HCA Training

Connex CS and CSM

Eric Jensen

Please join the skype call in # to listen

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video

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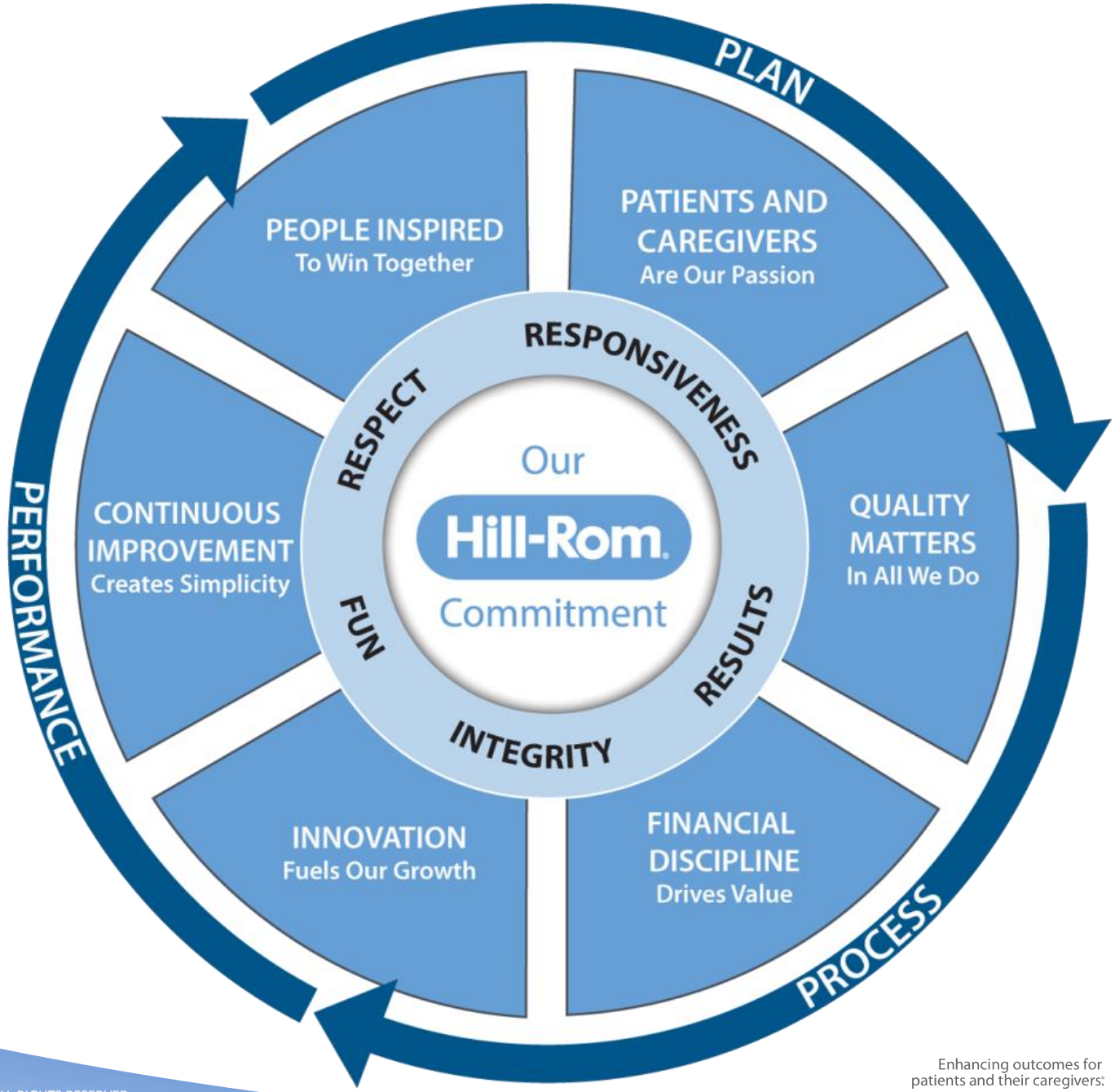


Enhancing outcomes for patients and their caregivers.

High level Topics

HCA Structure
IT infrastructure at HCA • HCA Server Spreadsheet
Welch Allyn Connex Vitals Workflow • Flow of Data & Mapping through database and cloverleaf
Connection to the network and server • Encryption
Clinician Authentication (Cannot Login)
Bar Code Scanning (Patient Context, Cannot retrieve patient)

