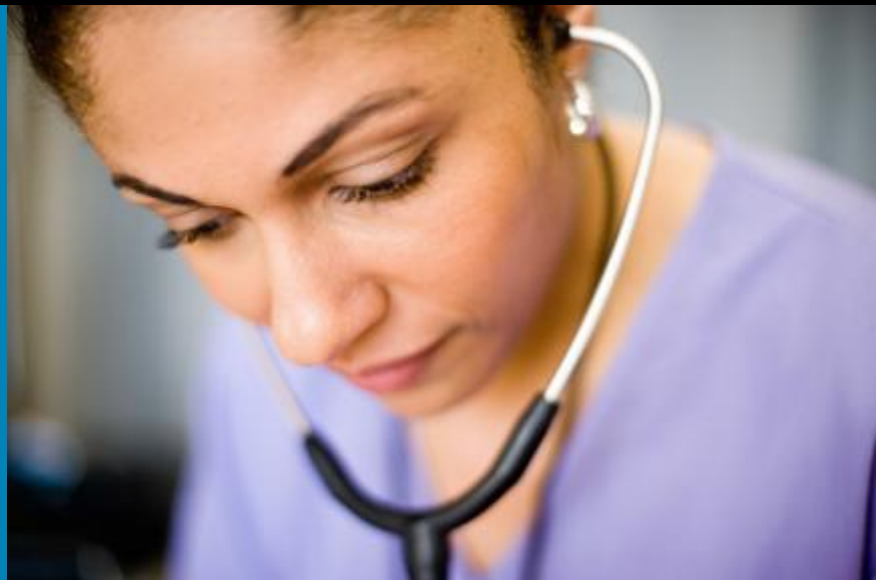




## Facilitating Clinical Collaboration



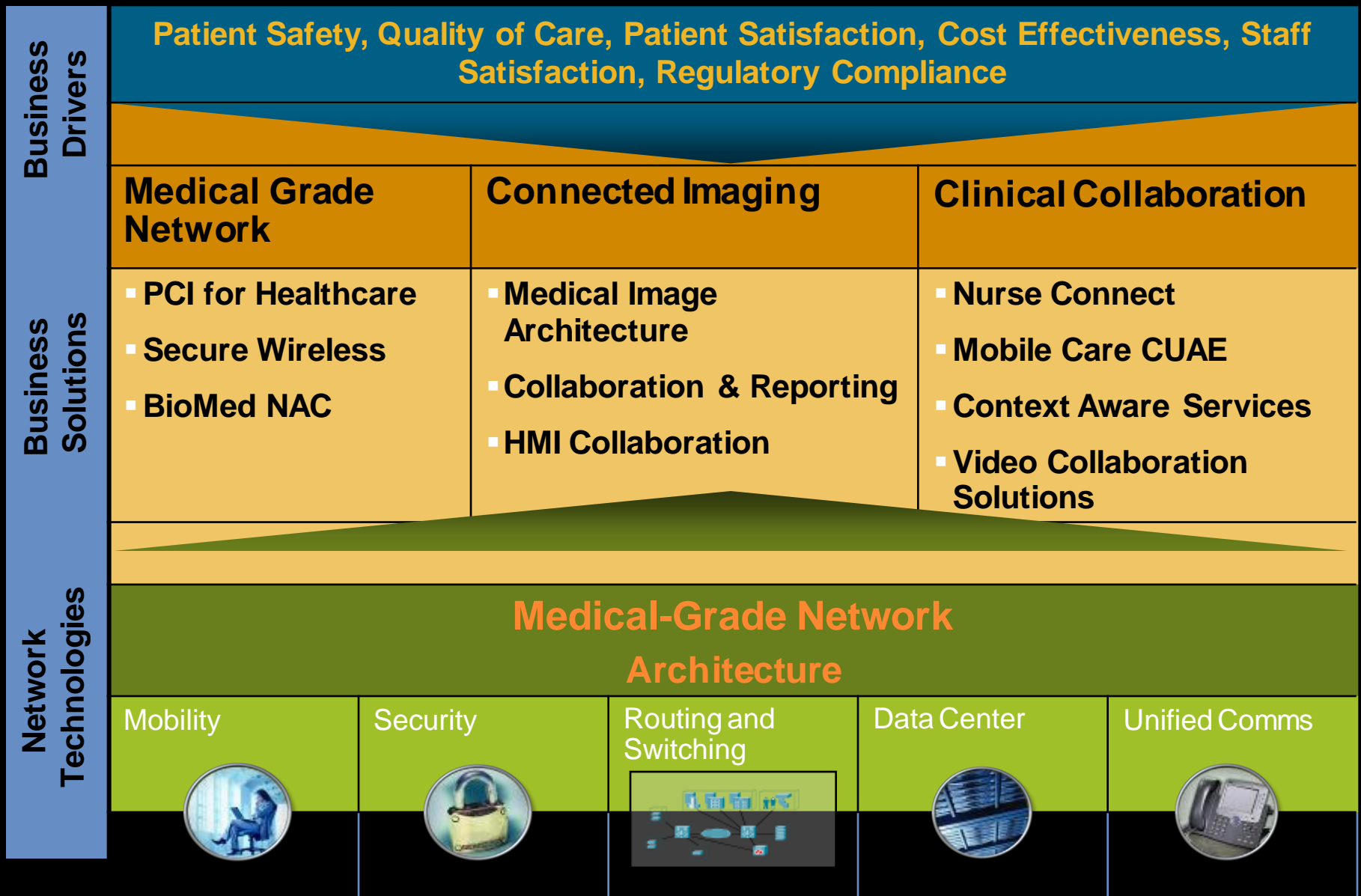
**Erik Petersen**  
**Global Healthcare Solutions Marketing**

