



Mobility Solutions for Healthcare



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Agenda

Mobile world of Healthcare

Mobility Solutions for Healthcare

Use cases

Partnerships

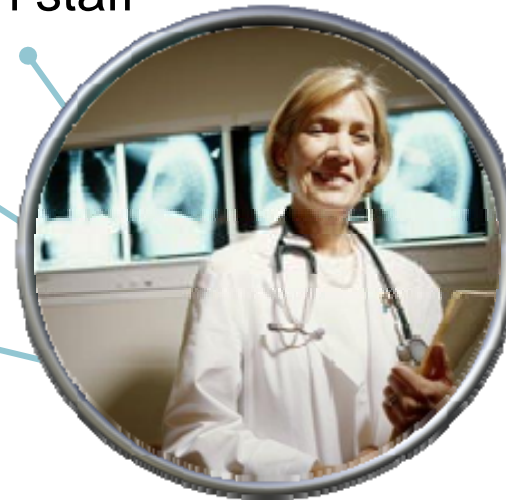
Improving Care = Improving Communications



65% → 20-60+ min / day
just trying to reach staff

66% → Search **more than one channel** to reach staff

84% → Time spent trying to reach staff **impacts patient care**



“Every minute engaged in tracking and locating others reduces a nurse’s availability for the patient.”

– Forrester

Source: Forrester, Feb 2006

Mobility Solutions for Healthcare

Mobile Care

Enhanced collaboration between caregivers to increase responsiveness and employee satisfaction

Location Aware

Solution to monitor and streamline operations involving medical equipment and staff

Secure Wireless

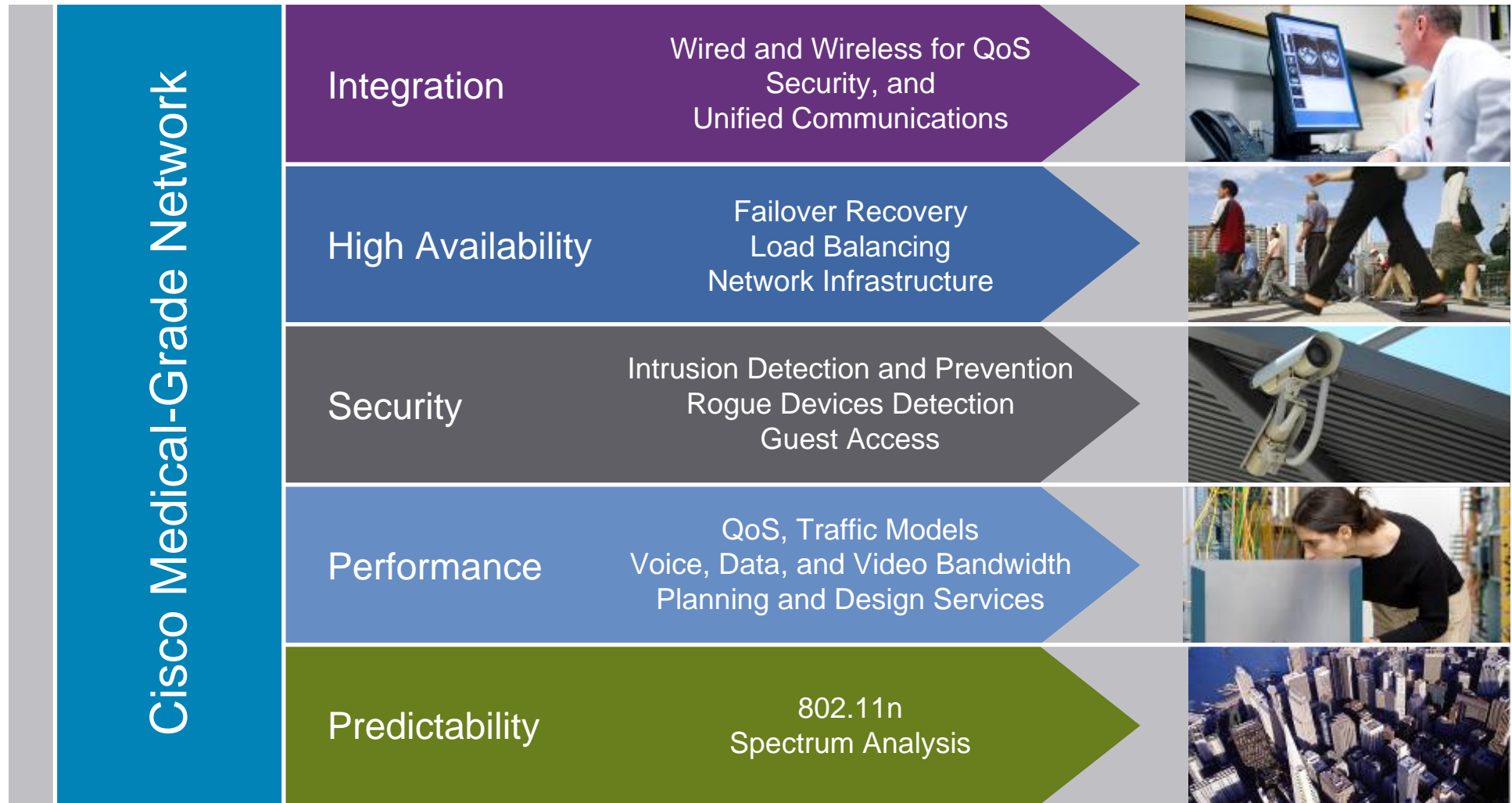
Wireless foundation that enables regulatory compliance and patient privacy as well as provides access to crucial information anywhere



