

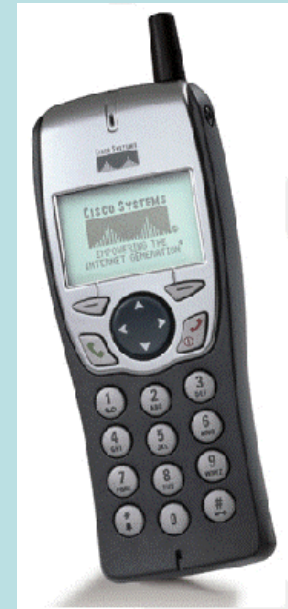


IP Phones and Building Automation

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Cimetrics, Inc.



IP Phones & BAS



IP Phones & BAS



PoE (Power over Ethernet)



XML

TCP/UDP

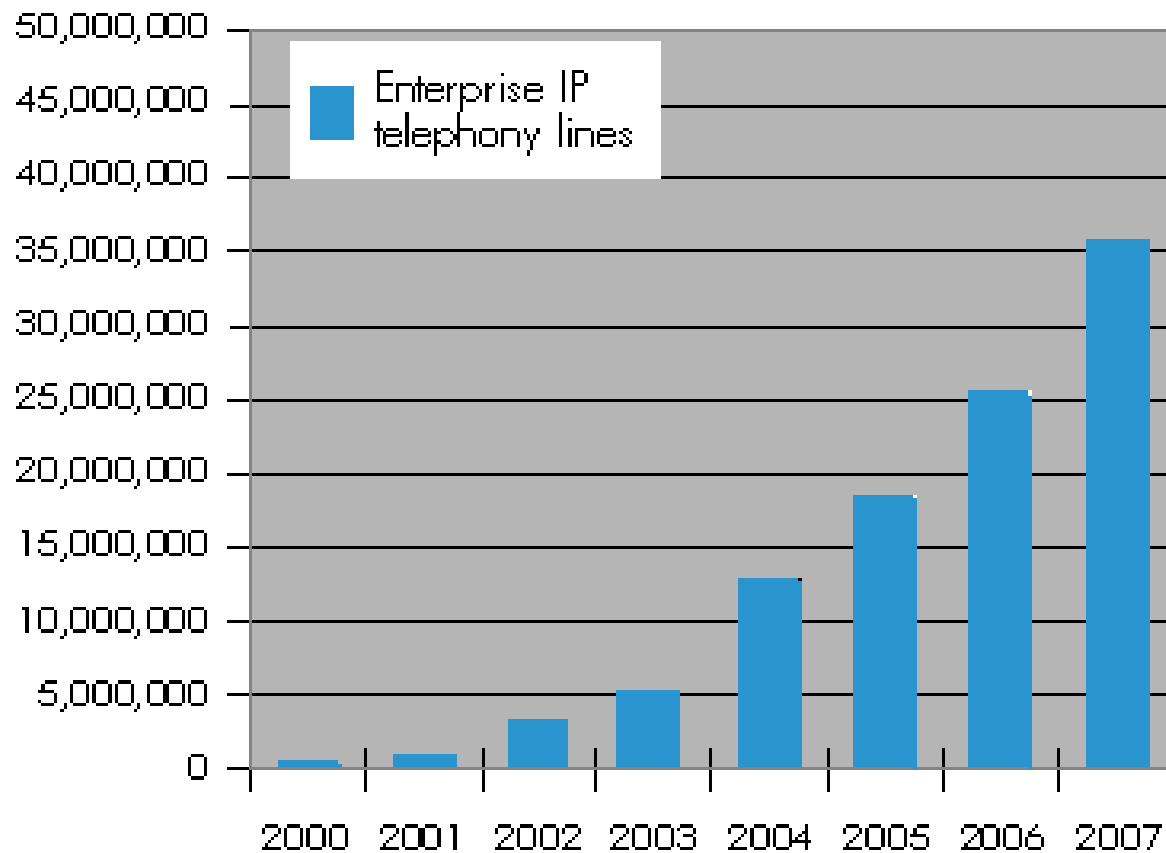
IP

Ethernet

10/100baseT

IP Phones & BAS

"The worldwide Enterprise Packet Voice Market is forecasted to grow 49 percent in 2003 to \$2.03 billion. Synergy Research is forecasting this market to grow to \$6.03 billion by 2007, representing a CAGR of 31.2 percent." – Synergy Research, November 2003



IP Phones & BAS

Reasons for IT implementation:

- **Enablement of mobile and remote staff**
- **Quick access to future applications**
- **Reduced network costs**
- **Improved employee productivity**
- **Reduced maintenance and support expense**

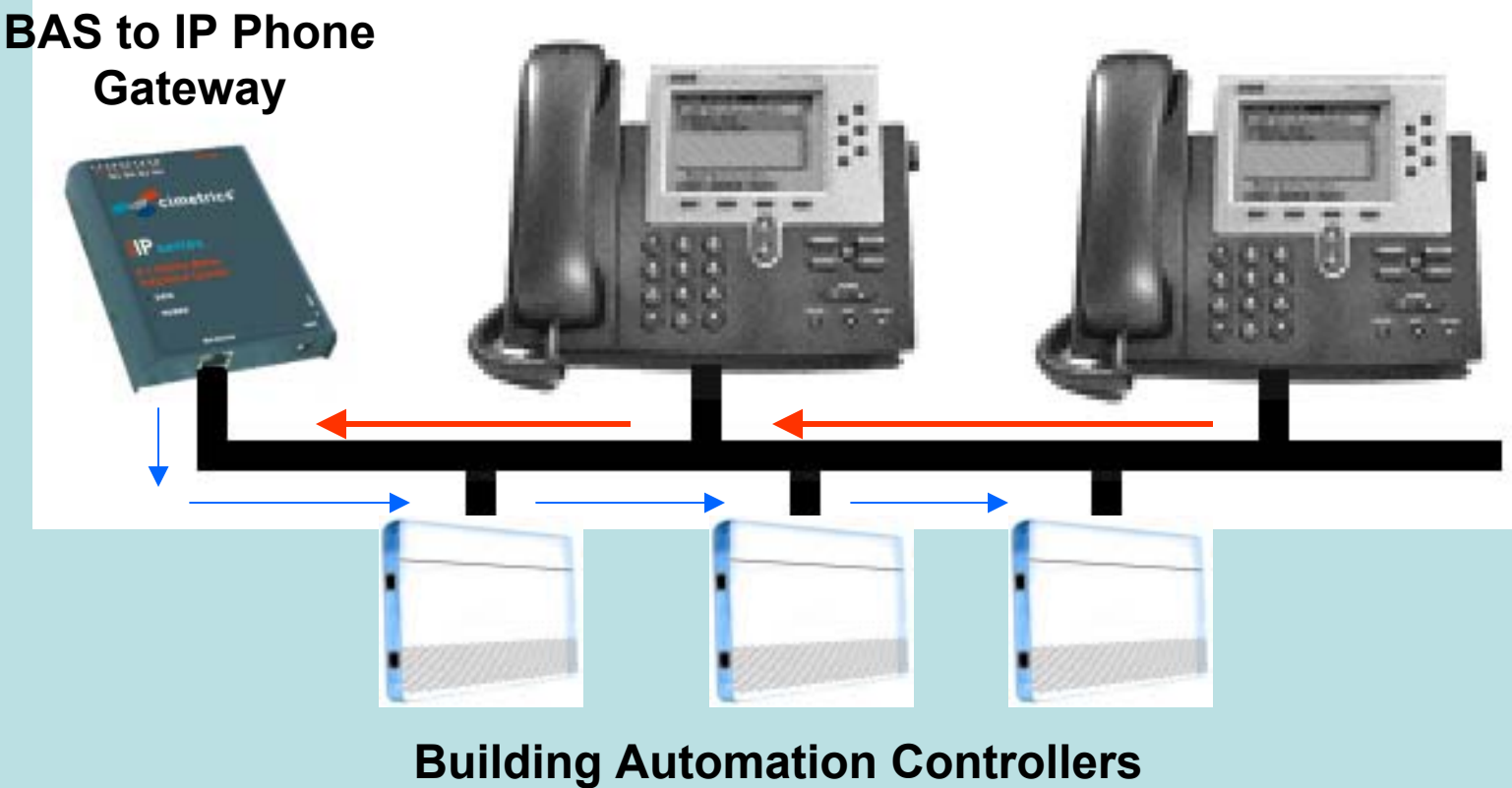
IP Phones & BAS

And BAS too !