# Agenda

- Cisco Connected Health Vision
- Clinical Collaboration Architecture
- Cisco Unified Application Environment
- Integration with Medical Devices
- Benefits
- Questions & Actions



# Connected Health Solution Framework



# Cisco's Clinical Collaboration Portfolio for Healthcare

“Optimizing Productivity and Effectiveness for Clinicians”



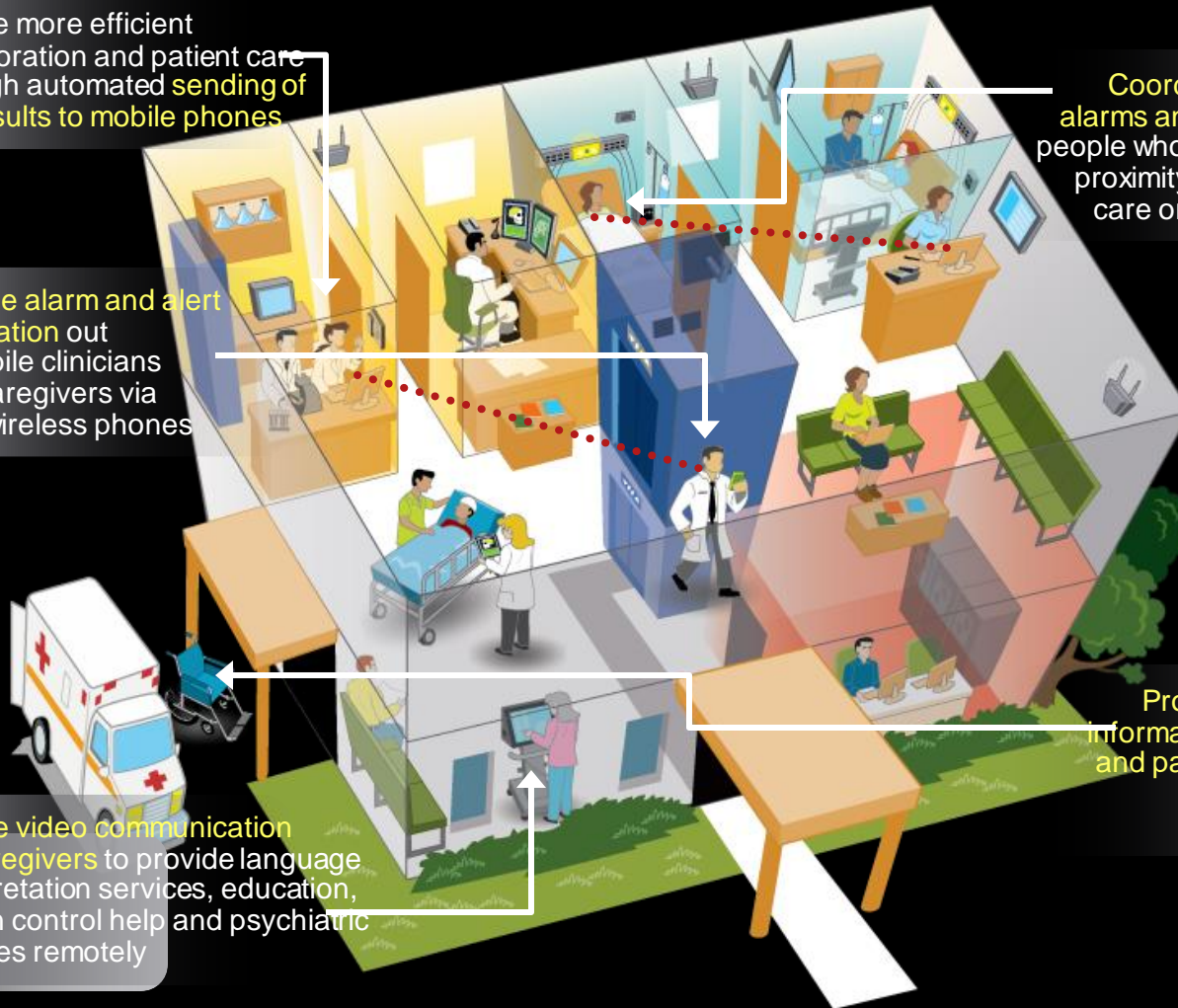
Enable more efficient collaboration and patient care through automated sending of lab results to mobile phones



