



# ProCurve Networking

## Convergence Network Management

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# Convergence

## A lot more than just VoIP



### IP Telephony

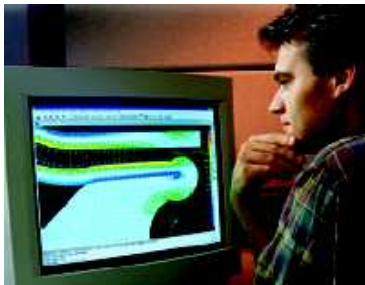
- Jitter & latency sensitive
- Reliability & availability
- New applications (call center, unified messaging, ...)



### Video Conferencing & Distance Learning

- Latency sensitive
- High bandwidth

### Scalable/Flexible Infrastructure



### Higher Bandwidth to the Edge

- Bandwidth intensive applications
- On-line collaboration
- Distributed computing



### VoWLAN & Mobility

- New security risks
- Seamless roaming
- Lots of new standards



### Video Surveillance

- Bandwidth intensive (24x7)
- Many multicast (100-1,000s)

# VoIP Management

Single shared connection for PC and phone creates new challenges

## Device Configuration and Security Policy Deployment

- Toll-quality voice can be achieved by deploying a consistent QoS policy on every link on the path
- Comprehensive security starts by securing the edge