Reasons for IT implementation:

- Enablement of mobile and remote **Facility** staff
- Quick access to future applications
- Reduced network costs
- Improved employee productivity
- Reduced maintenance and support expense
- **Improved comfort and energy savings**

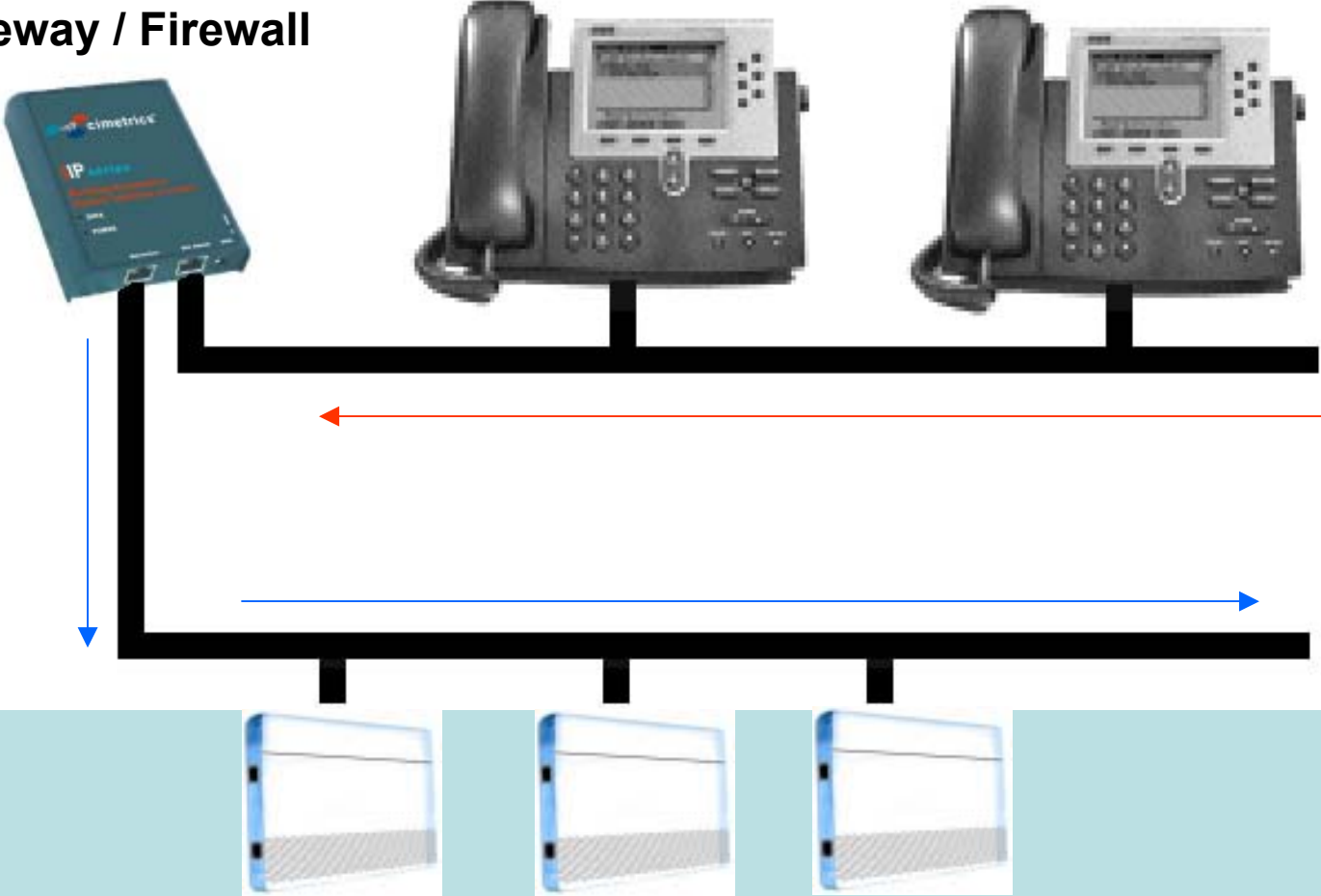
IP Phone + BAS architecture (1)



← XML
→ BAS Protocol

IP Phone + BAS architecture (2)

**BAS to IP Phone
Gateway / Firewall**



← XML

→ BAS Protocol

Building Automation Controllers

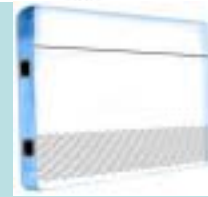
IP Phone + BAS architecture (3)

**BAS to IP Phone
Gateway / Firewall**



Sensors

- Web Services
- XML
- BAS Protocol



Building Automation Controllers

IP Phone + BAS application



IP Phone – XML Use Case 1



A. Duda & Sons, Inc.

- Leading grower, shipper, marketer, and exporter of fresh fruits and vegetables
- 19 business locations in Central Florida

BAS Opportunity ?