Cisco
Medical-
Grade
Network

Secure Wireless in Healthcare

Component of the Cisco Medical-Grade Network



Secure Wireless

How to make your wireless network Medical Grade

Several collaterals can help customers and partners to deploy a Medical Grade wireless network

- [Secure Wireless 1.0 Design Guide](#)
- [VoWLAN 4.1 Design Guide](#) **New!**
- [Location Technical Design and Deployment Considerations](#)
- [Vocera Deployment Guide](#) **New!**
- Spectrum Intelligence Design Guide for Healthcare **New!**
- 802.11n for Healthcare joint white paper with Intel **Revised!**
- Best practices to deploy a WLAN for a healthcare organization **New!**

Mobile Care

Seamless Mobile Collaboration

- Wi-Fi phones/Laptops
- Single Number Reach
- Push-To-Talk



Nurses

- Mobile 70% of the time
- No working office
- Heavy phone user



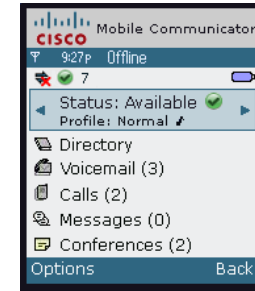
Physicians

- Spend more than 50% of time outside hospital
- Working office available
- Heavy user of email and phone



Administrative

- Mobile within the hospital only 20% of time
- Primarily working from office
- Heavy user of LoB applications