Provide alarm and alert notification out to mobile clinicians and caregivers via their wireless phones



Enable video communication for caregivers to provide language interpretation services, education, poison control help and psychiatric services remotely



Coordinate sending alarms and alerts to the people who are in closest proximity to deliver the care or task required



Provide real-time information on assets and patients through context-aware services



# Nurses Could Regain Valuable Time Each Shift



Sending and retrieving messages

Finding experts

Experiencing delays

Tracking mobile personnel

Waiting for responses

Sending multiple messages

- Communication inefficiencies impact staff productivity and patient care
- Nursing supervisors and hospital administrators surveyed say nurses:
  - 65%** Spend 20-60+ minutes a day, just trying to reach staff
  - 80%** Would save 15-60 min / day if they could reach physicians on the first try
  - 57%** Say message retrieval and attempted call backs take more than 30 min / day
- Physicians face similar issues

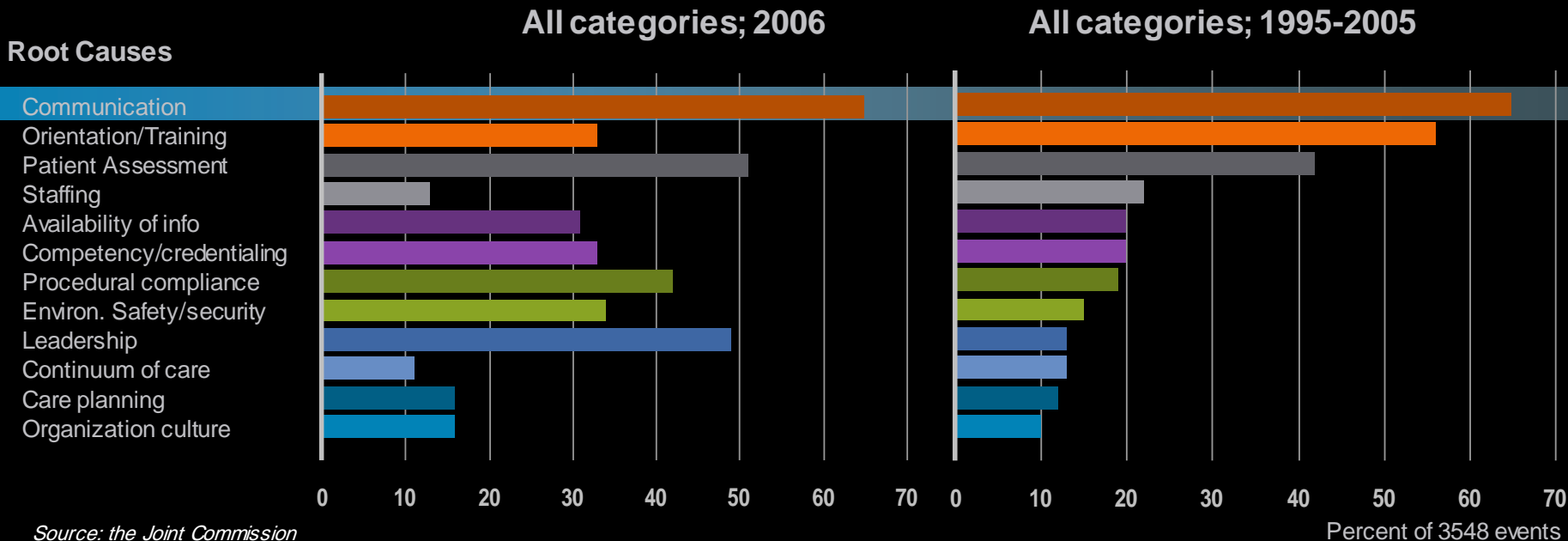
Source: Forrester Research, February 2006

# Impact on Quality of Care

Up to 70% of sentinel events in healthcare are caused by poor communications, according to a Joint Commission study 1995–2006.