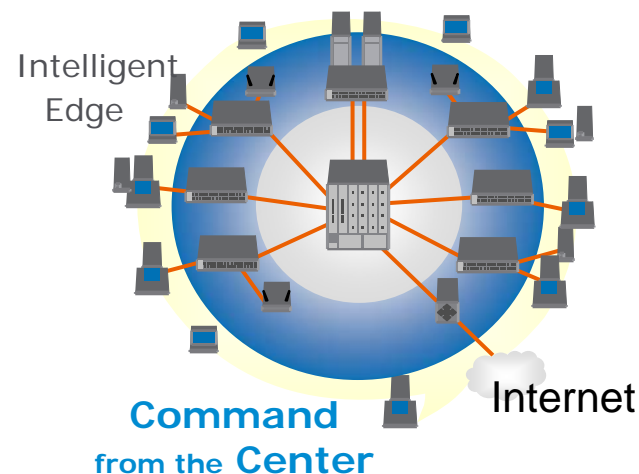
## Network Topology and Inventory

- Moves, adds and changes - users can just pick up and move phones

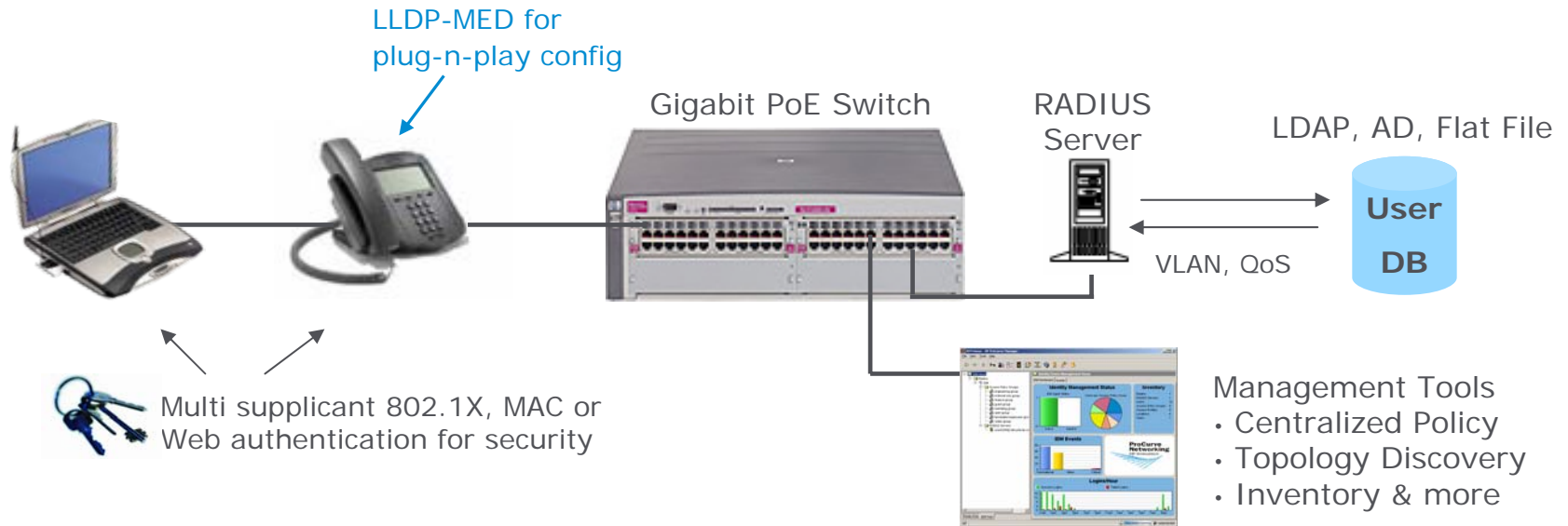
## Proactive Monitoring

- Real-time and historical application level traffic analysis for all devices
- Alarms and events to detect link failures, power supply failures, etc