- Dual mode devices
- Single Number Reach
- Mobile Communicator



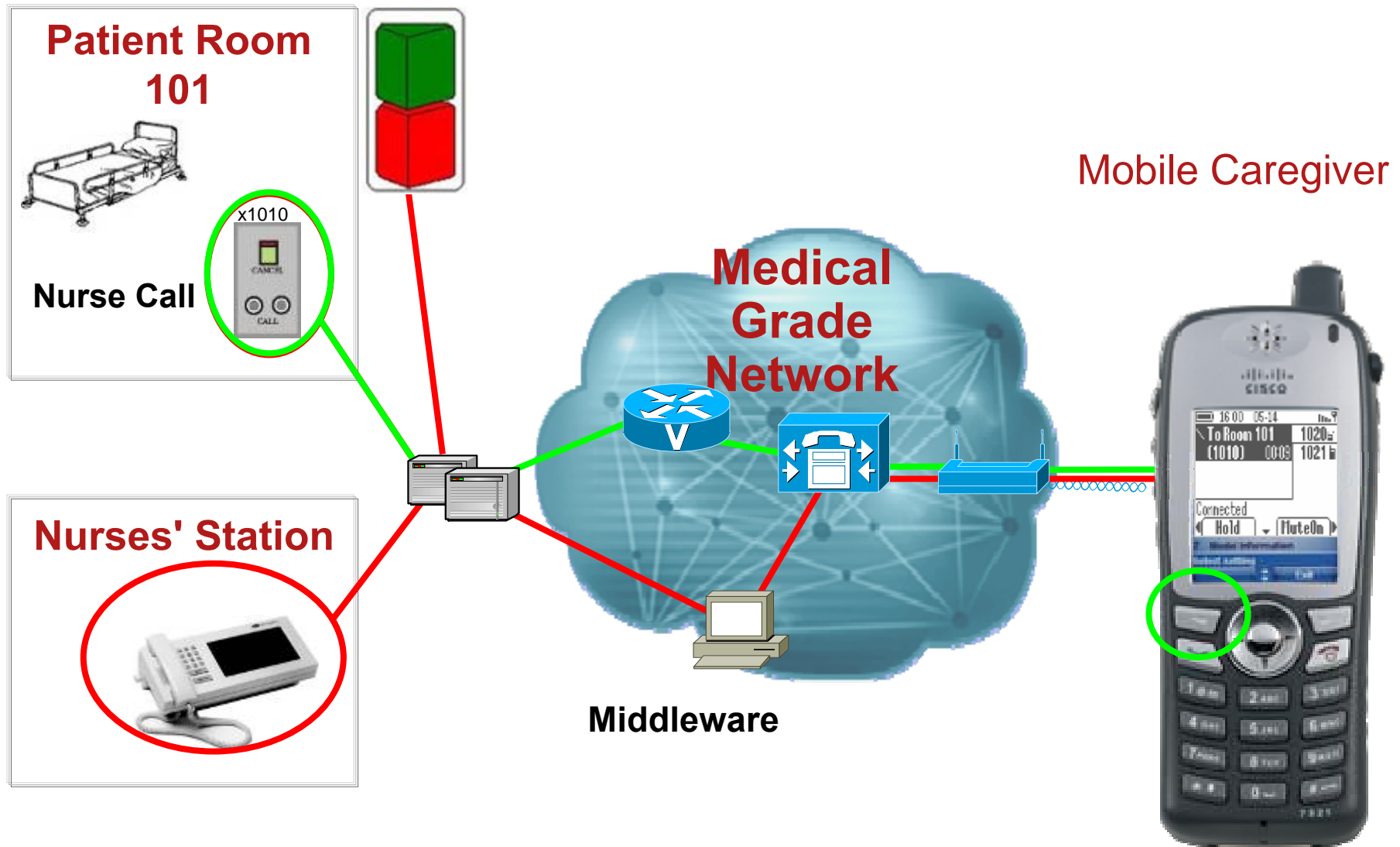
Talent
Attraction and
Retention

Streamline
Communications

- Wi-Fi Laptops
- Single Number Reach
- Personal Communicator



Mobile Care: Unified Communications - Nurse Call Integration



Mobile Care 1.0

- Amber Alerts
- Nurse Call
- Broadcast Messages – Medical Team assembly
- Patient Services
- Hospital Orderly event notification and management
- Stat alerts
- Facilities management
- Bed Management
- CPOE Data



Mobile Care

Cisco Certified Dual Mode Devices

Cisco
Wifi 7921



RIM
Blackberry 8820
(data)



Intermec
CN3 Ruggedized



HP
iPaq 600



Nokia E61i



Nokia E61



Nokia E51



Nokia E65

Mobile Care – Seamless Mobile Collaboration

Motion C5 – A Mobile Clinical Assistant

Motion C5



Product Description

- WiFi (802.11a/b/g) and Bluetooth
- Cisco Compatible Extension version 5
- Natural pen or speech input
- Optional integrated bar code scanner
- Integrated 2 mega pixel camera and RFID reader
- Theft prevention system
- Highly durable and simple to disinfect