- Sentinel events are unexpected occurrences involving death or serious injury
- Top sentinel events include wrong-site surgery, medication errors, delay in treatment

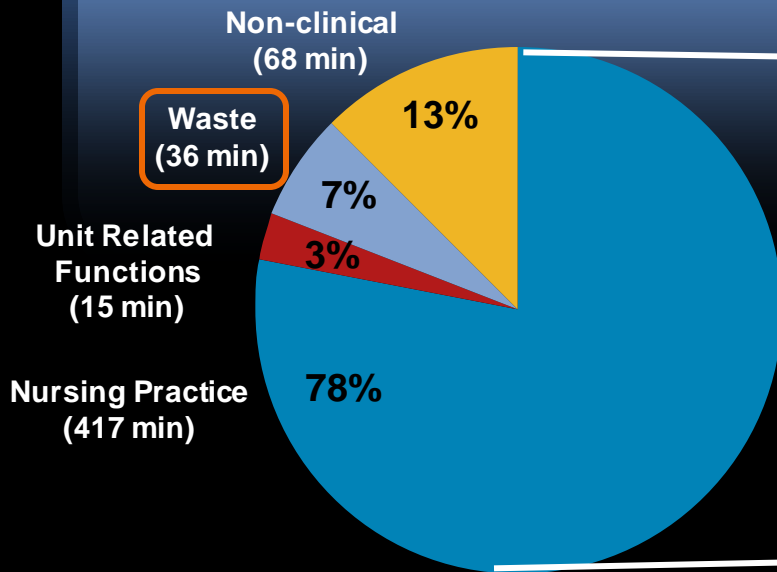
Statistics on Root Causes of Sentinel Events