HCA - Hospital Corporation of America

CREATING HEALTHY COMMUNITIES

26 + MILLION

Patient encounters each year

Patient encounters each year

233,000

Employees

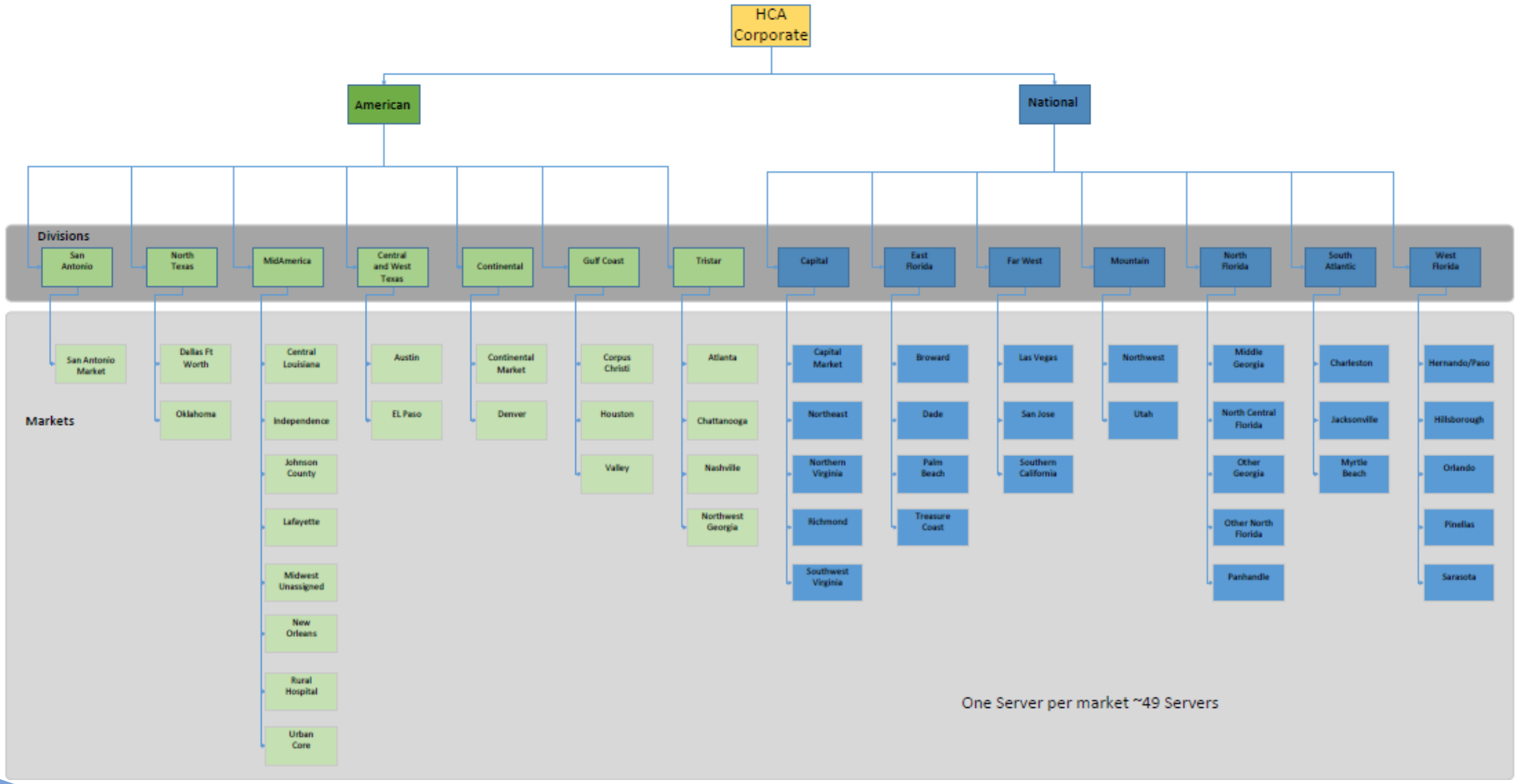
37,000

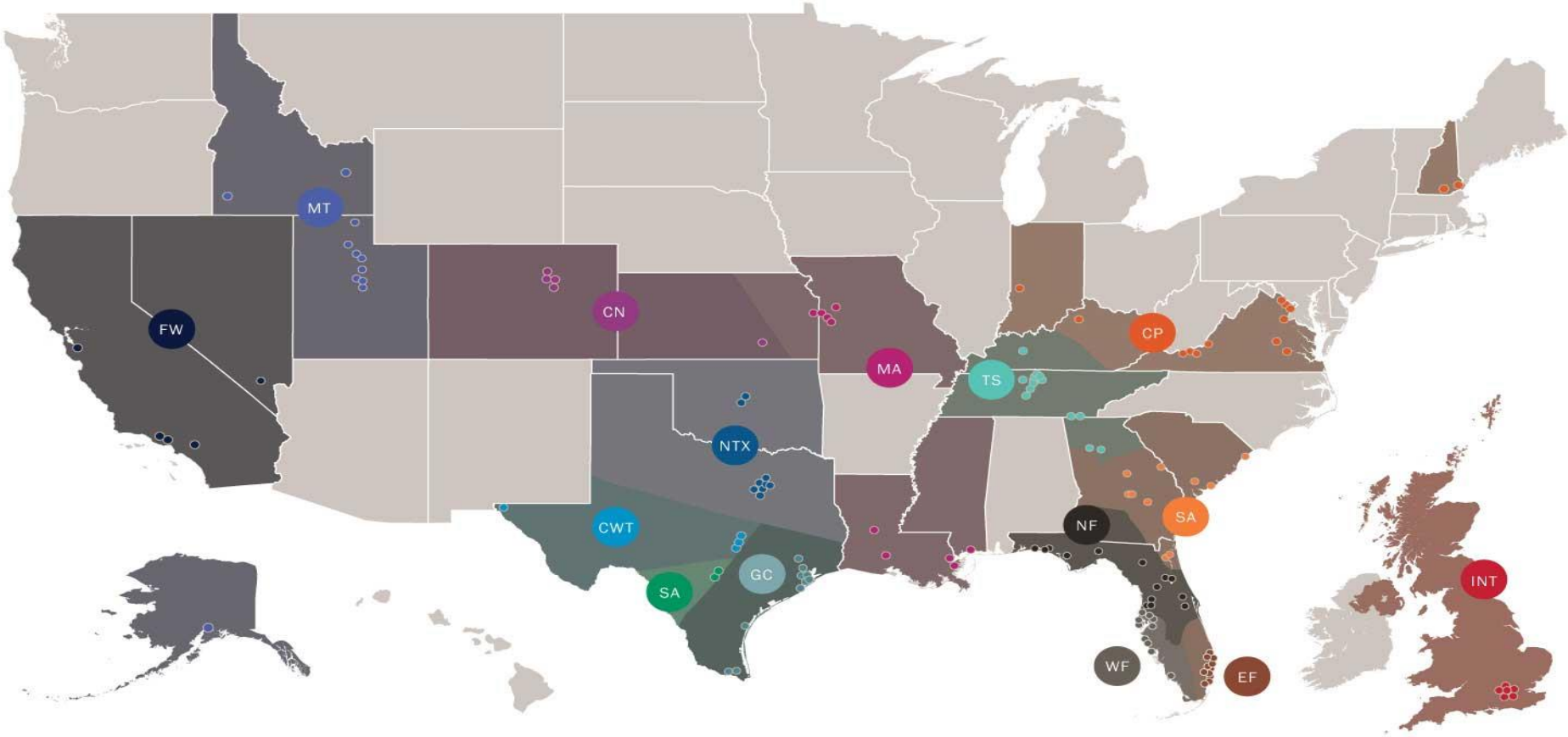
Active physicians

79,000

Nurses

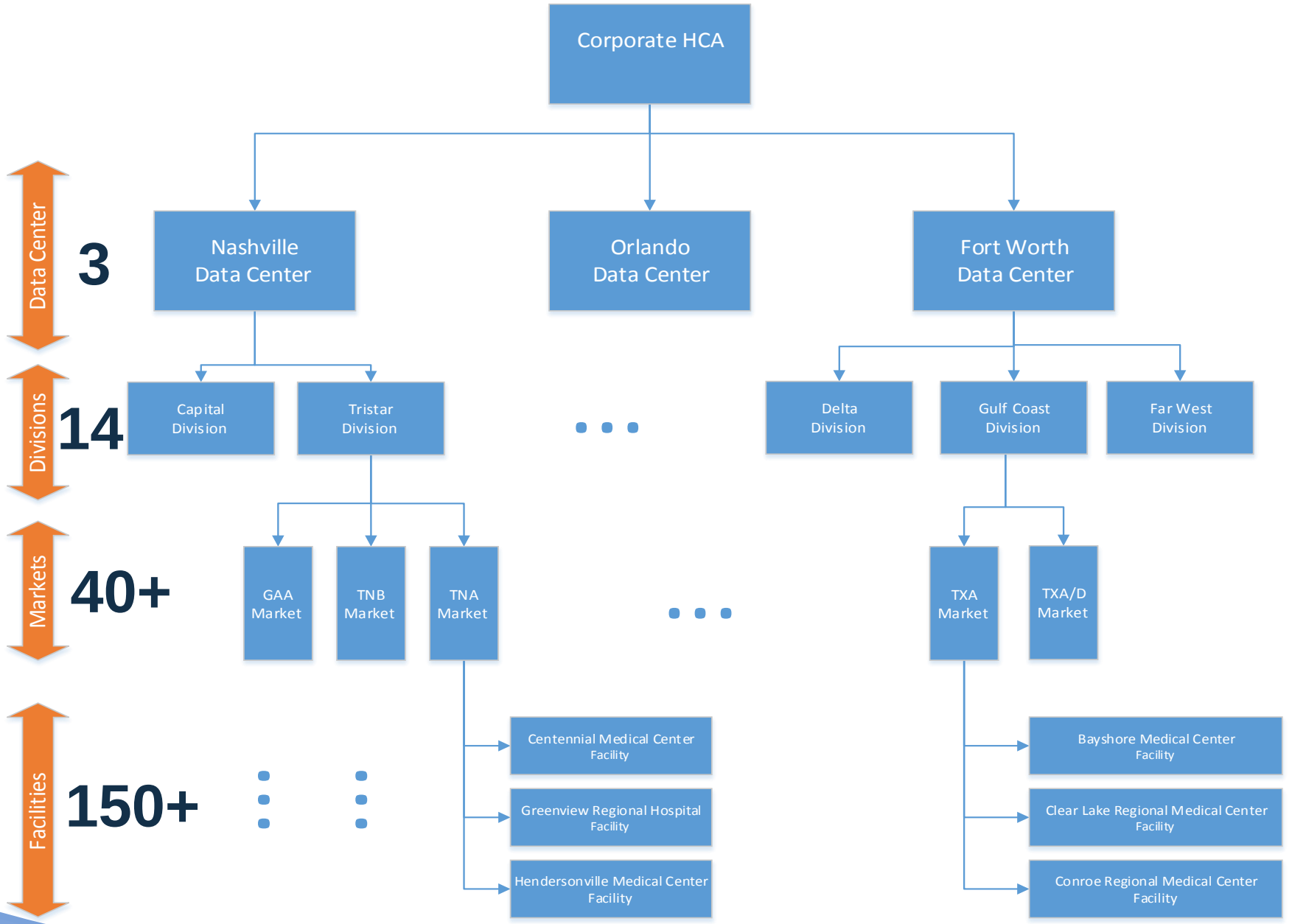
HCA Structure



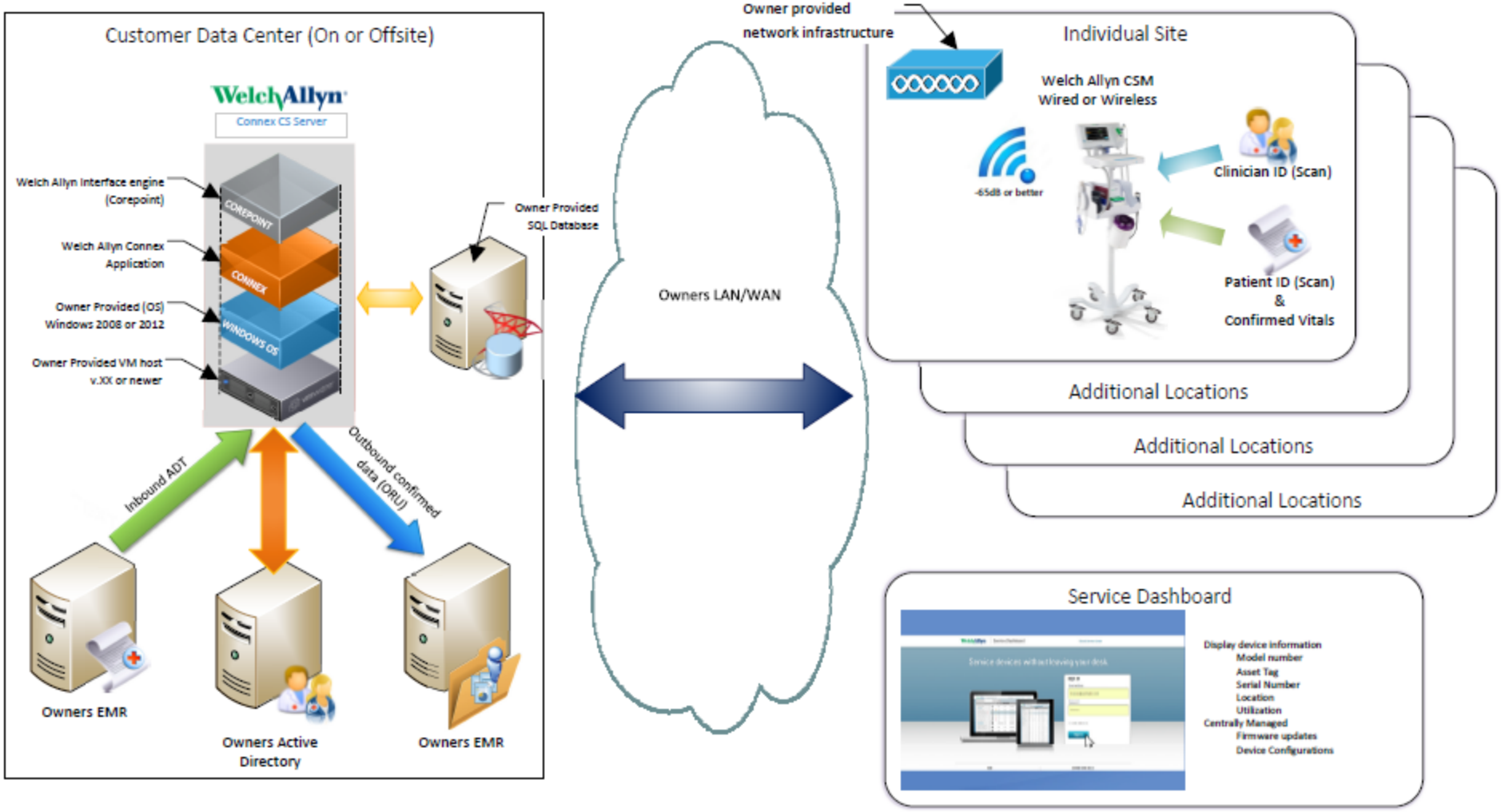


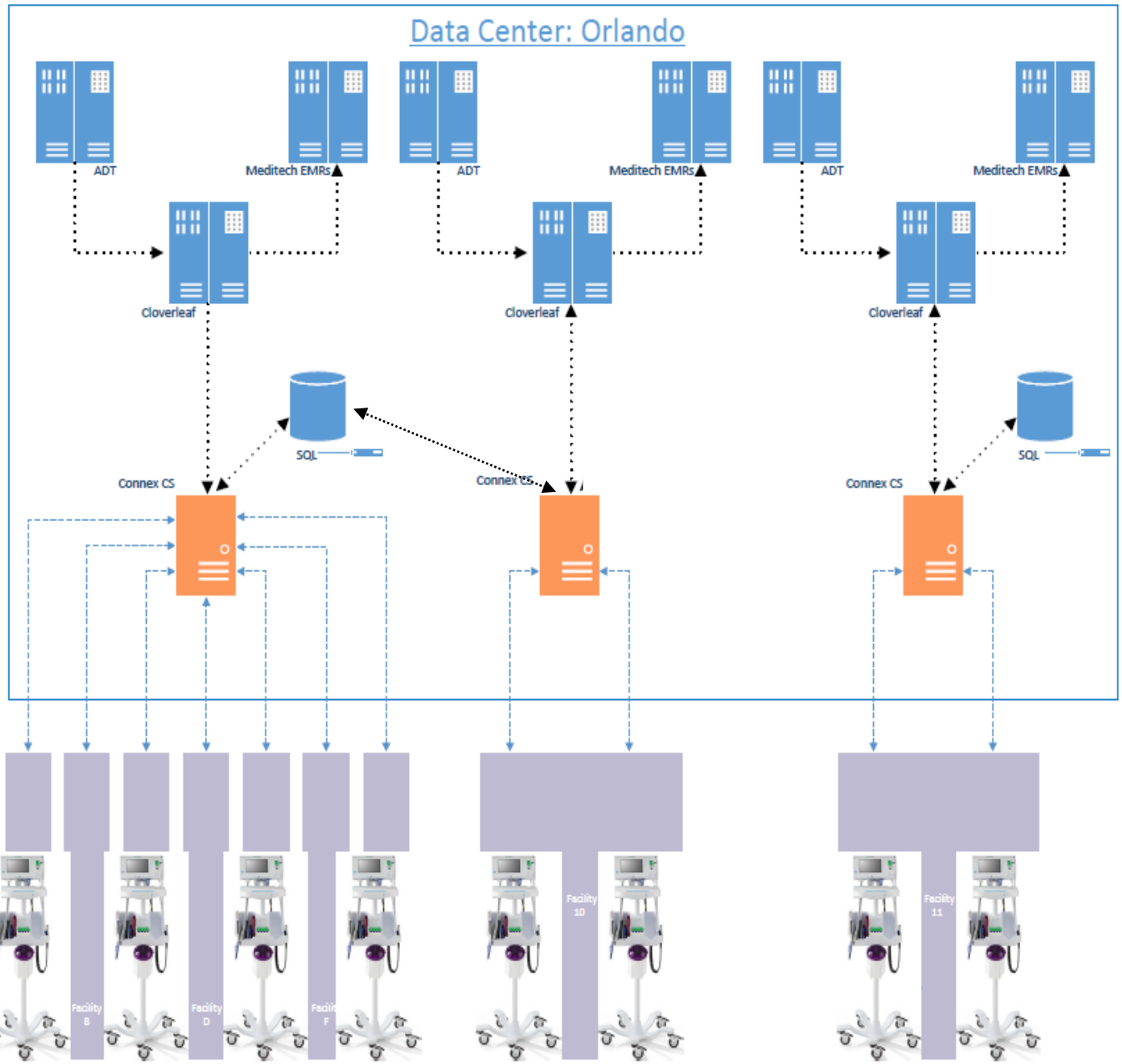
Division Name

- FW Far West
- MT Mountain
- CN Continental
- MA Mid-America
- NTX North Texas
- CWT Central & West TX
- SA San Antonio
- GC Gulf Coast
- TS Tristar
- CP Capital
- SA South Atlantic
- INT International Facilities
- NF North Florida
- EF East Florida
- WF West Florida



Connex CS Server (Software only) and CSM Conceptual diagram





Data Center: Fort Worth

...

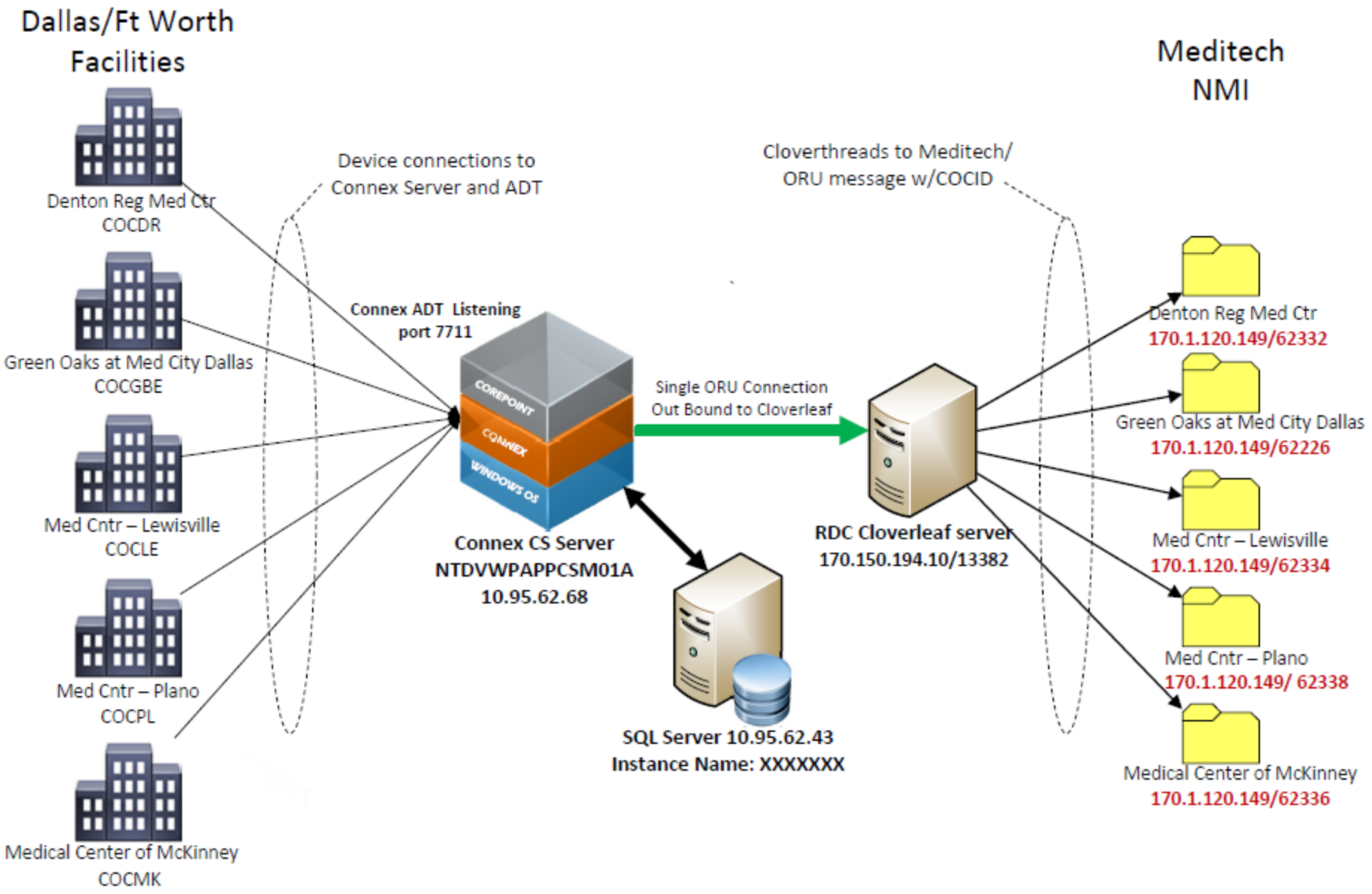
Data Center: Nashville

...