Applications

- Electronic Health Records
- Electronic Medication Administration Record (eMAR)
- Computerized Physician Order Entry (CPOE)
- Clinical documentation & Practice Management

Benefits

- Increased mobility and accessibility
- Automation of forms, processes and workflows
- Greater and timely access to data at the point of care
- Elimination of duplicate efforts
- Facilitation of real-time communications to improve the overall patient experience
- Improvements in patient charge capture

Location Aware Healthcare

Use cases



Ensure that there is always a physician in ER



Secure all the members of a core team prior to a surgery



Know which physicians and nurses are on duty at a certain time



Locate medical equipment faster



Initiate a request to sterilize



Update the number of heart monitors left in the storage room



Prevent medical equipment leaving the facility without authorization



Automate bed management applications



Monitor storage conditions for equipment or medication



Ensure that perishable goods are kept in the right condition or alert



Provide patient comfort in a responsive manner

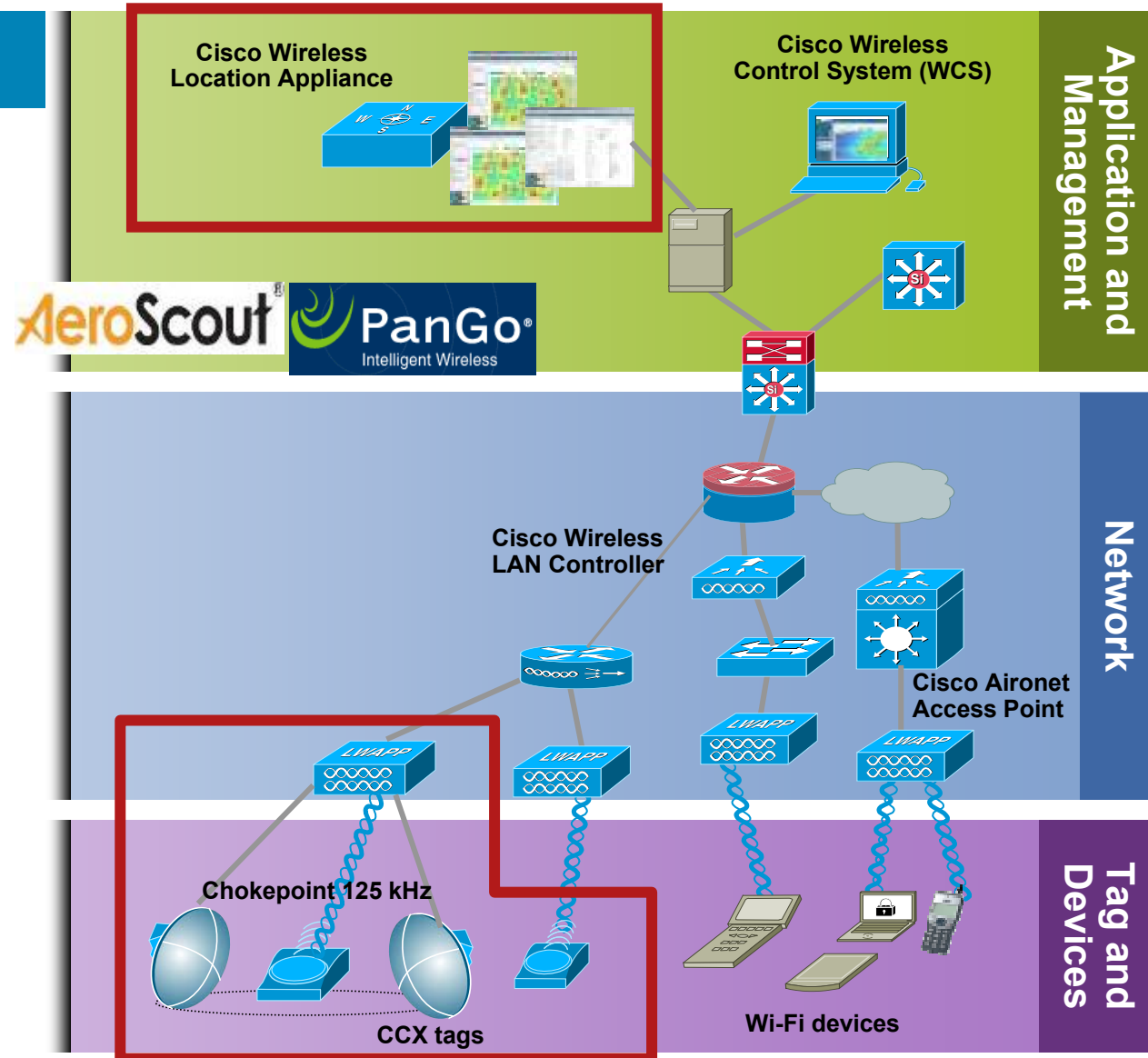
Location Aware for Healthcare Features

Location Solution

Wireless Location Appliance

Cisco Unified Wireless Network

Chokepoint at needed locations
 CCX Tag with Telemetry



Unified Comms locator

- **Problem**

 - Locate assets, people easier

 - Avoid having to go to workstation to search

- **Solution**

 - Location Based Service

 - Pango or Airetrak location software

 - Cisco 7921 phone / PDA

 - IPCC with voice recognition

- **Benefits**

 - Use voicerecognition to locate assets or people – push to talk

 - ”Find wheelchair”, ”Find nurse”



UZ Gent Hospital (Belgium)

Background

- **The University Hospital of Ghent in Belgium is one of the largest health centers of Flanders with over 5,000 employees and more than 1,000 beds.**
