

Network of Choice



Managing Networks for Successful VoIP Implementations

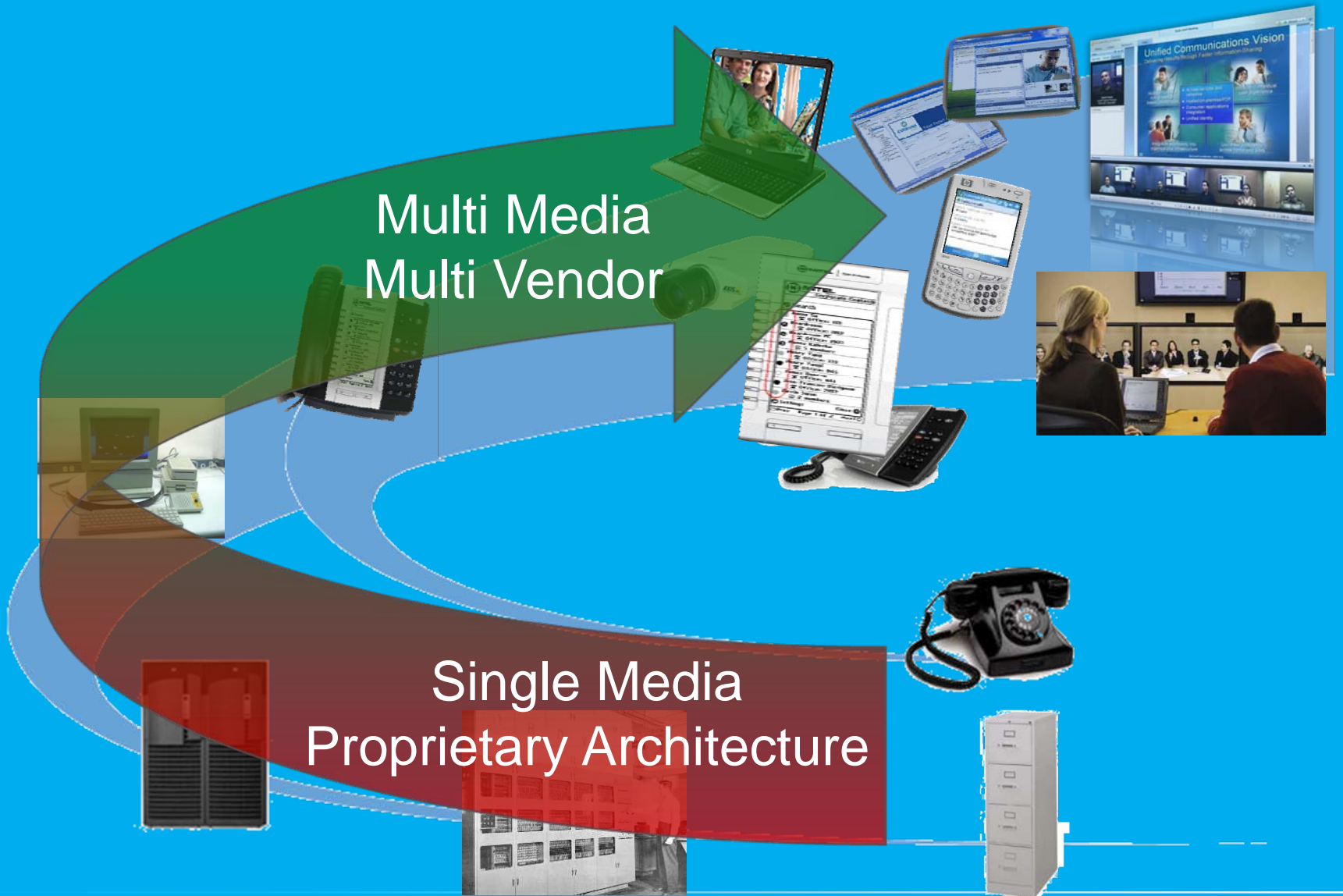
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November, 2008