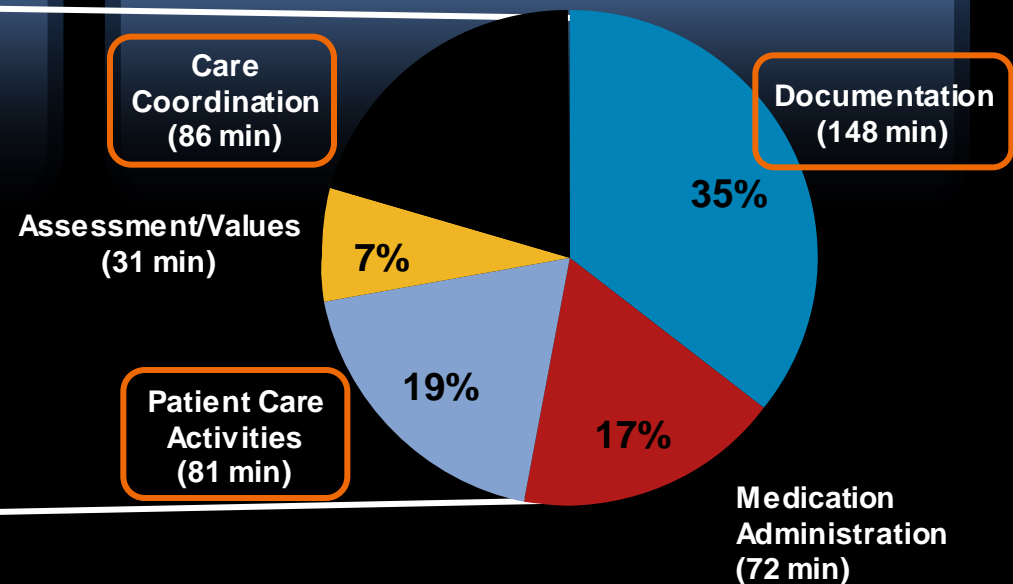
Source: the Joint Commission

# Nurses Could Spend More Time on Patient Care

Nursing time spent, by care category



Nursing practice time spent, by sub-category



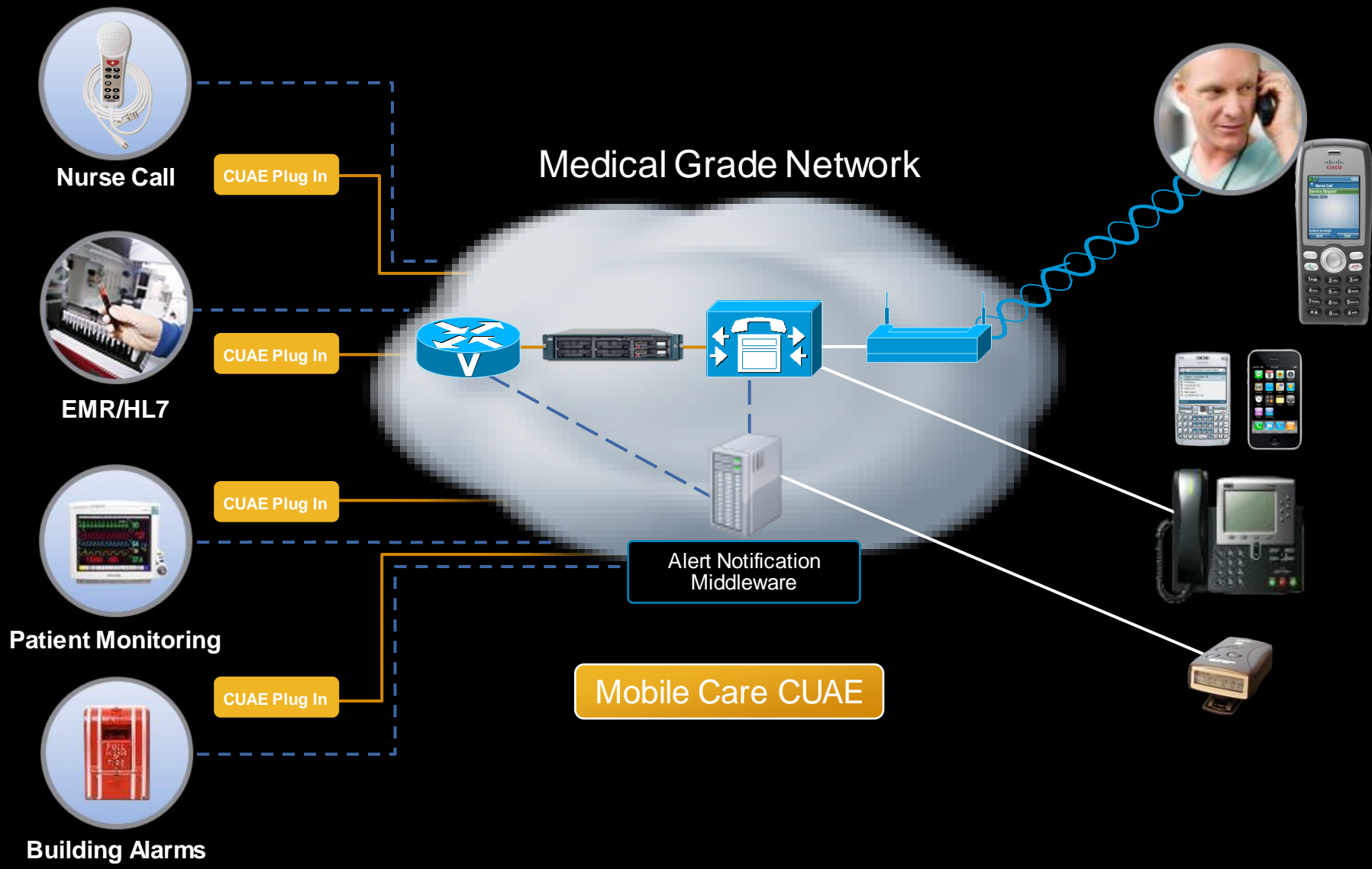
Source: The Permanente Journal/ Summer 2008  
Based on a 36-hospital time and motion study



# Cisco Clinical Collaboration







# Creating a Collaborative Hospital








# Cisco as the Platform

## Nurse Call Vendors



## Medical Device Vendors
















Comm Plug In

CUAE  
MCS 7835



Cisco CallManager



Access Point



SMS



HL 7

Presence



DMS & Video



Context-Aware Services



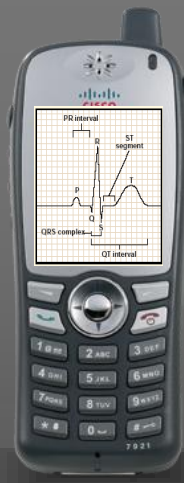
# Example: Increase patient safety by integrating telemetry monitoring systems to wireless phones

1



Abnormal rhythm on patient monitor

2



Waveform and alert forwarded to nurse's wireless phone (secondary alert)