Enhancing outcomes for patients and their caregivers.

Hill-Rom

Welch Allyn System Architecture for Dallas Ft Worth Market



Best Clinical Practice Workflow

Wireless Workflow & Ethernet Workflow:

To collect and document a single set of Vital Signs on single patient . . .

1. Scan Clinician

2. Scan Patient ID

3. Capture Vital Signs, manual parameters, & modifiers.

4. **Save** & Send Readings

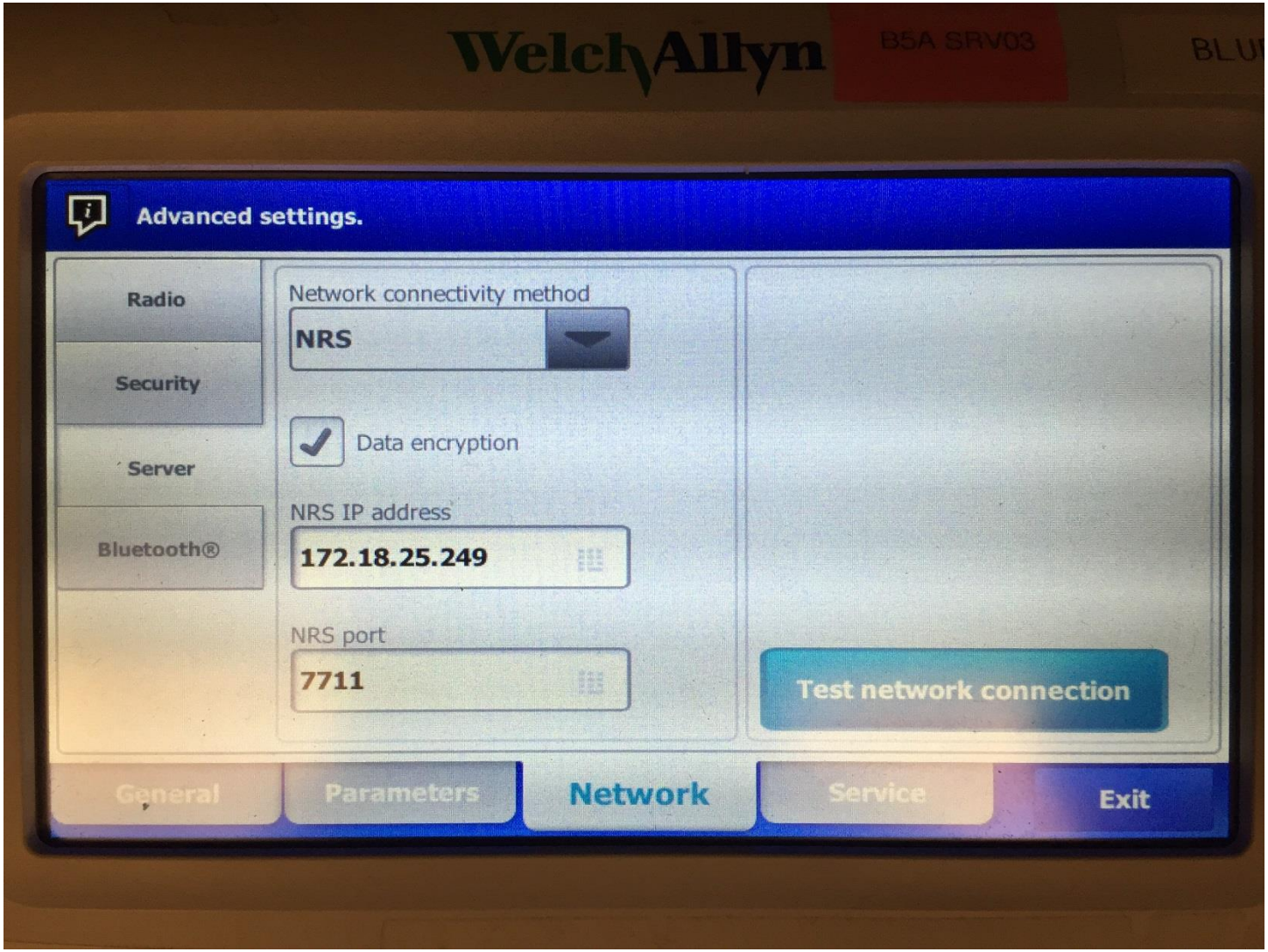
5. Vitals are documented in the EMR

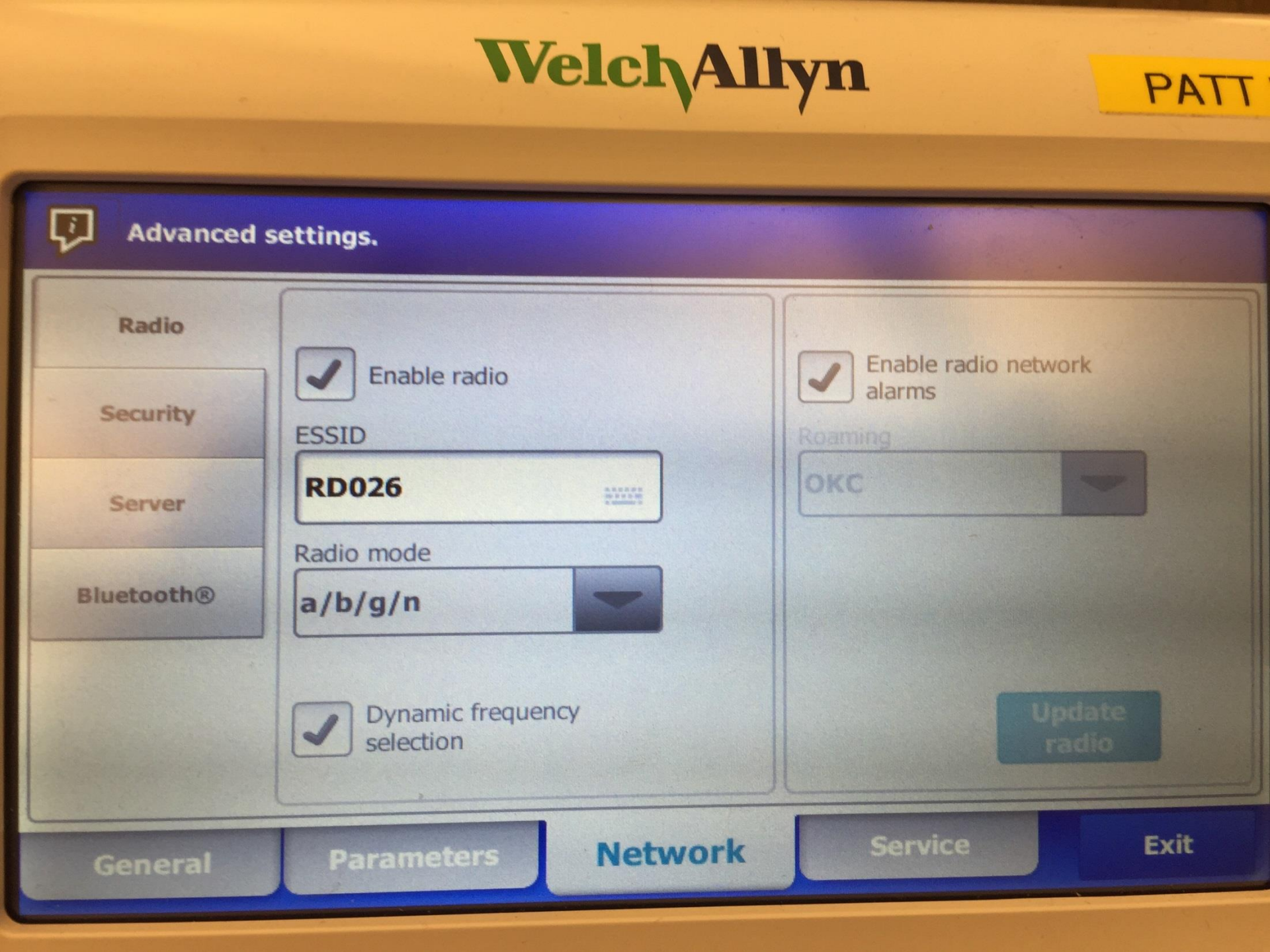
For Continuous Interval Monitoring (multiple sets of vitals) on a Single Patient . . .

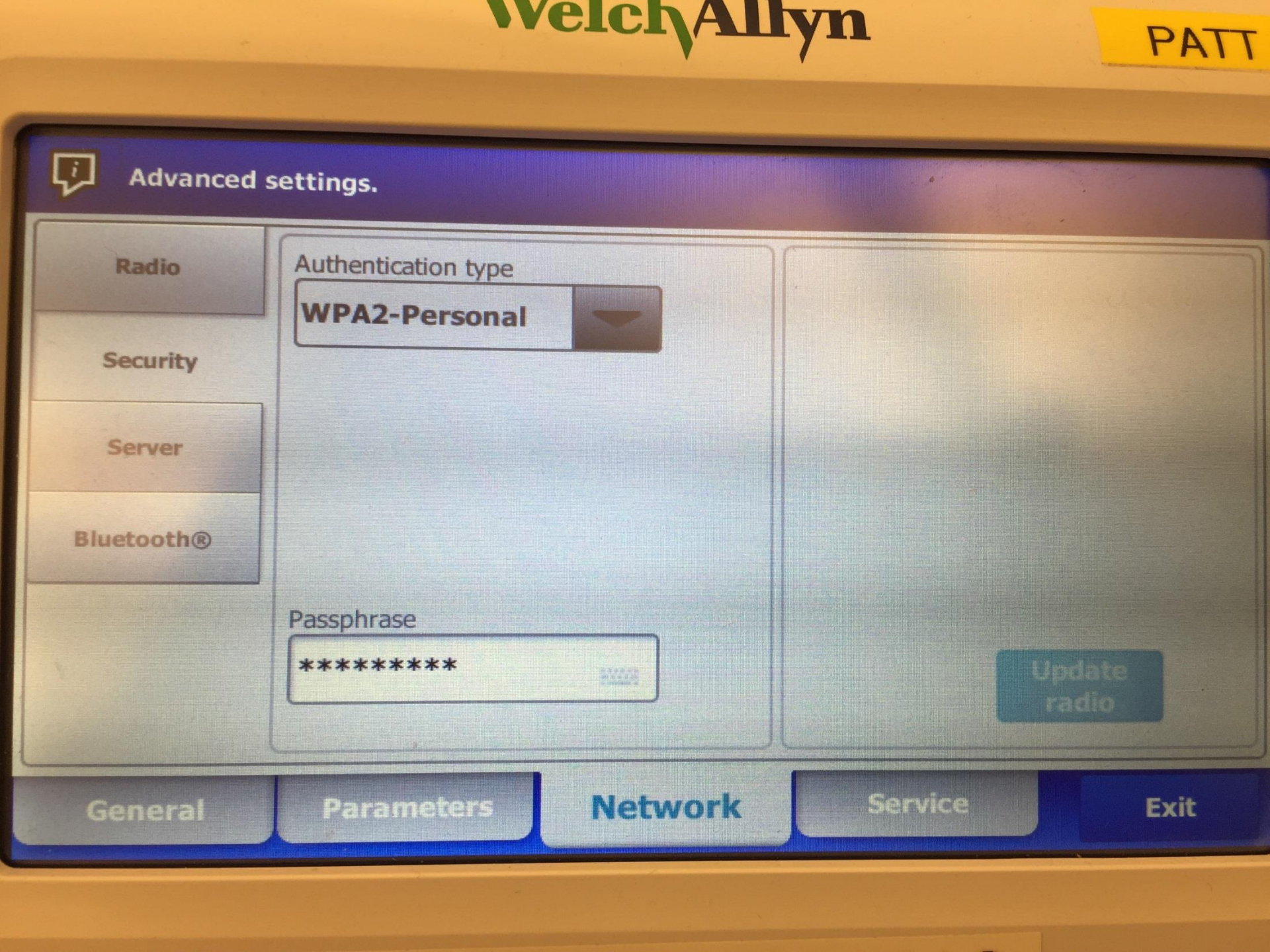
First, complete Steps 1 & 2 as above with Wireless/Ethernet connections, then:

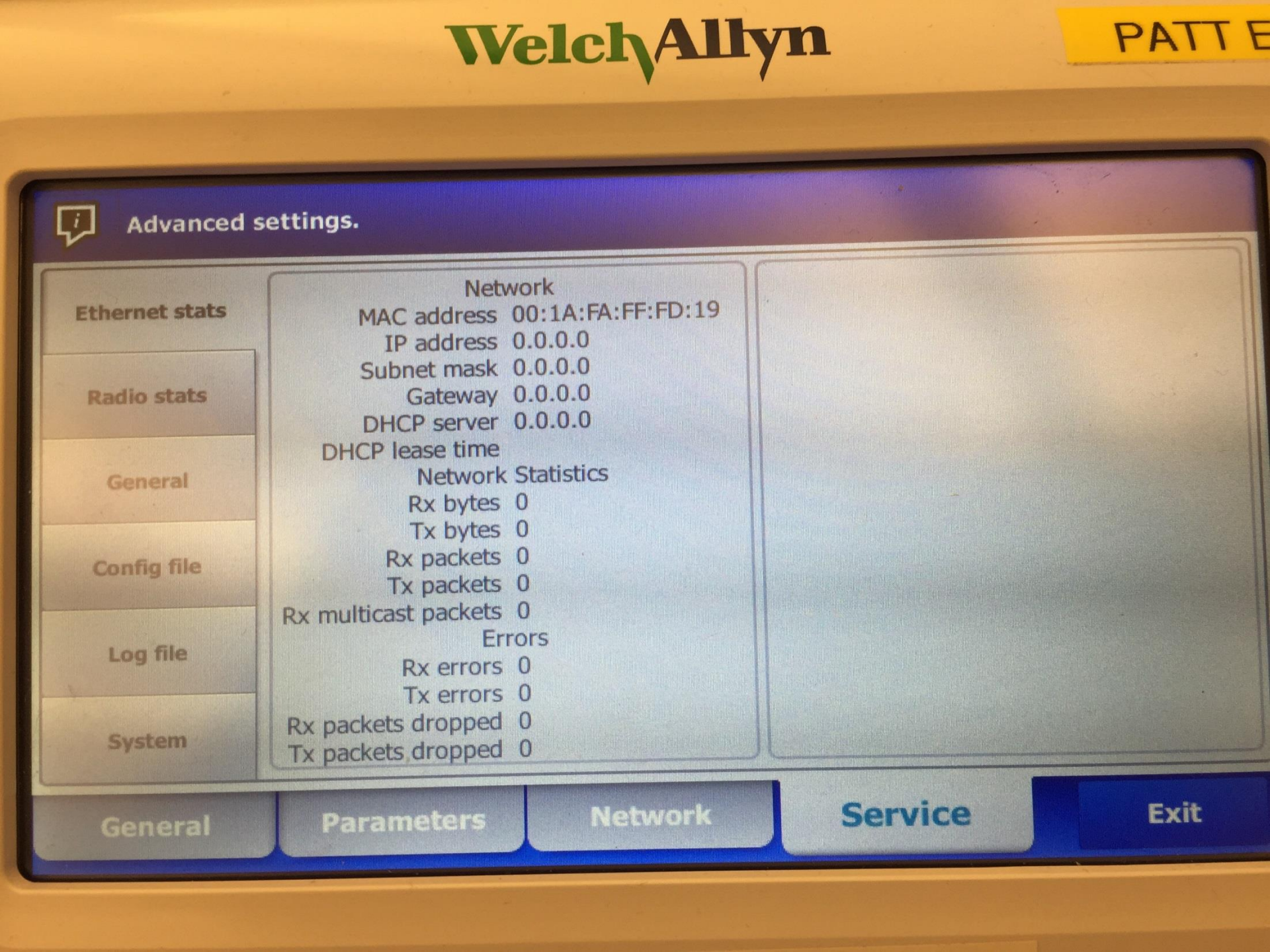
3. Capture interval data with CVSM in "**Monitor**" Profile.

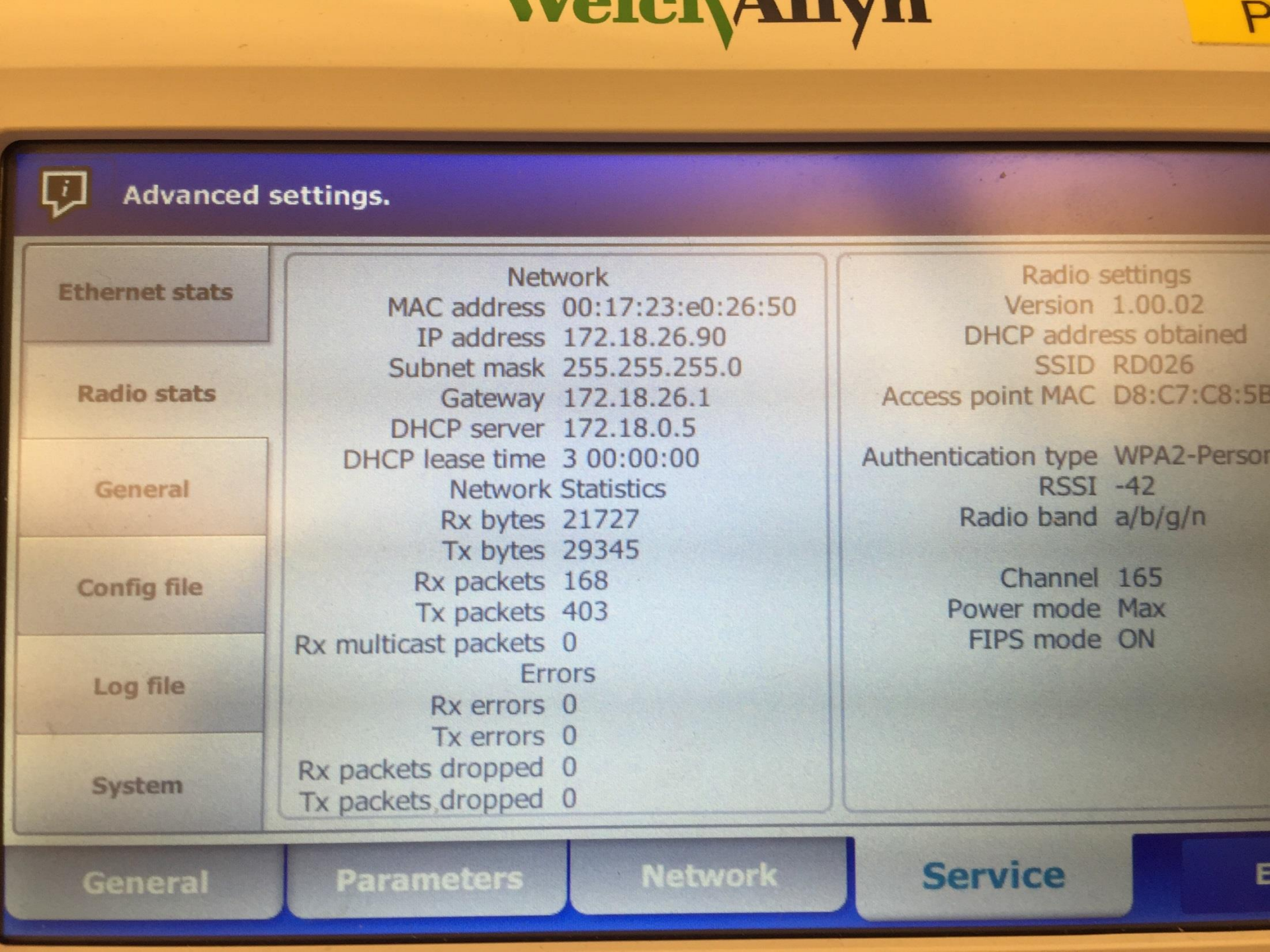
4. Touch **Review** tab on CVSM, select vitals to send; Touch **Send**.

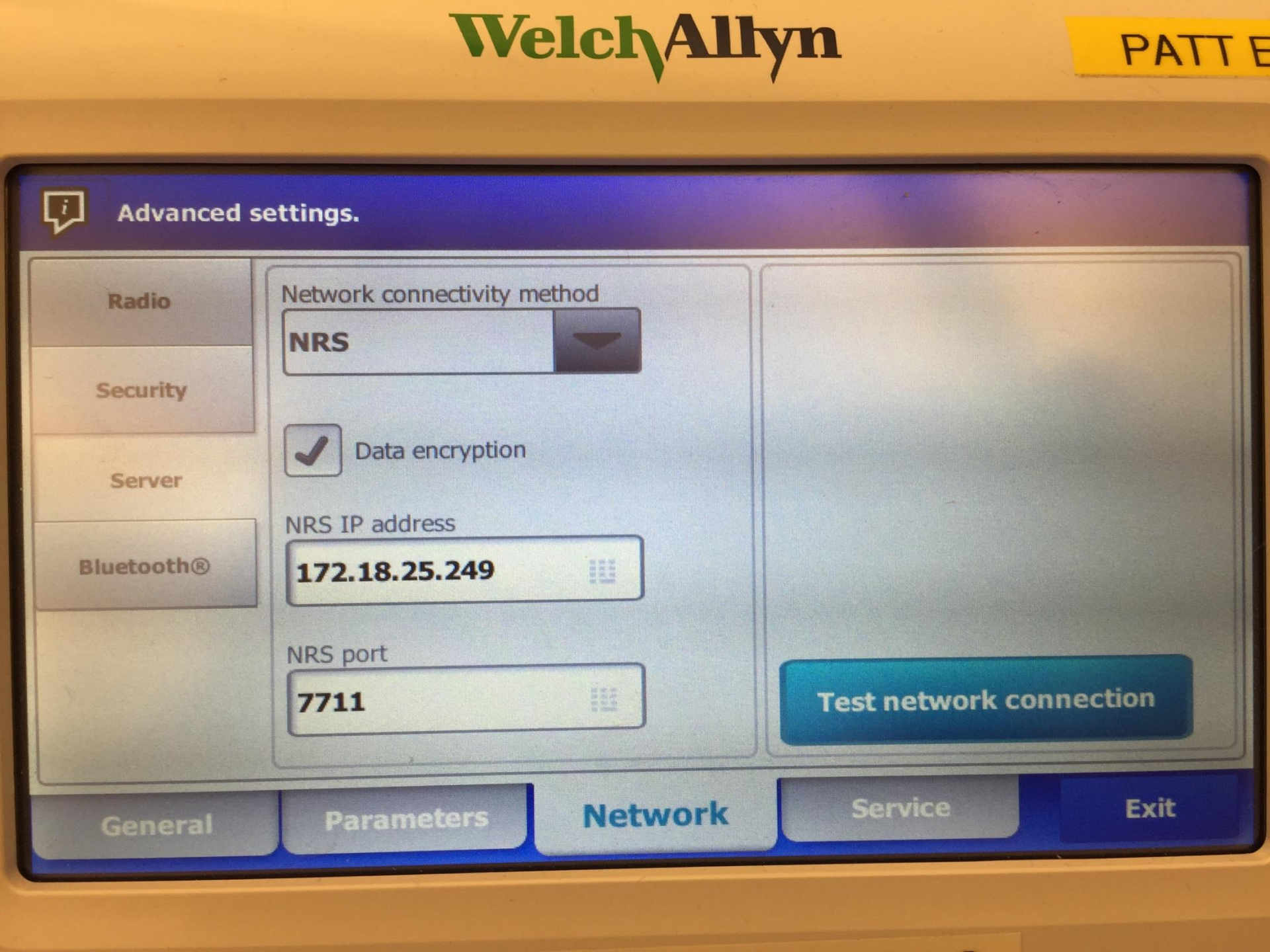


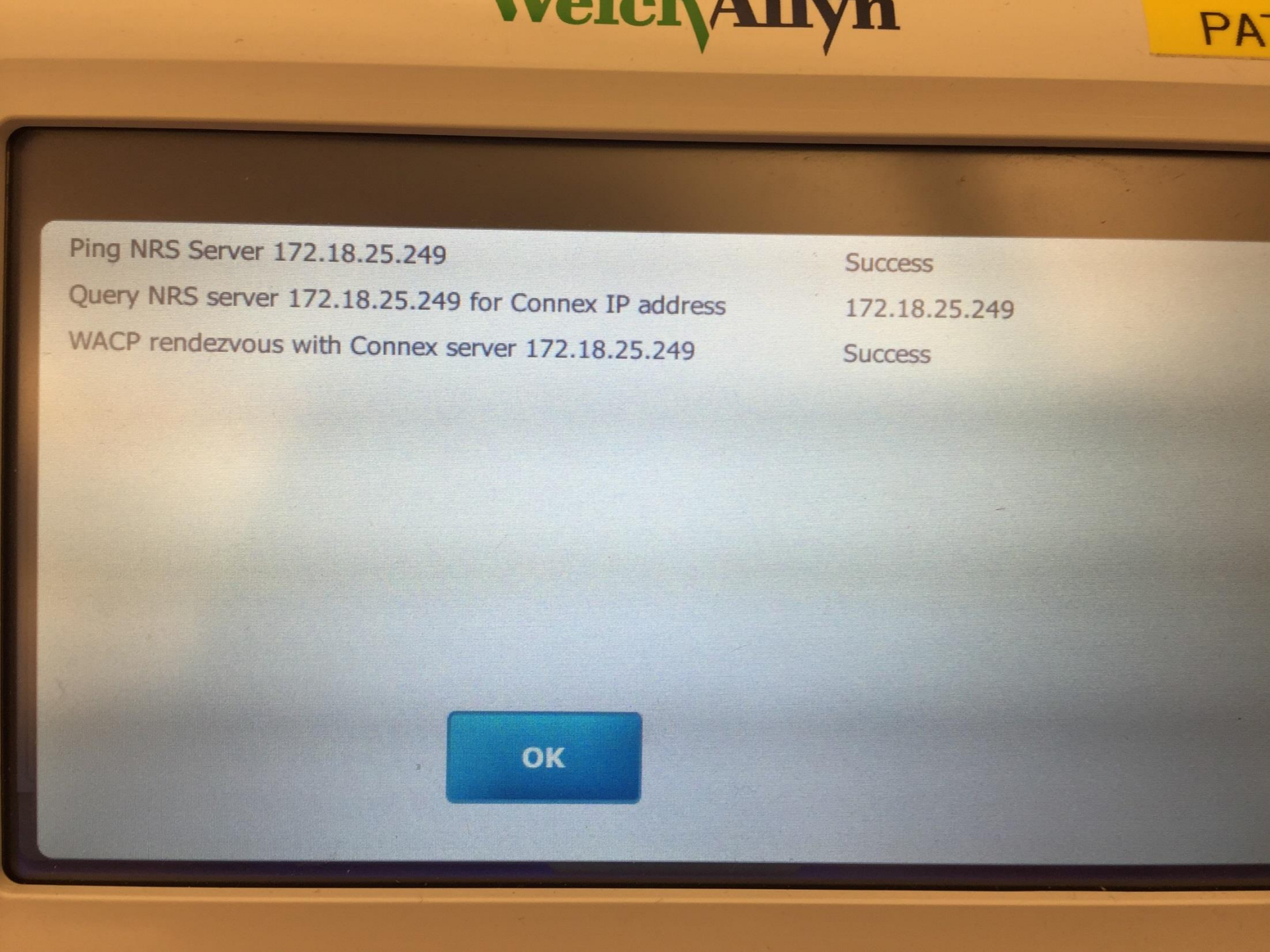

Welch Allyn
PATT
Advanced settings.
Radio
Security
Server
Bluetooth®
Enable radio
ESSID
RD026
Radio mode
a/b/g/n
Dynamic frequency selection
Enable radio network alarms
Roaming
OKC
Update radio
General
Parameters
Network
Service
Exit