Evolution of Communications

Transforming the way business is done

Multi Media
Multi Vendor

Single Media
Proprietary Architecture



The Network is the Foundation

For enabling advanced applications



Unified Communications

- Pervasive Interactions
- Enhanced productivity



Telepresence & Visual Collaboration

- Effective communication
- Improved business outcome

Scalable/Adaptive Infrastructure



IPTV and VoD

- New revenue opportunities
- Distance learning



VoWLAN & Mobility

- Flexibility and agility
- Always connected



IP Video Security

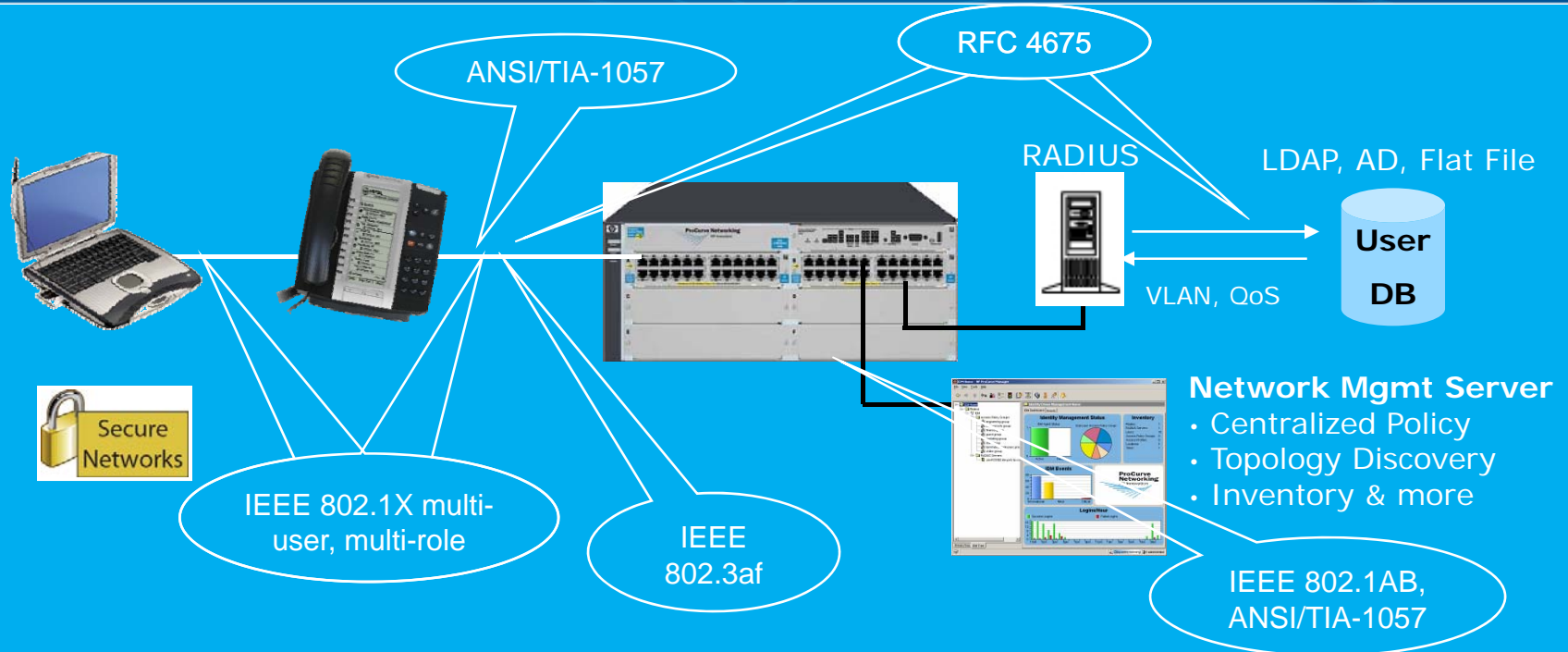
- Enhanced physical security
- Crime and terrorism deterrent



Single connection for PC and phone creates new challenges

1. How to authenticate multiple devices on a port ?
2. How to easy deploy device configuration ?
3. How to deliver a reliable network that is immune to threats ?
4. How to proactively monitor the network ?