- Central facility monitoring & control at any desk
- Real time energy use data into accounting department
- Real time temperature monitoring at loading dock
- Coordination with lighting & security

IP Phone – XML Use Case 2



Crate & Barrel Corporate Building

- A corporate mandate for state of the art management and communications
- 100 locations – 450 corporate employees

BAS Opportunity ?

- Central facility monitoring & control at any desk
- Real time energy use data into accounting department
- Real time store occupancy data
- Coordination with lighting & security

IP Phone – XML Use Case 3



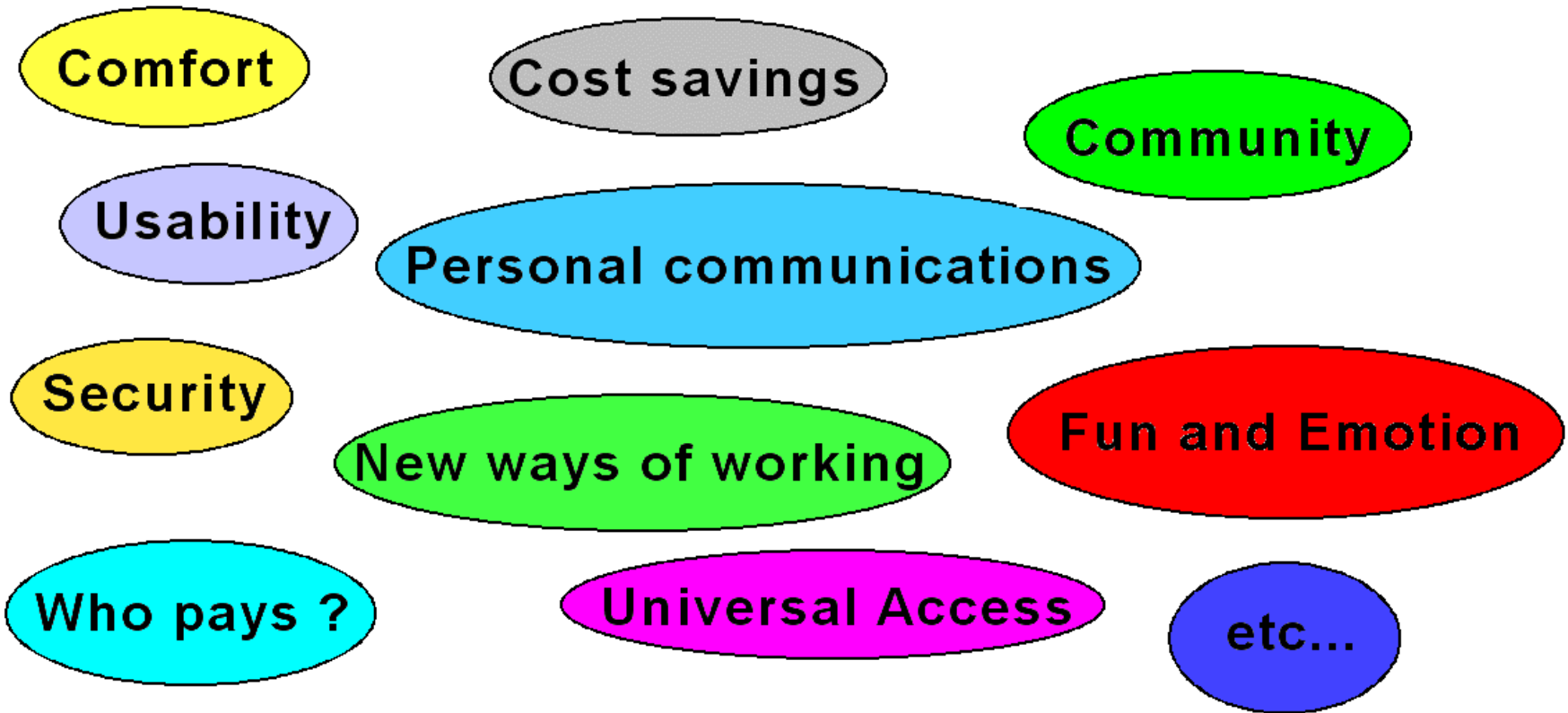
Exempla Healthcare, Denver CO

- Runs 3 large hospitals (newest = 477,000 sq. ft – 350 beds)
- Power over Ethernet, wireless, content networking, security, IP telephony

BAS Opportunity ?

- Central facility monitoring & control at any desk
- Distributed occupancy and IAQ sensors in every room
- Temp adjustments from any location
- Pressurization adjustments at operating rooms

IP phone + BAS business models



Killer Application ?

IP phone + BAS

Thank you !