WelchAllyn
PATT
Advanced settings.
Radio
Security
Server
Bluetooth®
Authentication type
WPA2-Personal
Passphrase
****
Update radio
General
Parameters
Network
Service
Exit

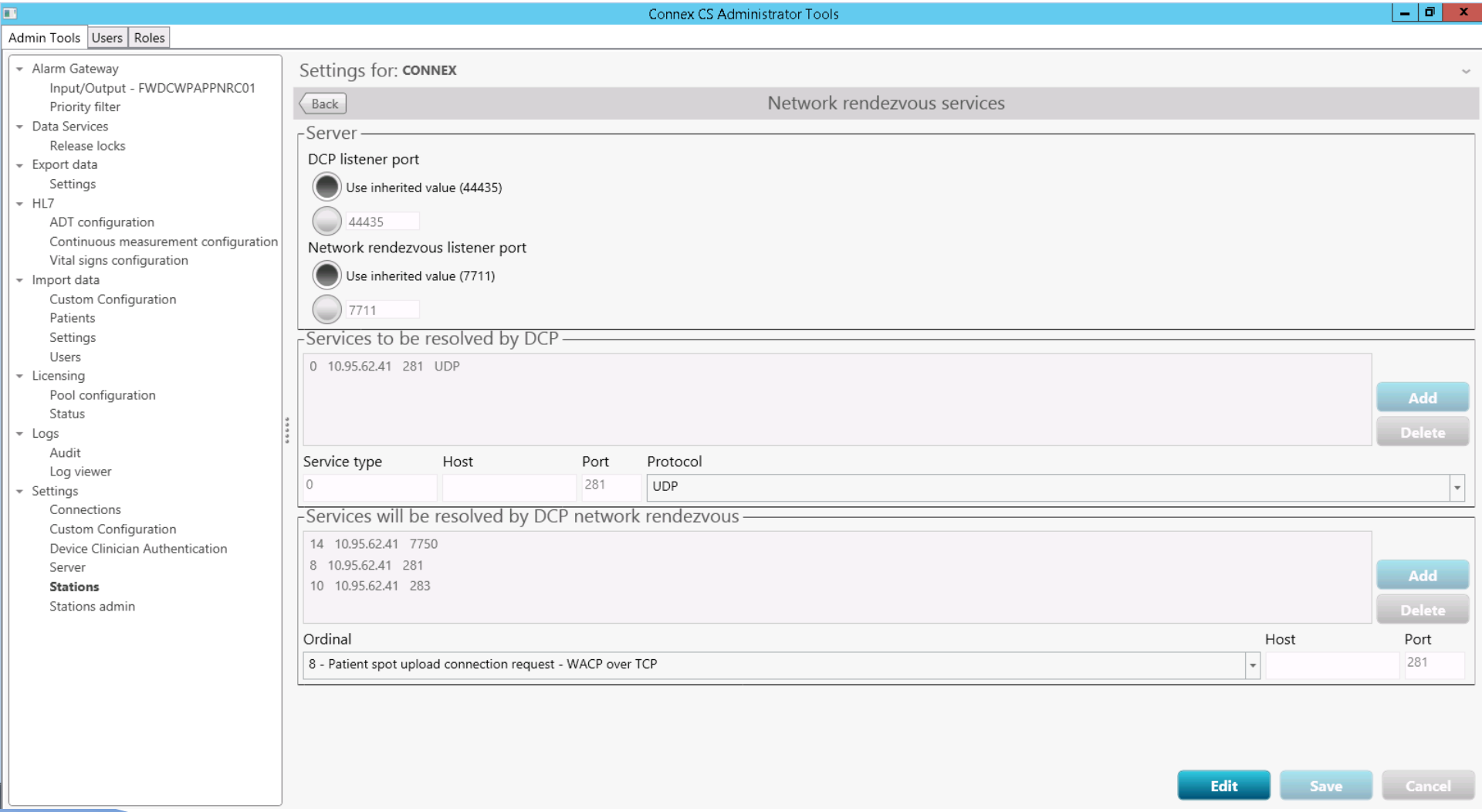

WelchAllyn
PATT E
Advanced settings.
Ethernet stats
Radio stats
General
Config file
Log file
System
Network
MAC address 00:1A:FA:FF:FD:19
IP address 0.0.0.0
Subnet mask 0.0.0.0
Gateway 0.0.0.0
DHCP server 0.0.0.0
DHCP lease time
Network Statistics
Rx bytes 0
Tx bytes 0
Rx packets 0
Tx packets 0
Rx multicast packets 0
Errors
Rx errors 0
Tx errors 0
Rx packets dropped 0
Tx packets dropped 0
General
Parameters
Network
Service
Exit

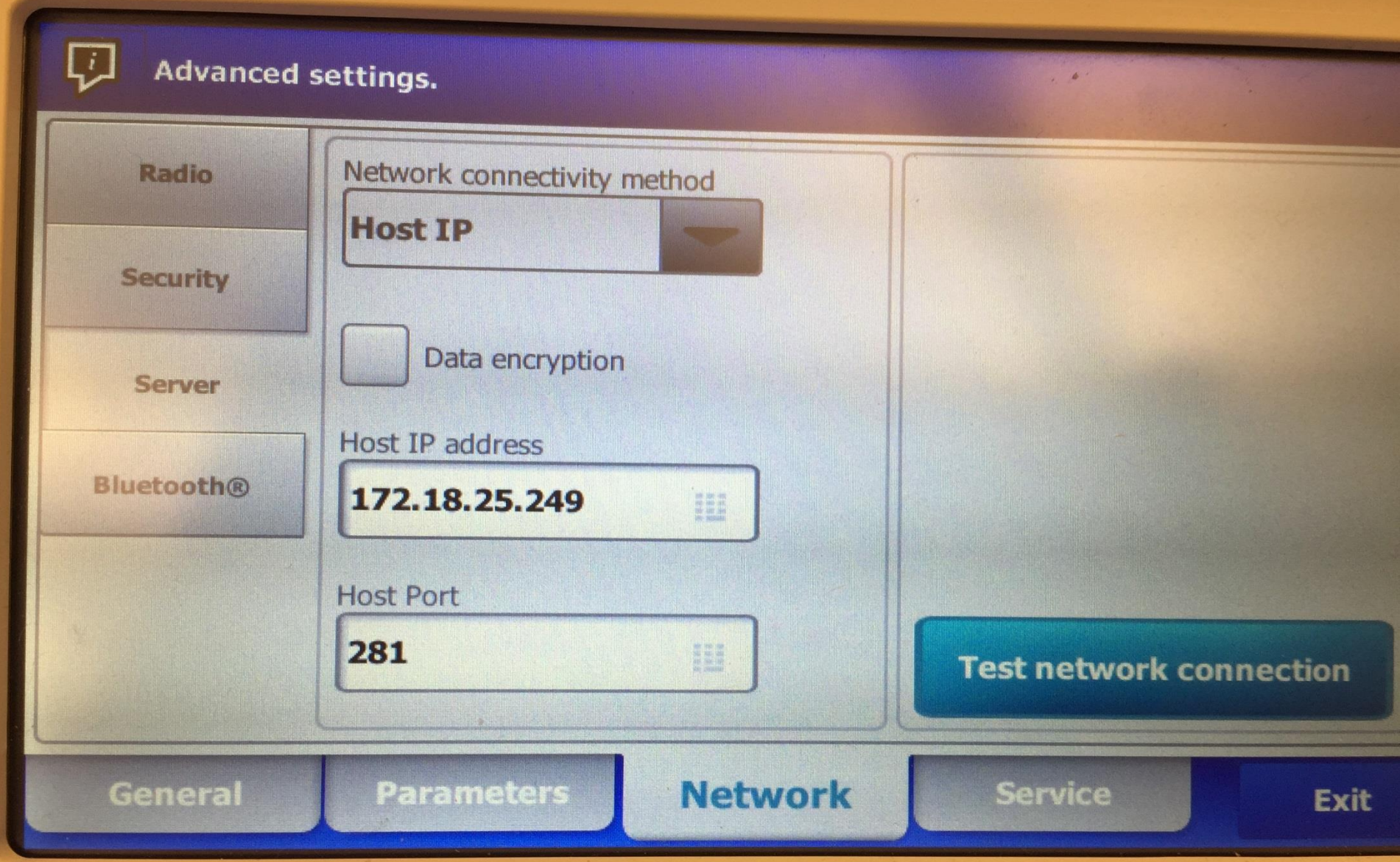

Advanced settings.
Ethernet stats
Radio stats
General
Config file
Log file
System
Network
MAC address 00:17:23:e0:26:50
IP address 172.18.26.90
Subnet mask 255.255.255.0
Gateway 172.18.26.1
DHCP server 172.18.0.5
DHCP lease time 3 00:00:00
Network Statistics
Rx bytes 21727
Tx bytes 29345
Rx packets 168
Tx packets 403
Rx multicast packets 0
Errors
Rx errors 0
Tx errors 0
Rx packets dropped 0
Tx packets dropped 0
Radio settings
Version 1.00.02
DHCP address obtained
SSID RD026
Access point MAC D8:C7:C8:5B
Authentication type WPA2-Perso
RSSI -42
Radio band a/b/g/n
Channel 165
Power mode Max
FIPS mode ON
General
Parameters
Network
Service


Welch Allyn
PATT E
Advanced settings.
Radio
Security
Server
Bluetooth®
Network connectivity method
NRS
Data encryption
NRS IP address
172.18.25.249
NRS port
7711
Test network connection
General
Parameters
Network
Service
Exit

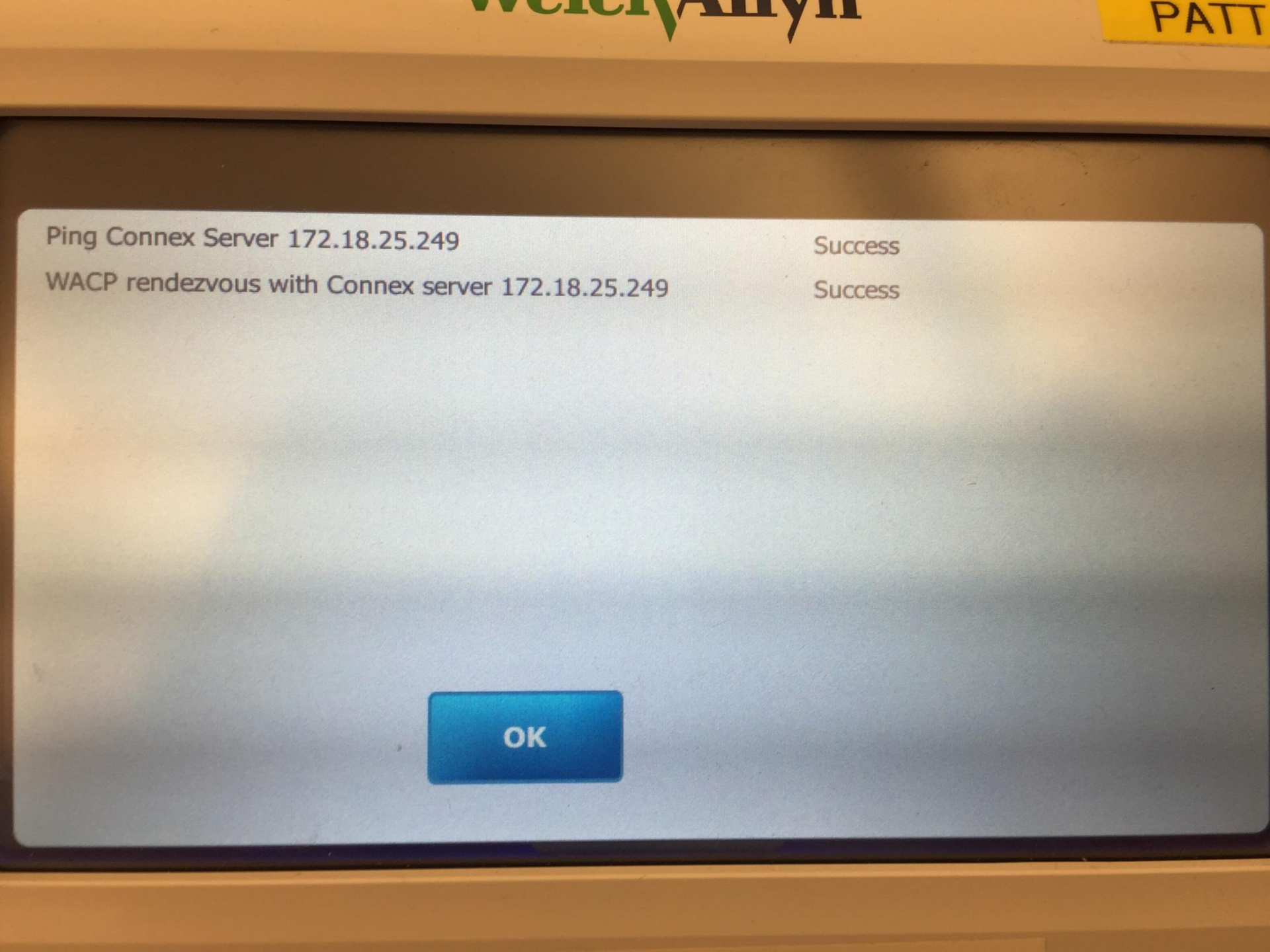

Welch Allyn
PA
Ping NRS Server 172.18.25.249
Success
Query NRS server 172.18.25.249 for Connex IP address
172.18.25.249
WACP rendezvous with Connex server 172.18.25.249
Success
OK