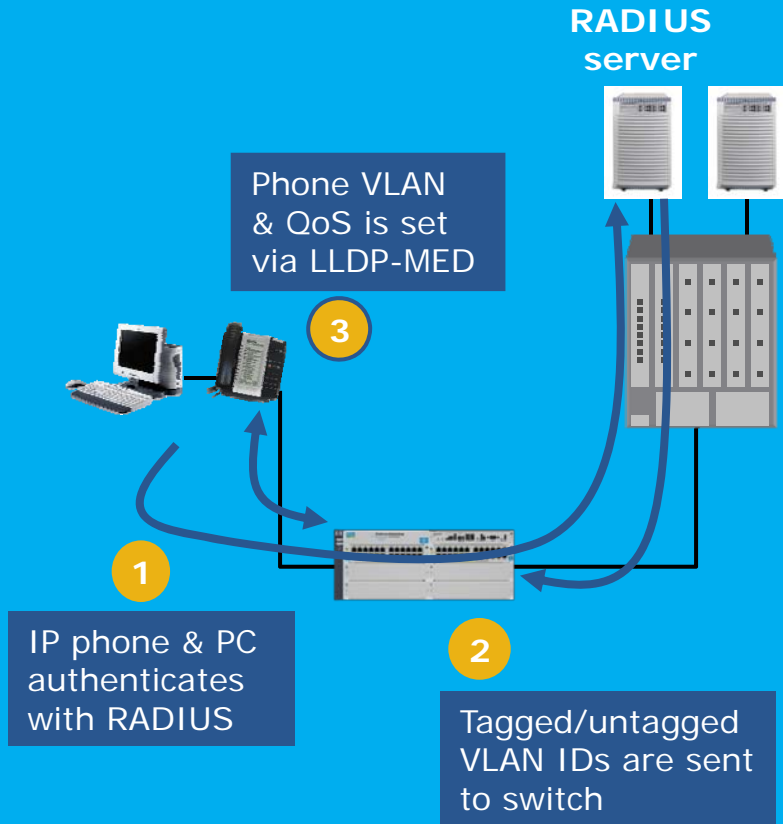
**Convergence requires more intelligence and control
at the edge where users and IP phones connect**



Key open standards enhancing multi-vendor IP Telephony

1. 802.3af Power over Ethernet
2. 802.1X secure authentication of IP phone and PC with a single connection
3. RFC 4675 dynamic assignment of tagged voice and untagged PC VLAN
4. LLDP-MED to auto-provision phone with voice VLAN, QoS, and E911 location
5. LLDP-MED for detailed topology, phone inventory management, and more...

RADIUS VLAN Support



Innovative solution pioneered by ProCurve and Microsoft; now standardized in RFC 4675

Automatically set tagged VLAN for IP phones via RADIUS

Improve deployment speed, security, and QoS for IP phones



Wireless Network Management

Key Features

Simplified RF Site Planning

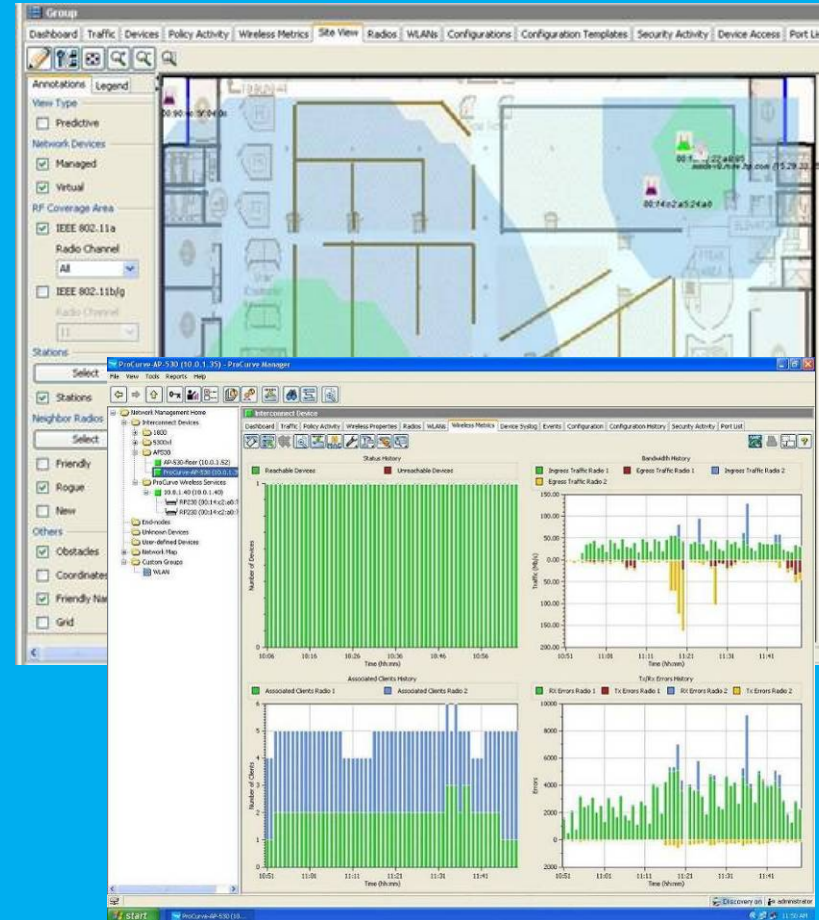
- Import floor plans
- Add obstacles and RF properties