3



Nurse receives notification and reviews data

4



Patient receives timely care

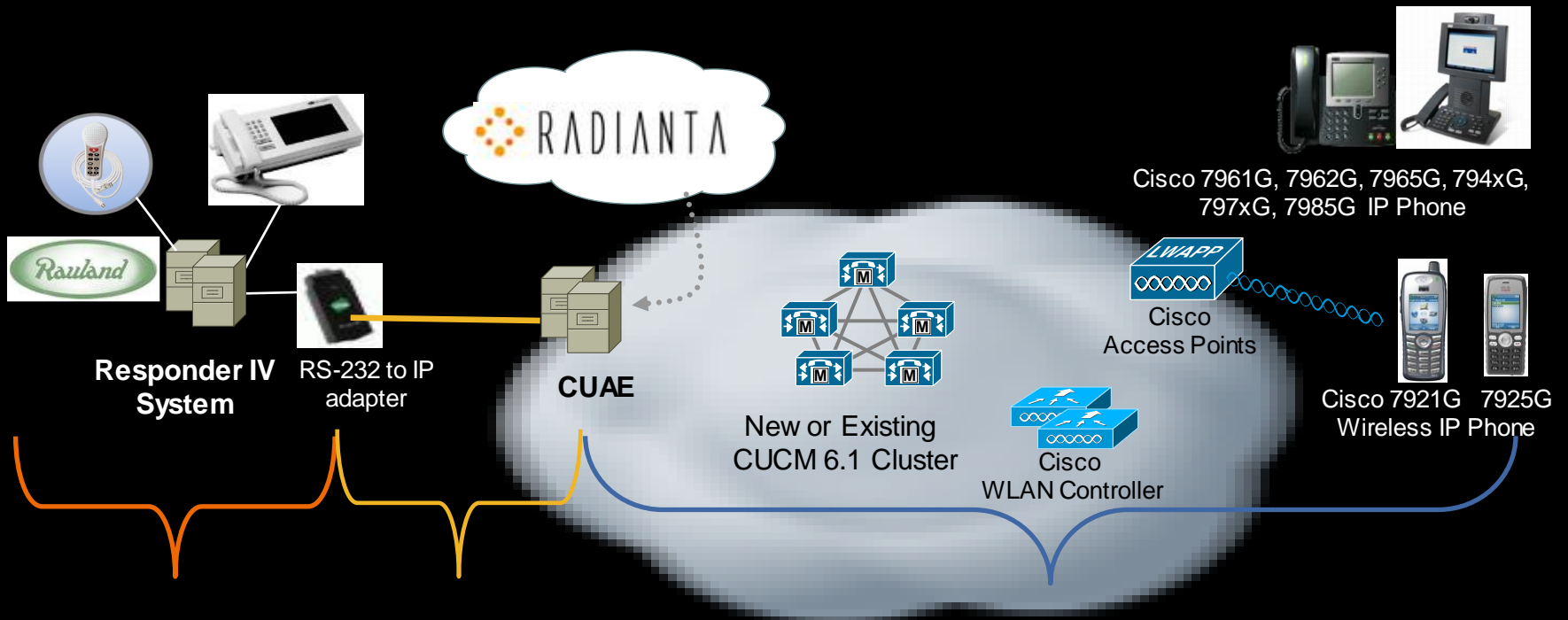
Business Value

- Increase patient safety – provide more timely care
- Enhance nursing staff productivity
- Improve patient satisfaction & experience – faster response

# Waveform on 7921



# Nurse Connect Components



**Rauland  
Borg Nurse  
Call System**

**Beacon Alert Manager  
for Cisco Nurse Connect**

**Cisco components: CUAE, CUCM, WLAN  
Controllers, Access Points and Wireless  
IP Phones**

## Nurse Connect

# Cisco Nurse Connect in Action

## —Quick Response

Facilitates collaboration among mobile caregivers and patients, enabling them to reach each other and to be reached no matter where they are — for faster patient care from any location.