Convergence requires more intelligence and control at the edge



# Enhanced IP Telephony

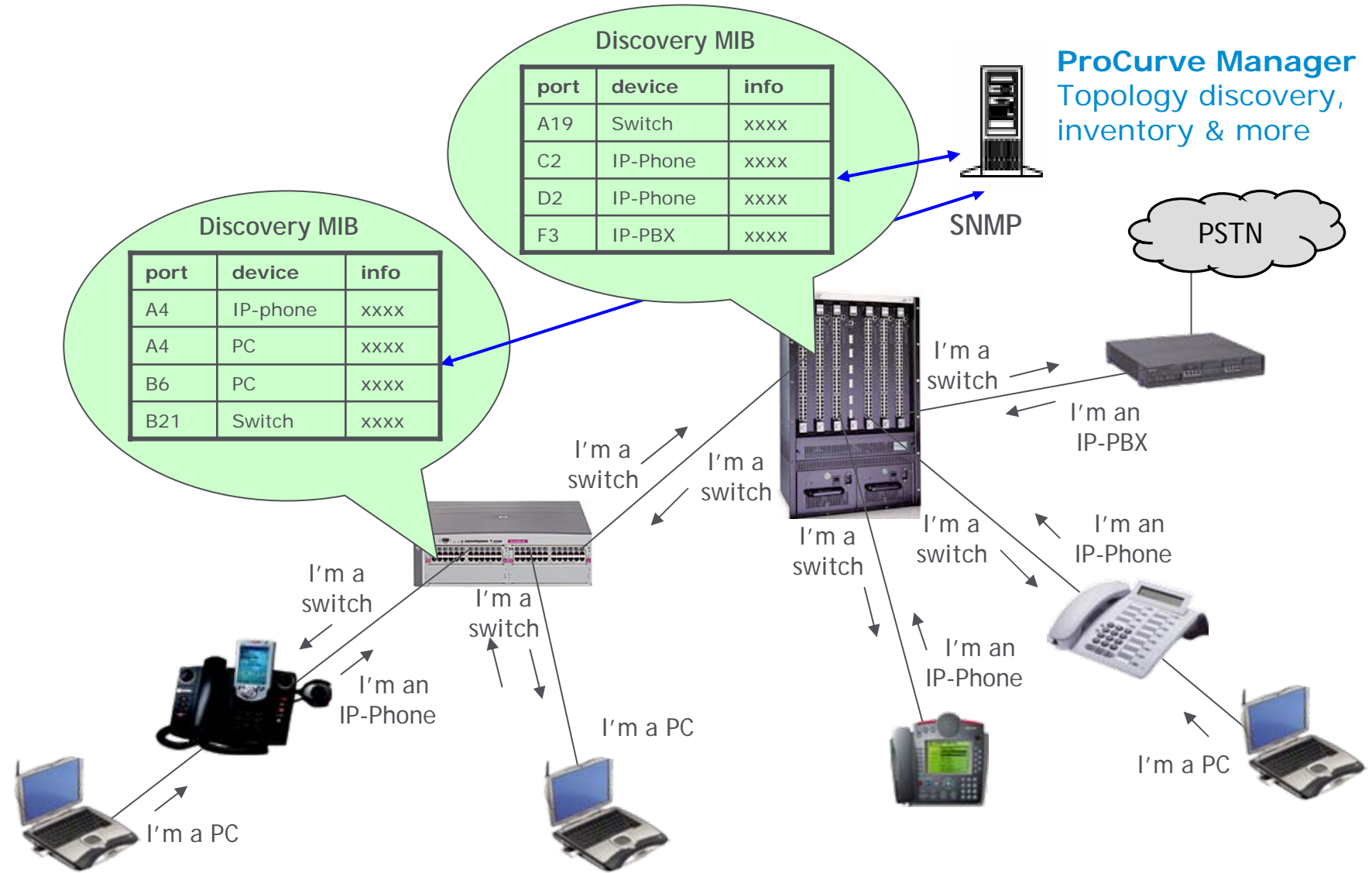


## Multi-suppliant 802.1X and LLDP-MED

- Open standard, multi-vendor solution - ***no proprietary "lock-in"***
- Securely supports IP phone and PC with a single network connection
- Centralized authentication policy via 802.1X, RADIUS and mgmt tools
- LLDP-MED to auto-deploy voice VLAN, COS and DSCP QoS policy
- LLDP-MED for detailed IP Phone inventory management, and more...

# How Does LLDP Work?

**ProCurve Manager**  
Topology discovery,  
inventory & more



# LLDP-MED Business Benefits



## Lower Operational Cost

- Accurate physical topology and device inventory simplifies management and maintenance
- Plug-and-play provisioning speeds up deployments and reduces QoS and VLAN configuration errors for IP phones
- Automatic location services for E-911
- Enables consolidated management tools with visibility of networking, telephony, and more...

## Improved Security over Proprietary Solutions

- Runs after 802.1X, to prevent unauthenticated devices from gaining access to the voice network

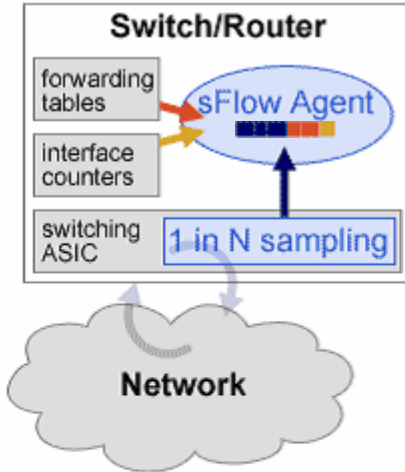
## Open Standard Enables the Market and Customer Choice

- Best-in-breed, multi-vendor solutions - no proprietary "lock-in"
- More capital expense choices

Human error is the biggest contributor to downtime\*

# sFlow Sampling Technology

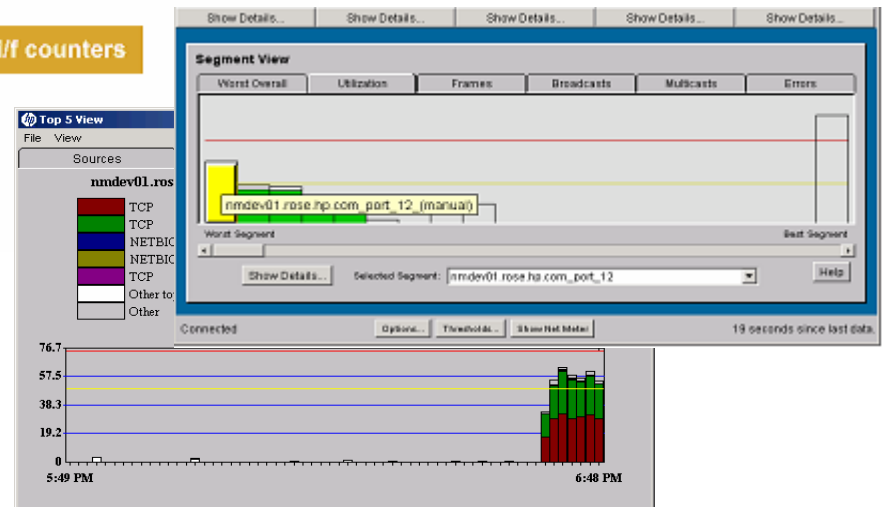
- sFlow agent randomly samples one out of N packets
- sFlow agent builds sFlow datagram from packet header, forwarding tables, and interface counters
- sFlow datagram is sent to central collector for analysis
- a single management application can process sFlow samples from thousands of switches and WAN routers