- **The focus over the past several years has intensified around patient safety and improvement in the care experience.**
- **Implemented a Wi-Fi network in 2004 and realized they could leverage it to offer additional patient care improvements**



UZ Gent Hospital (Belgium)

Business Issues

- **Medical Supervision of the Mobile Cardiac Patient**

- Recovering cardiac patients are placed on telemetry monitors to encourage exercise, mobility and improve recovery time.

- The **need to monitor and respond immediately** to emergencies with these high risk patients is essential and although the telemetry monitor notifies the control station immediately, the **staff does not know the exact location of the patient** and nurse may not be at the control station.

- The time it takes to locate the mobile patient can be **critical in administering care and frightful to the patient.**

- **Search Time/Productivity**

- When nurses require equipment immediately or maintenance needs to be performed, large % of assets cannot be found. This results in regulatory risk, wasted staff time and potential health issues.

- **Over-purchasing**

- Overspending on asset rental and high levels of inventory



UZ Gent Hospital (Belgium) Solution

- ***Leverage Wi-Fi infrastructure***

Complete solution which combines data, voice and location all over a single Wi-Fi network

- ***Real time patient tracking and telemetry***

The patient wears an AeroScout tag

When the telemetry system sends an alarm, the patient location is identified and that along with patient vital information from the telemetry system is forwarded to the nurse's wireless IP Phone.

Benefits

- *Improved quality of care*
- *Reduce asset theft/loss*
- *Improved asset utilization rates and control*
- *Fewer rentals and purchases*



