. Please consult Cisco's feature navigator for specific hardware requirements.

### Cisco Security Devices

- ASA 5500 Series running 8.3 (NetFlow support only)
- ASR 1000 Zone-Based Firewall High-Speed Logging

### Cisco Other

- NetFlow Generation Appliance (NGA)
- Cisco MSI-capable endpoints including IP cameras, Telepresence, Jabber, etc.

### Non-Cisco Devices (Flow analysis only with Netflow, IPFIX, and sFlow, discovery, topology representation, MIB-II)

- Examples: Alcatel, Extreme, Brocade, Hewlett-Packard, Juniper, NetVanta, nProbe, Gigamon, Ixia

## System Requirements

### Client

- Windows 7, Windows 8 or Mac OSX 64 bit OS
- 4 Cores
- 8 GB RAM

### Server/Node

- Windows Server 64 bit 2012, 2008
- Windows 7 64 bit
- Linux RHEL/CENTOS 6.4 or 6.5 with GNOME UI installed
- For less than 100 devices or less than 100K flows/sec
  - 8 Core 2+ GHz CPU
  - 8 GB RAM
  - 2-6 TB 7,200 RPM HD<sup>1</sup>
- For 100-500 devices or less than 200K flows/sec
  - 12 Core, 2+ GHz CPU
  - 16 GB RAM
  - 3-10 TB 7,200 RPM HD<sup>1</sup>
- For 500-1,000 devices
  - 2x12 Core, 2+GHz CPU
  - 16 GB RAM
  - 5-10 TB, 7,200+ RPM HD<sup>1</sup>

<sup>1</sup>Usage depends on network traffic pattern. For higher performance use RAID 10 or RAID 0; if redundancy is not required.

## Download Trial

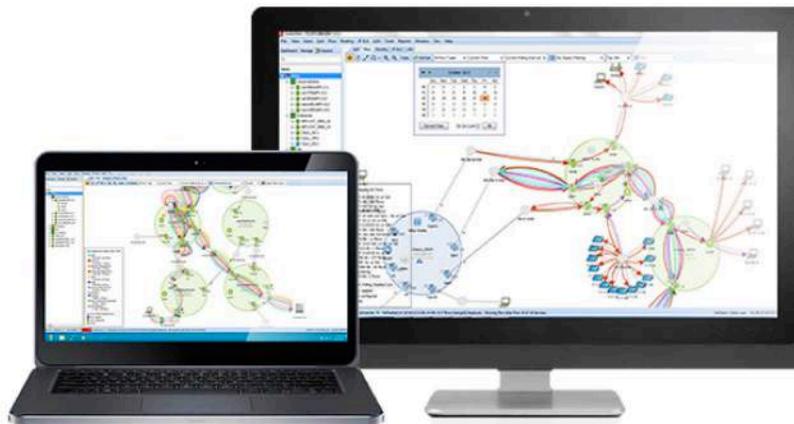
For a free trial of LiveAction please click the link opposite

[Download Trial](#) 

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