Proper NRS configuration





R&D TEST OSM12


Ping Connex Server 172.18.25.249
Success
WACP rendezvous with Connex server 172.18.25.249
Success
OK

Best Clinical Practice Workflow

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4. **Save** & Send Readings

5. Vitals are documented in the EMR

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First, complete Steps 1 & 2 as above with Wireless/Ethernet connections, then:

3. Capture interval data with CVSM in "**Monitor**" Profile.

4. Touch **Review** tab on CVSM, select vitals to send; Touch **Send**.

Select authentication providers

Check all providers that a clinician can belong to. Order is important. First one hit will be used

Status	Provider Name	Provider Type	
☑	**SunriseProdAD**	**ActiveDirectory**	Delete
☐	**ConnexClientServices**	**ConnexDatabase**	Delete

Up

Down

Active Directory Credentials

Domain IP address 159.139.152.114

Active directory user name entrsvcldpmdi01

Add provider

Authentication provider type: ConnexDatabase

Security provider name:

Add

Clinician identifier

Check all clinician identifiers scanned at the device. Order is important. First one hit will be used

- ☑ AccountName
- ☐ Username
- ☐ EmployeeId

Up

Down

Group membership

Select groups

- ☐ 25394Vitals_CLIN
- ☑ 25471Vitals_CLIN

Group name:

Add

EMR identifier

Save

Cancel

Best Clinical Practice Workflow

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Day 2

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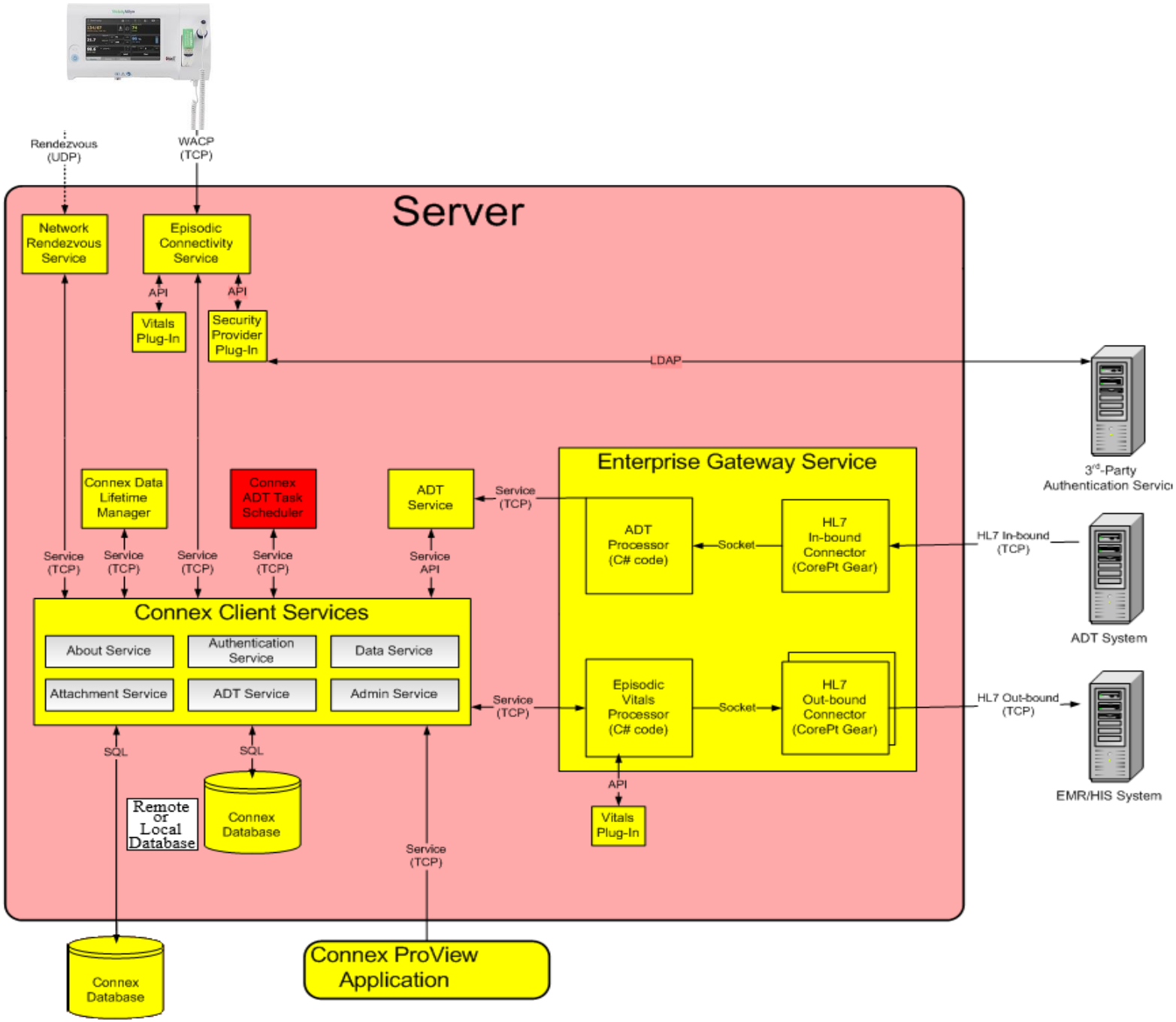
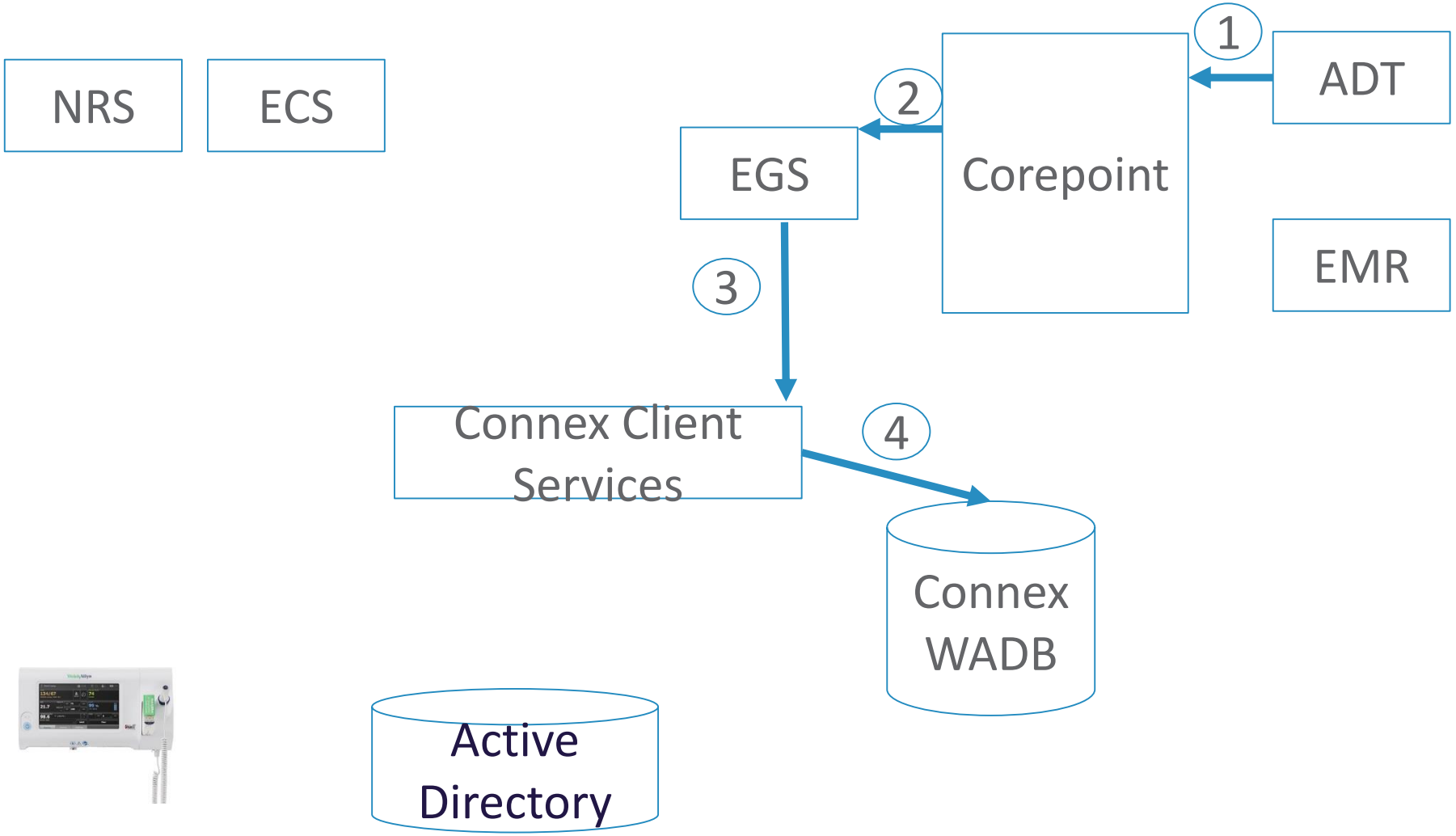
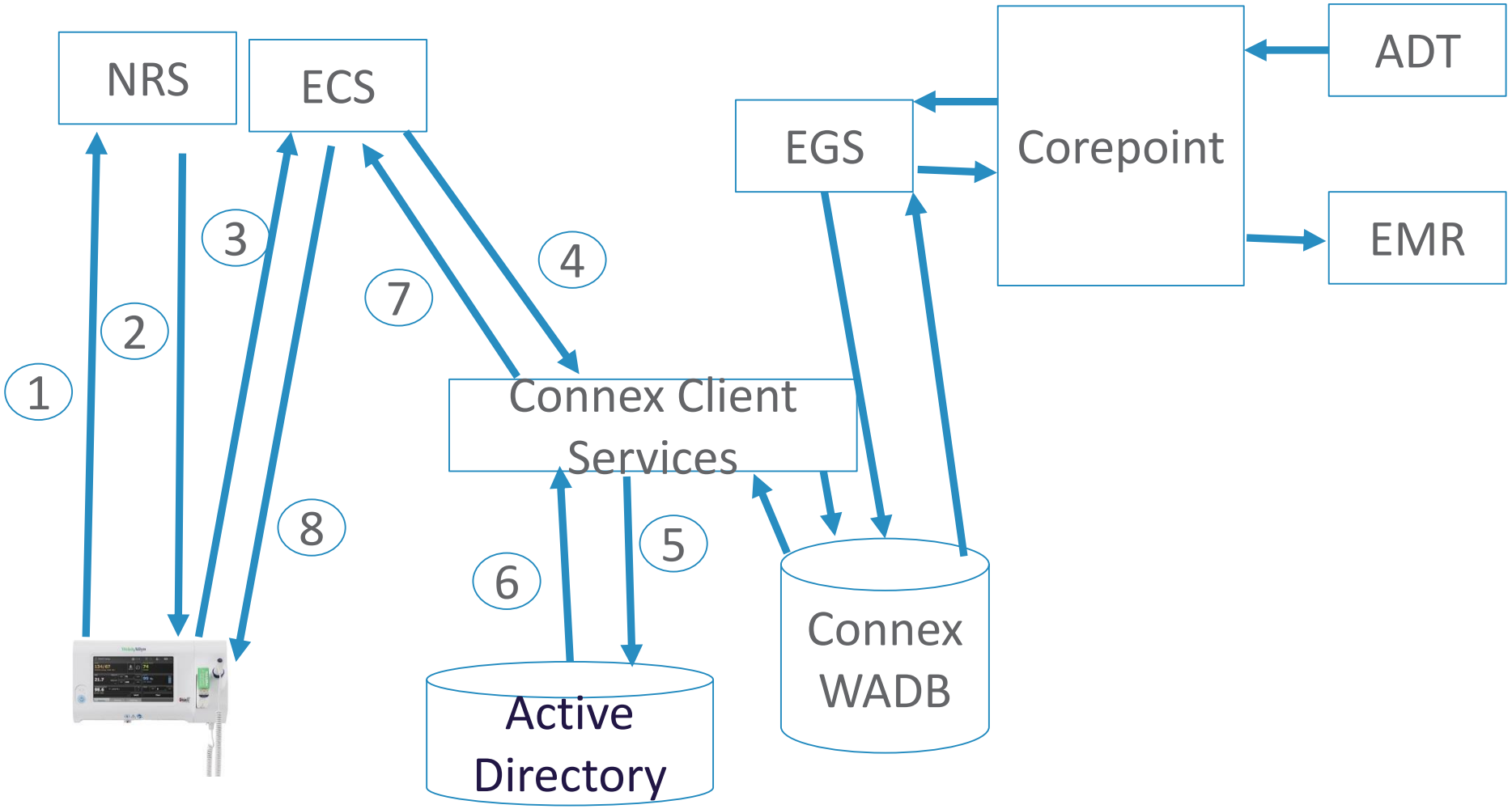