Telemetry ECG Alarming
and Alarm Wave

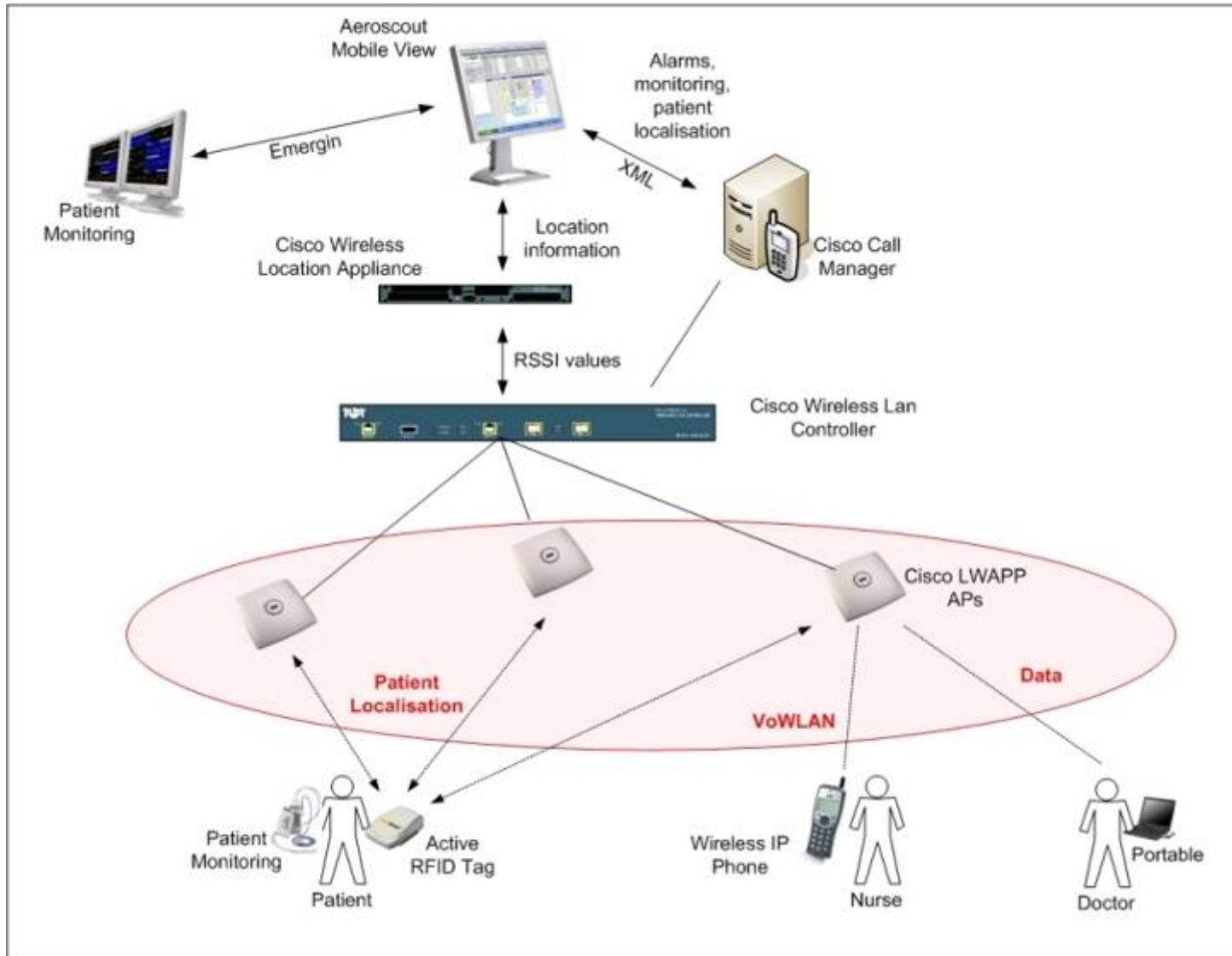


Epileptic Monitor



Respiratory

UZ Gent Hospital (Belgium)



Considerations when implementing Wifi?

- Design considerations (Data, Voice, Location)
- Unlicensed spectrum
- Regulation (MDD, FDA)
- Standardisations (CCX, Continua)
- RF Spectrum coordination, control and monitoring
- Interference (EMC60601-1-2)