Patient presses  
call button

Nurse calls  
back

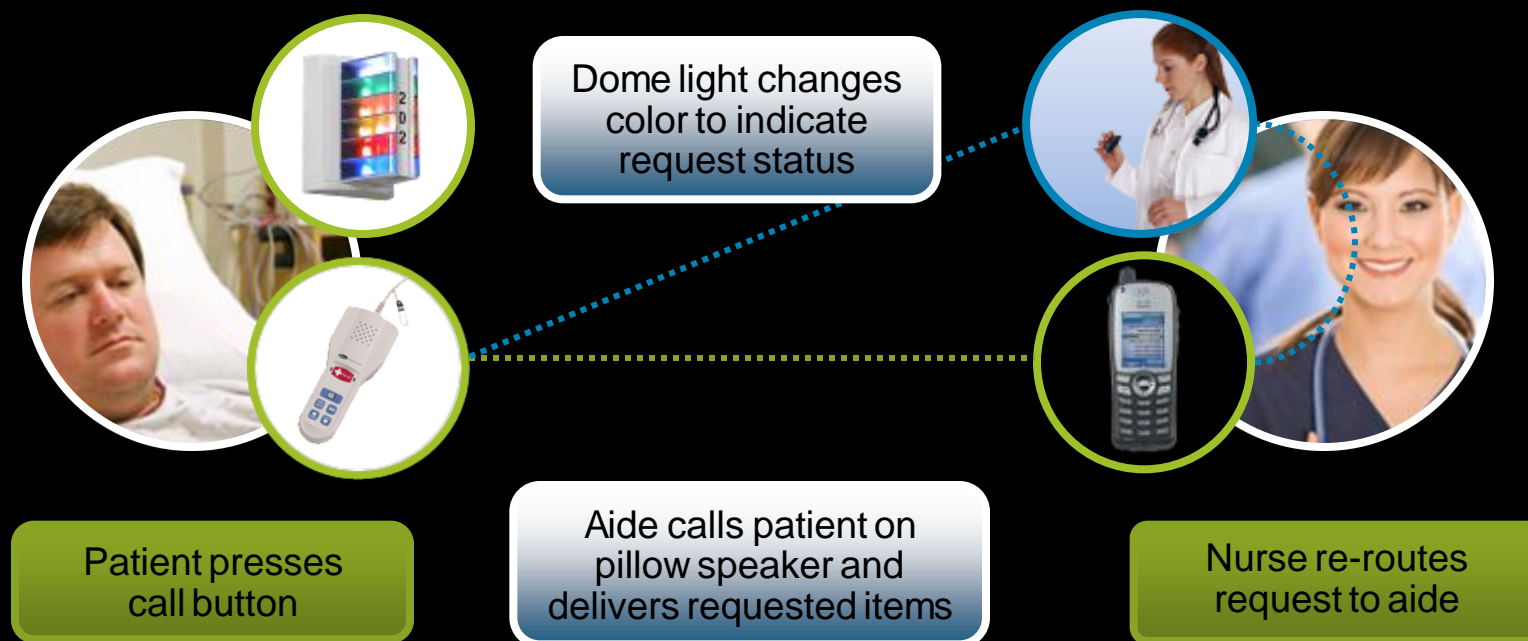


Nurse identifies type of alert  
based on the message

# Cisco Nurse Connect in Action

## —Reassignment of Service Requests

Nurse is able to re-route request to aide and continue performing skilled nursing work for most efficient use of personnel resources.



# Clinical Collaboration with Cisco - Benefits

- Option to traditional 3<sup>rd</sup> party component (HW & SW)
- Control adverse effects of revision changes
  - Eliminate constant validation and solution regression testing
- Increased savings: initial cost, maintenance and troubleshooting
- Direct relationships with Medical Device Manufacturers and HIS vendors
- Cisco Unified Application Environment is an open development platform for all Unified Communications : Context Aware Services (RFID), Paging, Presence, Instant Messaging, Video, Digital Media Signage, Speech Recognition, Text to Speech, Voicemail, and Faxing

# Clinical Collaboration with Cisco - Benefits

- Development can be performed by Hospital IT staff, Cisco Services, Cisco Partners or Medical Device or Application Vendors
- 3 day training classes offered on regular basis



# Cisco 7925G IP Phone for Healthcare



# The Cisco Unified Wireless IP Phone 7925G Facilitates Mobile Clinical Collaboration

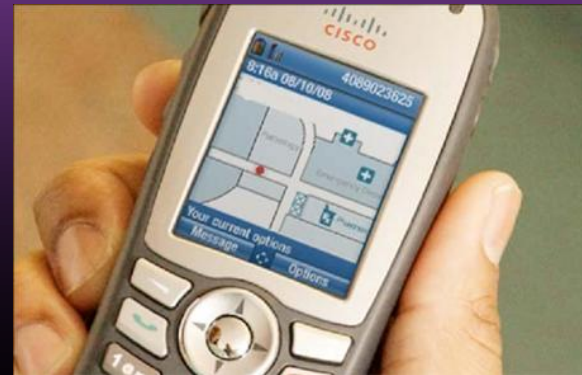
The Cisco Unified Wireless IP Phone 7925G allows easy access to productivity applications

- Nurse call alarms
- Integrated alerts and notifications for laboratory information systems
- Text messaging
- Location-based alarms using integrated radio-frequency identification capabilities
- Cisco Unified Presence to simplify colleague contact
- Facility alarms
- Code team notifications
- Emergency bulletins
- Integration to multiple healthcare applications where messaging to mobile devices aids in patient care process



# Receive information regarding Assets, Conditions and People Using Cisco Unified Wireless IP Phones 7925G

- Cisco Context-Aware Services
- Tracks caregivers, patients, equipment, and more providing alerts to the phone when needed
- Receive alerts on Condition monitoring to the phones (temp monitoring)
- Connect to solutions that use speech recognition for hands-free and PC-free information access



# Integrate Clinical Services

- Nurse call voice and text alerts to clinicians allow faster response times and higher productivity
- Reduces or eliminates overhead paging
- Laboratory information systems send notifications to phones
- Cisco Mobile Care facilitates collaboration among mobile caregivers