RF Visualization (heat maps)

- Auto placement wizard
- Drag and drop
- Adjust variables with visual feedback

Wireless Dashboard

- Locate devices and rogue APs
- Track client usage
- Monitor wireless traffic and statistics



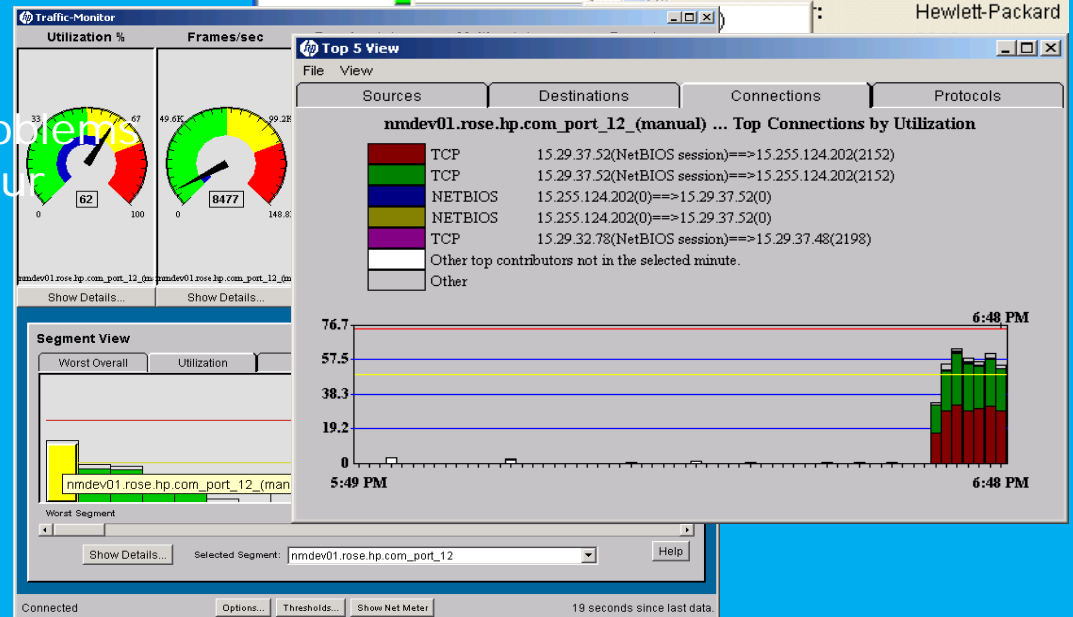
What to monitor and manage ...

- Network availability
- Network performance
- PoE
- Device inventory

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
- **Open-source and vendor provided solutions listed at sflow.org**



Keys to a successful VoIP deployment

1. Adaptive and scalable network infrastructure
2. Automated configuration of VoIP components
3. Network availability and performance monitoring
4. Network device inventory reporting