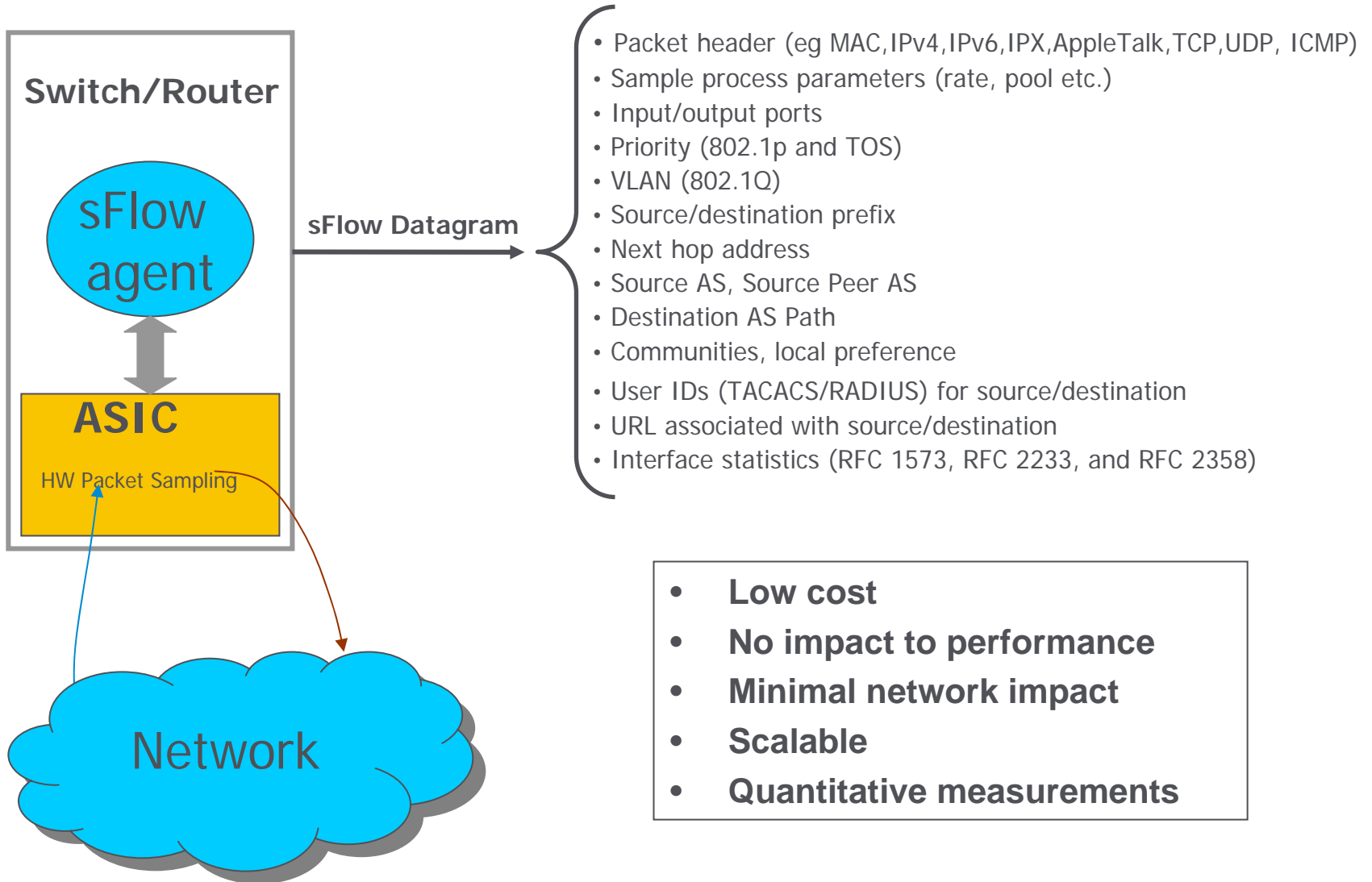
**ProCurve Manager Plus**  
or any sFlow enabled  
management application

## sFlow Datagram

packet header	in/out i/f	sampling parms	forwarding	user ID	URL	i/f counters
		rate pool	src 802.1p/Q dst 802.1p/Q next hop src/dst mask AS path communities localPref	src/dst Radius TACACS		