HealthPresence

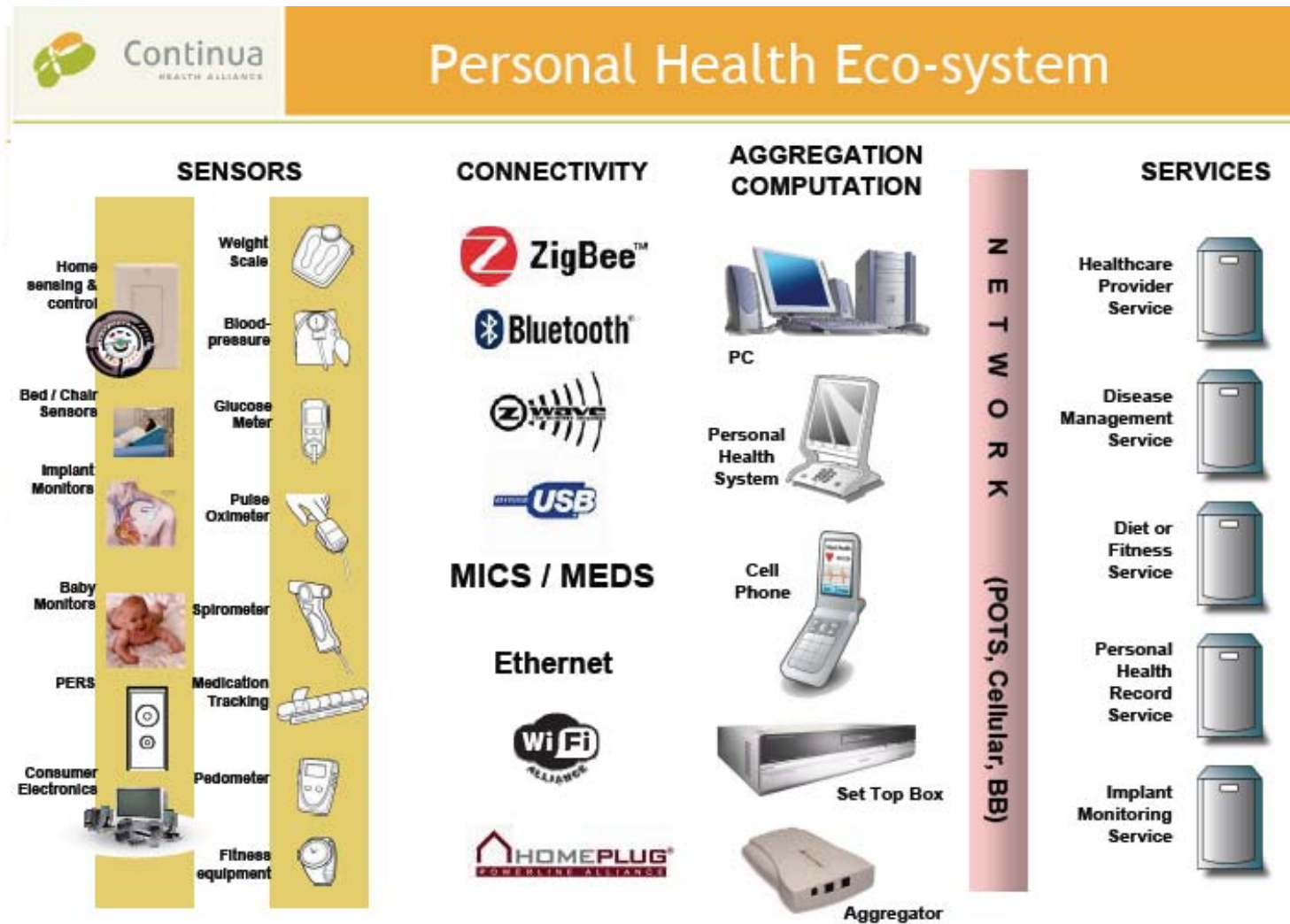
- **Problem:** Need scalable expert clinical resources, local availability; reduce cost
- **Uses:** Remote & rural, Community Hospitals, Prisons, Corporate HQ, Public spaces -railway stations, airports-, Retail
- **Solution:** TelePresence with Medical devices, many to many Presence network
- **Pilot:** Aberdeen Royal Infirmary A&E



Cisco's Mobility Partners

Continua Alliance



1/3/2008

134 companies are now part of Continua!

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