Rendezvous (UDP)
WACP (TCP)
Server
Network Rendezvous Service
Episodic Connectivity Service
API
API
Vitals Plug-In
Security Provider Plug-In
LDAP
3rd-Party Authentication Servic
Connex Data Lifetime Manager
Connex ADT Task Scheduler
ADT Service
Service (TCP)
Enterprise Gateway Service
ADT Processor (C# code)
Socket
HL7 In-bound Connector (CorePt Gear)
HL7 In-bound (TCP)
ADT System
Service (TCP)
Service (TCP)
Service (TCP)
Service (TCP)
Service API
Connex Client Services
About Service
Authentication Service
Data Service
Attachment Service
ADT Service
Admin Service
Service (TCP)
Episodic Vitals Processor (C# code)
Socket
HL7 Out-bound Connector (CorePt Gear)
HL7 Out-bound (TCP)
EMR/HIS System
SQL
SQL
Remote or Local Database
Connex Database
API
Vitals Plug-In
Service (TCP)
Connex Database
Connex ProView Application

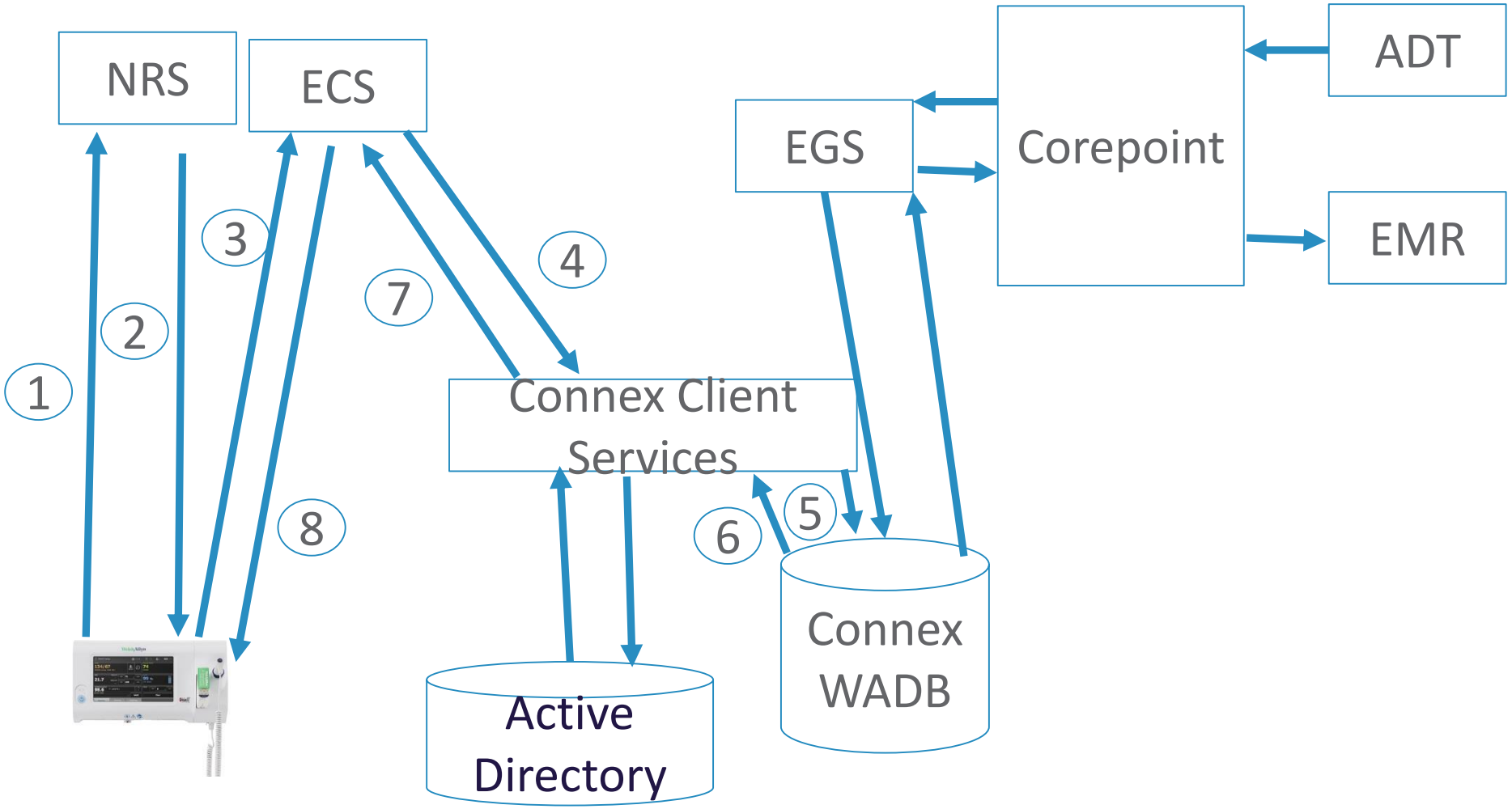
Flow of Data for ADT



Flow of Data for clinician authentication



Flow of Data for patient lookup



Flow of Data

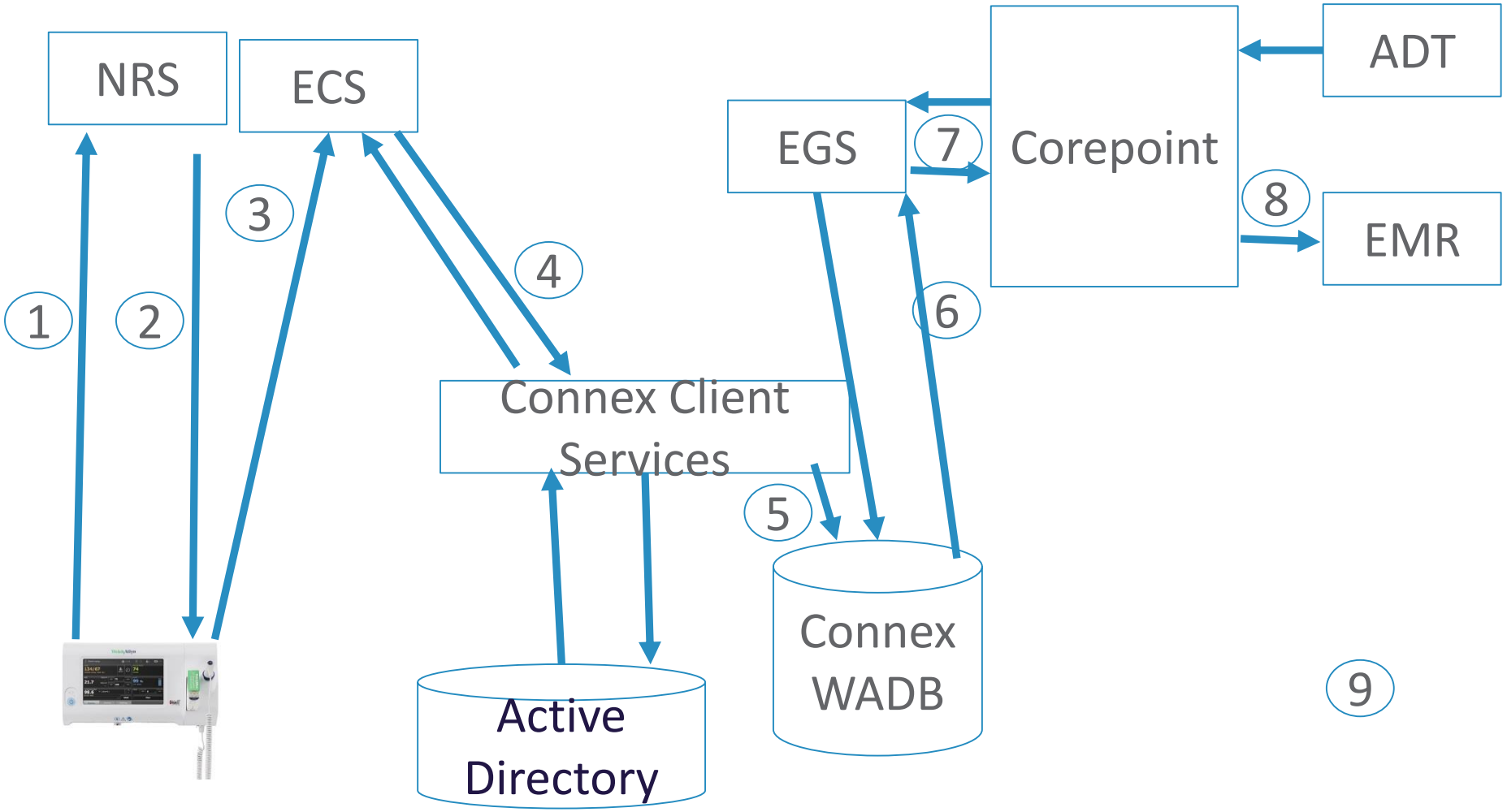


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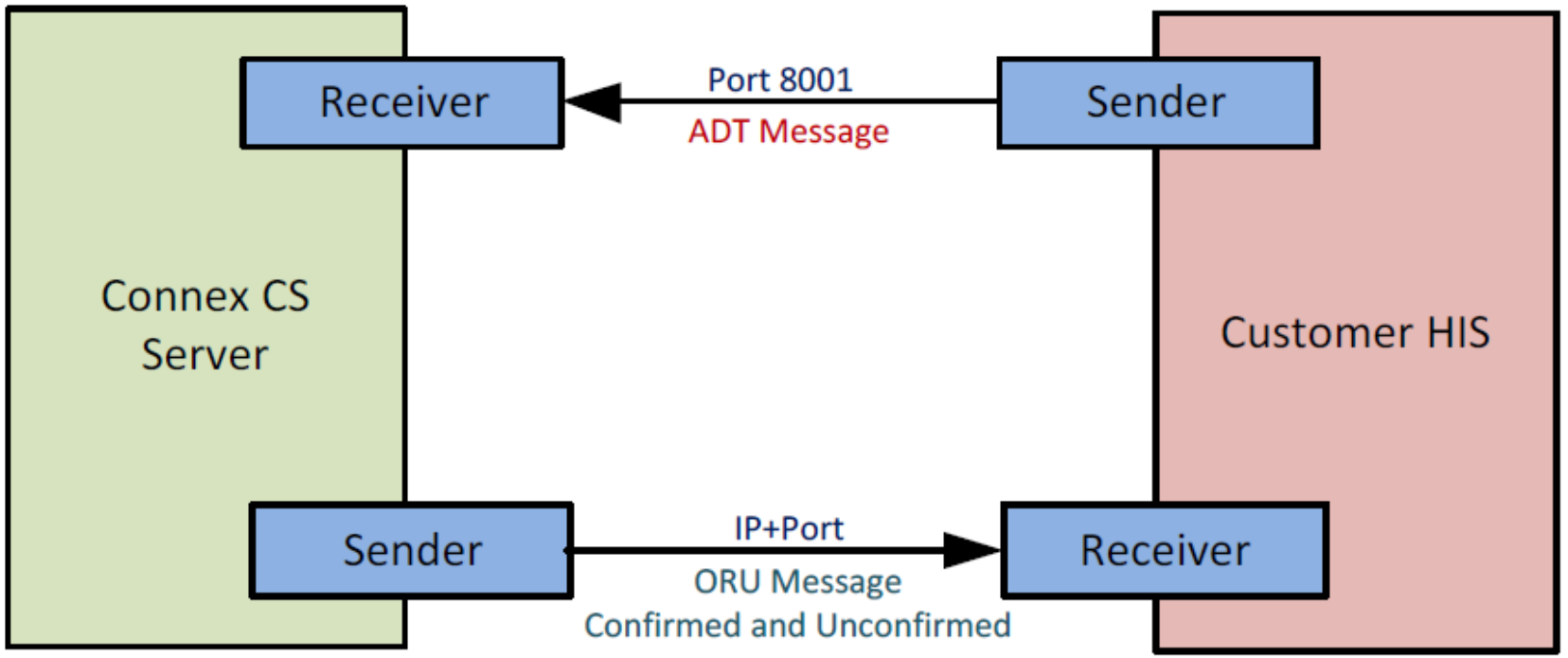
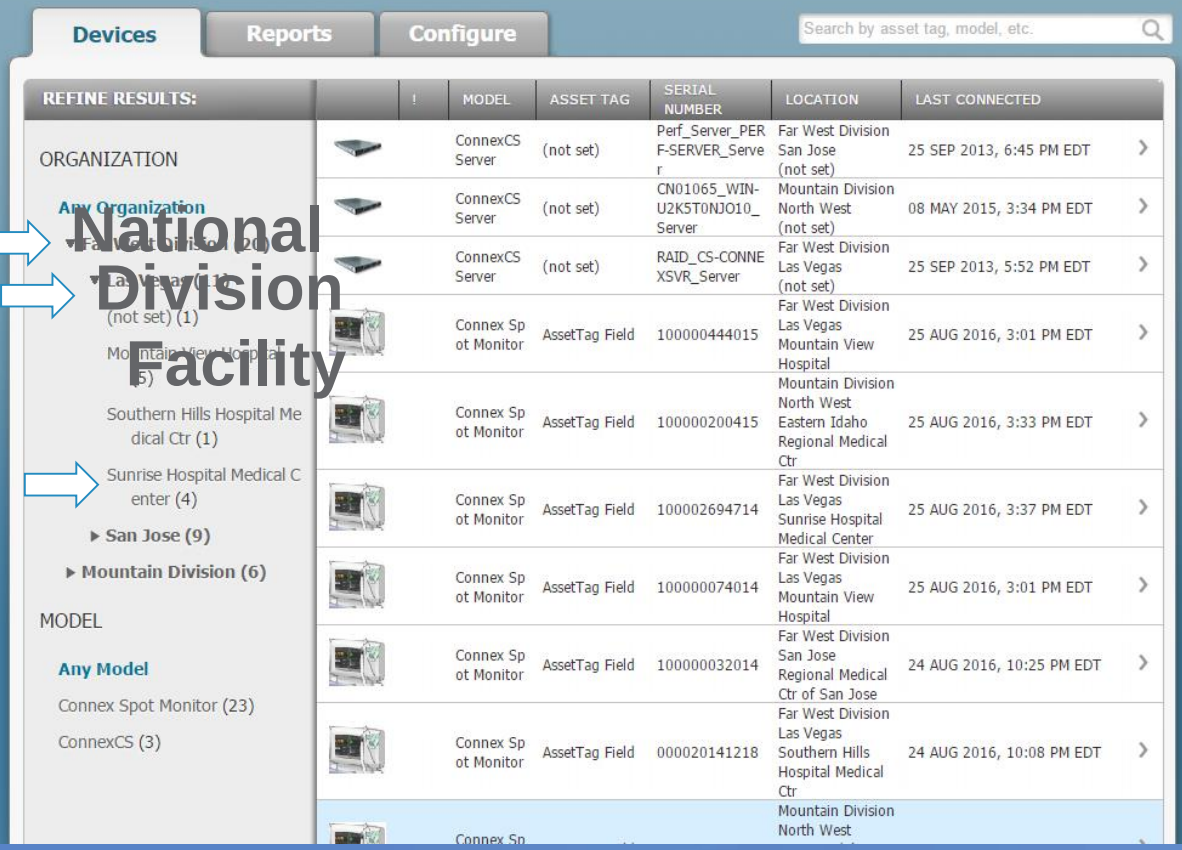
Figure 4: Single ORU Interface



