

# Systems Management Update

**Andrew Hunkins**

Founder & CTO

Unimax Systems Corporation

[www.unimax.com](http://www.unimax.com)



# The “Managing Many” Problem

- Systems management is needed when many “elements” exist
  - Devices: switches and phones
  - Records: feature profiles and directory entries
  - Events: alarms and call transactions
- The magnitude of the quantity determines the level of management tool sophistication
  - Few: single point management interface
  - Many: network management application

# FCAPS

- Fault
- Configuration
- Accounting
- Performance
- Security

## **“Proxy Effect”**

A small number of devices represent many sub-elements

# Metrics For Provisioning

- Service Level Agreement
  - The time required to fulfill a change request
- Accuracy
  - Getting it right the first time
- Cost
  - The internal cost to effect a change
- Flexibility
  - The ability to make workflow adjustments as a result of business policy changes

# Visibility

- Gaps between:
  - User experience and measured indicators
  - Indicators available and indicators analyzed
  - User experience and user expectation
  - User experience and deployed features
  - Deployed features and purchased features
- Systems Management can help close the gaps
  - Organize management system users along FCAPS areas
  - Use *applications* not just *interfaces*
  - Go beyond “reporting only” tools
  - Ensure a global view and centralized command & control

# Real Time Management

- Reactionary - Direct
  - Creates a “putting out fires” cycle
  - The justification for management change is lost
  - Best applied in emergencies and unexpected situations
- Business Policy - Indirect
  - Use real time information but make changes to business policy in the management workflow
  - Changes become institutionalized
  - This mode of management is the norm

# Voice Network Management

- The traditional telephony world managed the PBX like one device
  - User account settings were “trapped” behind a command line interface
  - The device was managed like a data switch
- An IP-PBX is a voice application server with user accounts
  - Modern APIs on IP telephony systems let management software do the grunt work
  - Apply the FCAPS Model

# Examples

- University plans for semester start
- Sales force executes a reorganization
- Enterprise prepares for significant layoff
- Financial services firm protects sensitive communications
- Biotech firm adds employees at high growth rate
- Semiconductor manufacturer provides self service portal