# Designed With Healthcare In Mind

- Wireless 802.11 a/b/g phone
- Compact handset with features that benefit healthcare users

Improved durability

Longer charge time

Hands-free operation

Flat screen reduces glare

Latex free

RoHS compliant



# Mobile Communication Saves Steps

- Cisco Unified Wireless IP Phone 7925G eliminates noisy, one-way overhead pages
- Caregivers only need to carry a single device
- Colleagues can easily reach mobile personnel



# With Features for Busy, Mobile Caregivers



# Durable

- Rugged phone
  - Higher drop specifications
- Designed to meet the military's toughest standards
  - Resistant to shock
- Protective case helps durability



# Enclosure Protection for Healthcare Environments

- Hermetically sealed

Provides protection against dust and liquid splashes frequently found in hospitals and healthcare environments

Resistant to sanitizing wipes and chemicals for easier cleaning and improved protection against biohazards and spreading of nosocomial infections

- IP54 rated

Dust protected

Splash protected

**Dust Test:** Unit subjected to talcum dust for 8 hrs. Unit fully functional after the test.



**Shower Test:** Unit subjected to continuous water flow for 10 min. Unit fully functional after the test.



# IP Code Defined in Int'l Standard IEC 60529

- First digit indicates level of protection that the enclosure provides against access to hazardous parts and the ingress of solid foreign objects
- Second digit indicates level of protection of the equipment inside the enclosure against harmful ingress of water

Level	Object size protected against	Effective against
0	-	No protection against contact and ingress of objects
1	>40 mm	Any large surface of the body, such as the back of a hand, but no protection against deliberate contact with a body part
2	>12.5 mm	Fingers or similar objects
3	>2.5 mm	Tools, thick wires, etc.
4	>1 mm	Most wires, screws, etc.
5	<b>Dust protected</b>	<b>Ingress of dust is not entirely prevented, but it must not enter in sufficient qty to interfere with the satisfactory operation of the equipment; Complete protection against contact</b>
6	Dust tight	No ingress of dust; Complete protection against contact

Level	Protected against	Details
0	Not protected	-
1	Dripping water	Dripping water (vertically falling drops) shall have no harmful effect
2	Dripping water when tilted up to 15%	Vertically dripping water shall have no harmful effect when the enclosure is tilted at an angle up to 15% from its normal position
3	Spraying water	Water falling as a spray at any angle up to 60% from the vertical shall have no harmful effect
4	<b>Splashing water</b>	<b>Water splashing against the enclosure from any direction shall have no harmful effect</b>
5	Water jets	Water projected by a nozzle against enclosure from any direction shall have no harmful effects
6	Powerful water jets	Water projected in powerful jets against enclosure from any direction shall have no harmful effects
7	Immersion up to 1 m	Ingress of water in harmful qty shall not be possible when the enclosure is immersed in water under defined conditions of pressure and time (up to 1 m of submersion)
8	Immersion beyond 1 m	The equipment is suitable for continuous immersion in water under conditions which shall be specified by manufacturer

# Hands-free Operation

- Bluetooth 2.0 and WLAN capabilities
- 2.5 mm wired headset jack

- Headset partners:

Plantronics®  
([www.plantronics.com](http://www.plantronics.com))

GN Netcom®  
([www.jabra.com](http://www.jabra.com))

Aliph® ([www.jawbone.com](http://www.jawbone.com))

VXI® ([www.vxicorp.com](http://www.vxicorp.com))

- Speaker phone and push-to-talk feature



# Long Battery Life

- Standard battery
  - Up to 180 hours standby
  - OR up to 9.5 hours talk time
- Extended battery
  - Up to 240 hours standby
  - OR up to 13 hours talk time



# Secure Communications

- Voice certificates
- Sequenced routing update protocol (SRTP)
- Transparent LAN services (TLS)
- Range of authentication methods:
  - Image
  - Device
  - File
  - Signaling
- Wireless authentication and encryption to meet HIPAA requirements



# Third Party Accessories

- Desktop charger from zCover ([www.zcover.com](http://www.zcover.com))
  - Charges phone and spare battery
  - Can accommodate phone fitted with zCover case
- Multi-Charger for battery only from zCover
  - Charges 9 batteries
  - Desk mount or wall mount options
- Carry cases from zCover and System Wear ([www.systemwear.com](http://www.systemwear.com))



# Works With Systems and Personnel

- Cisco Unified Wireless IP Phone 7925G uses innovative technology to unite:
  - Patients
  - Caregivers
  - Clinicians
  - Administrators
  - Medical devices
  - Healthcare systems and applications
- This allows hospitals to achieve their goals and to realize tangible benefits





Thank you  
Questions and Actions