# sFlow Datagram Content

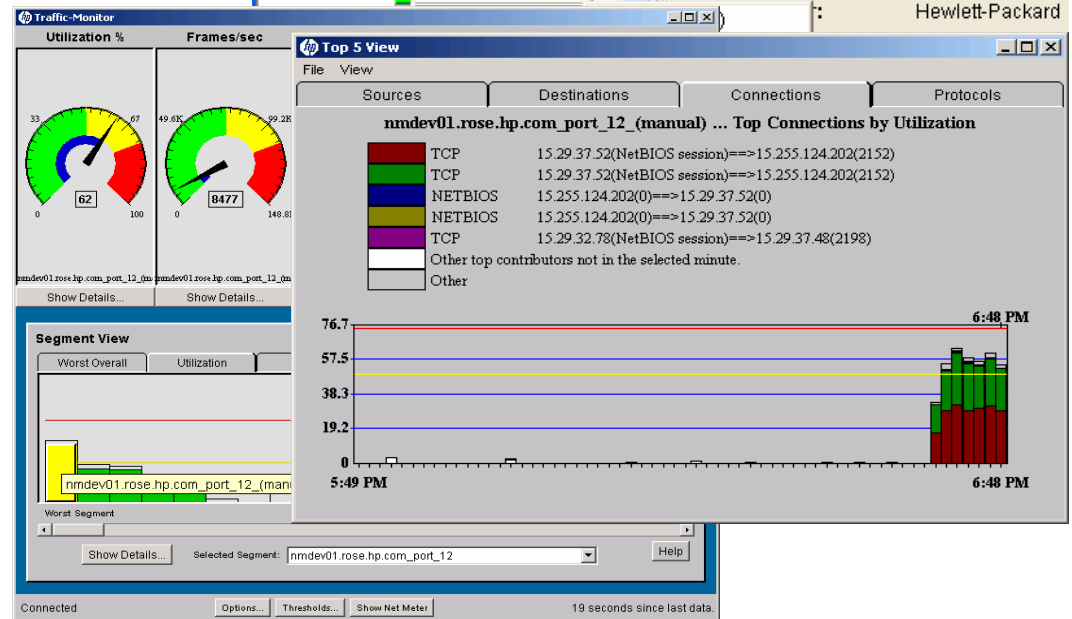
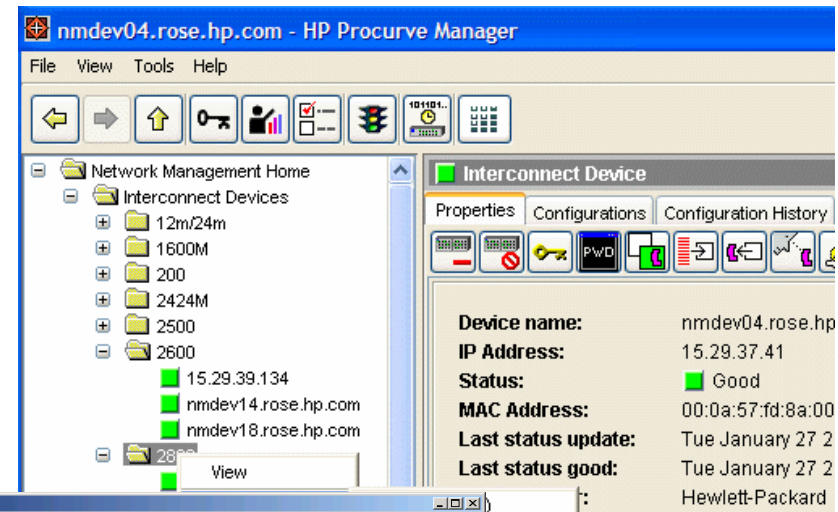


# Complete Application Visibility

sFlow - Open industry standard for network monitoring (RFC 3176)

Benefits:

- Highly-scalable, continuous real-time monitor of all devices at Layer 2-7
- Visibility for capacity planning and defining QoS policies
- Ensure quality-of-service for IP Telephony and video
- Rapidly pin-point congestion problems and identify who is abusing your network
- Identify spread of worms and denial of service attacks



A decorative graphic on the left side of the page, consisting of several blue lines and dots. The top part is a series of small blue dots that form a curved, fan-like shape. Below this, there are several blue lines of varying lengths and thicknesses, some solid and some dashed, that also fan out from left to right, creating a sense of motion and connectivity.

# ProCurve Networking

HP Innovation