PC: Customer

PC: Location

CSM: LocationID



National

Division

Facility

Supporting slides

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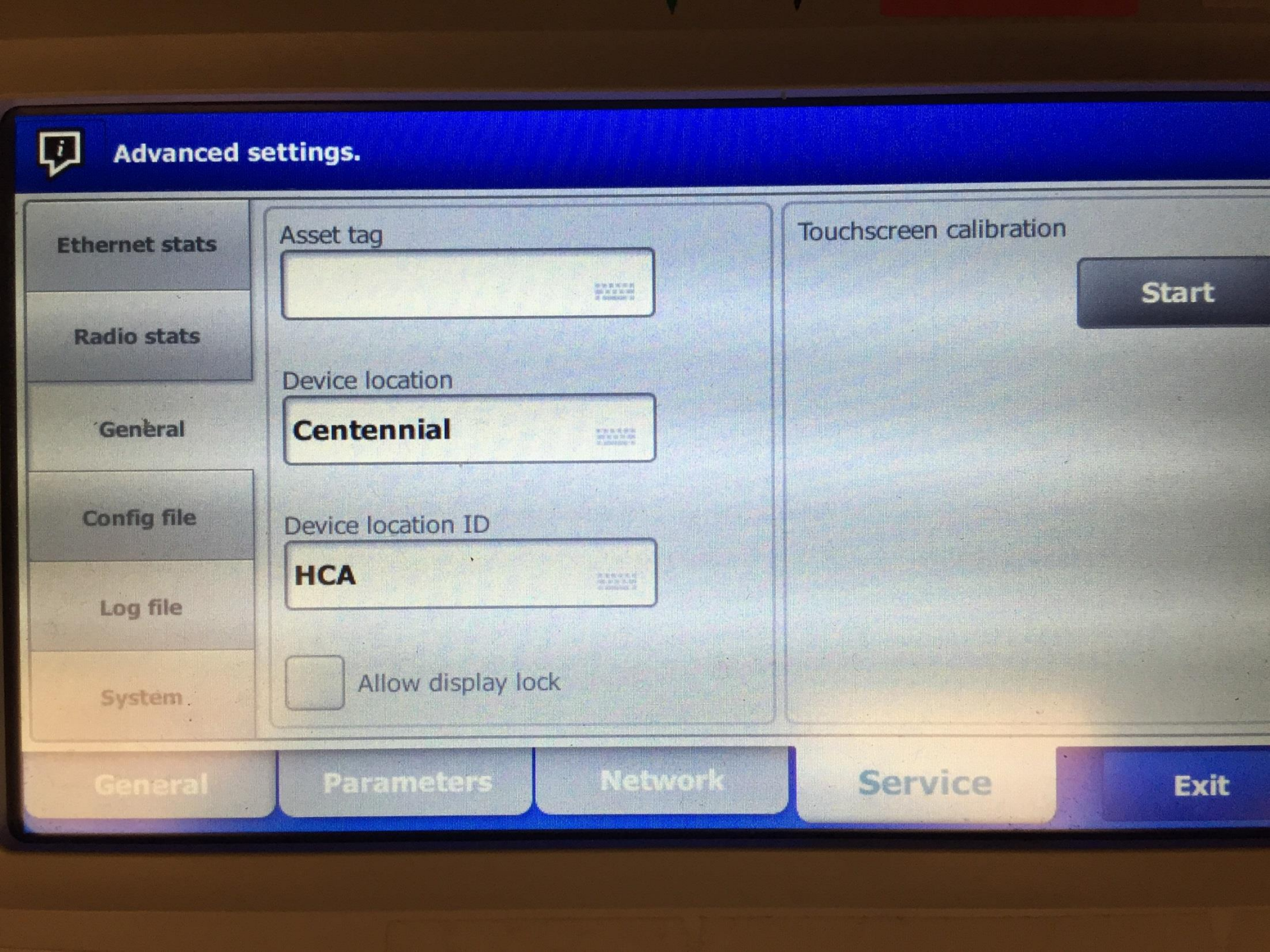
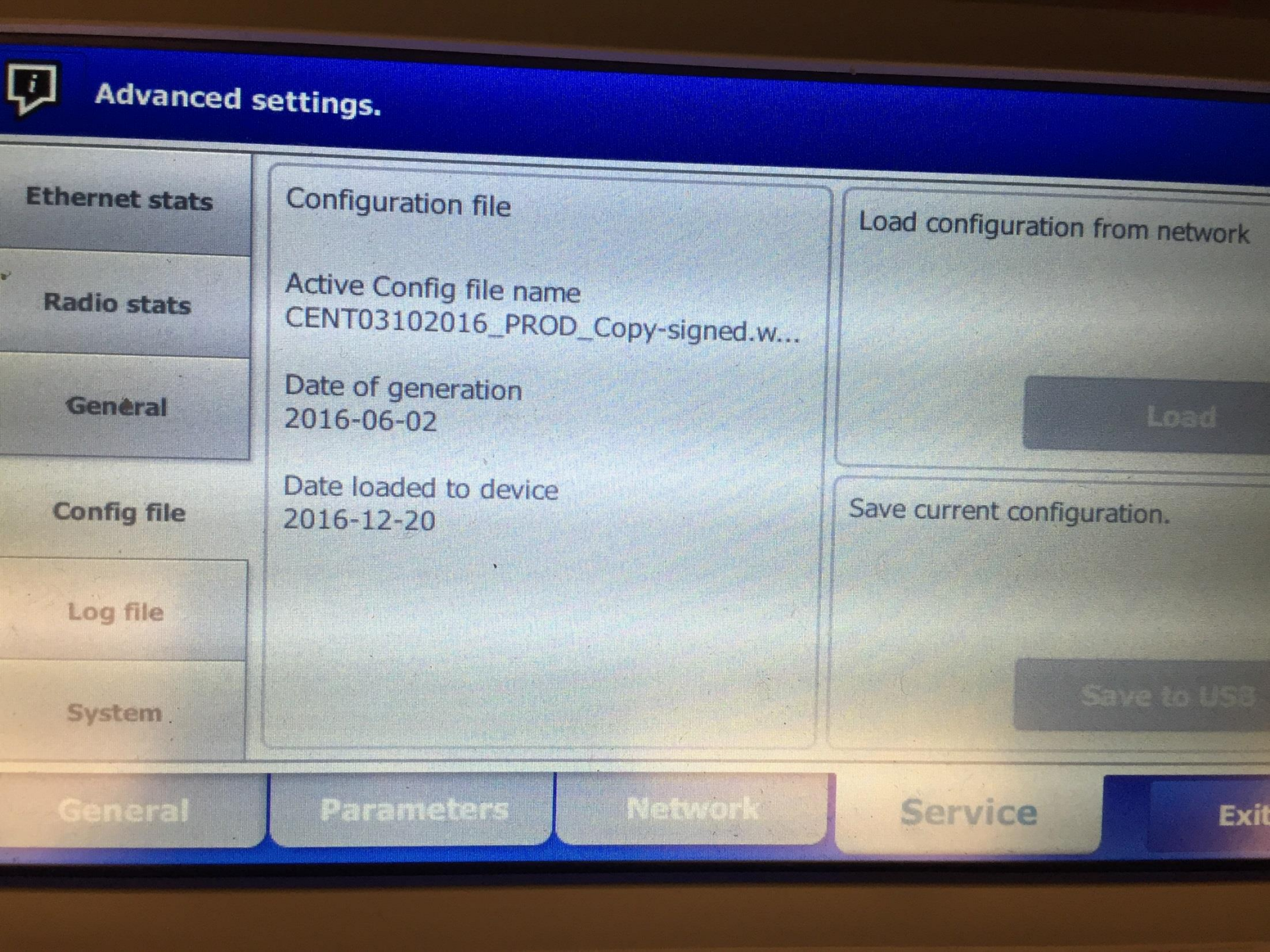
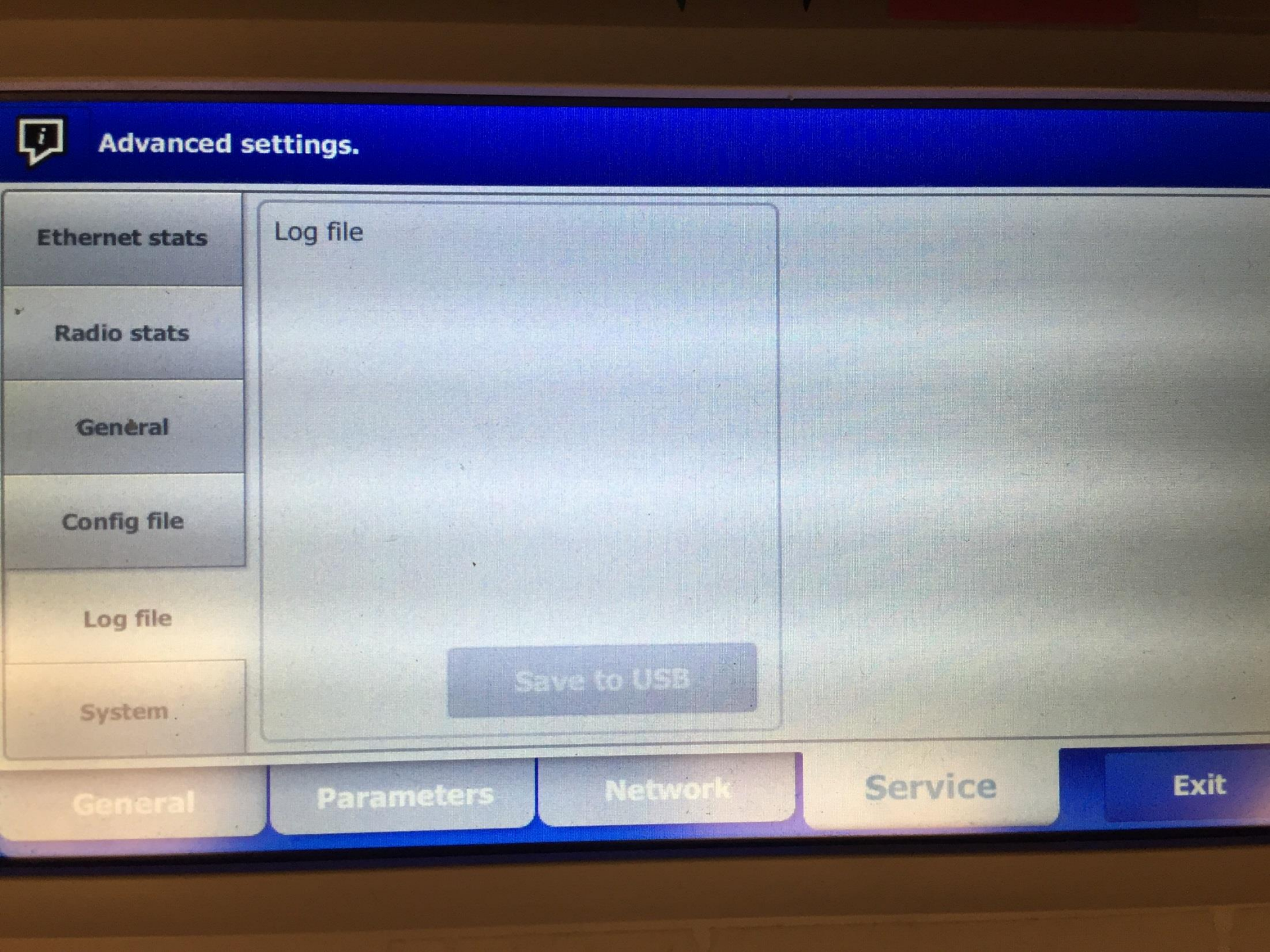
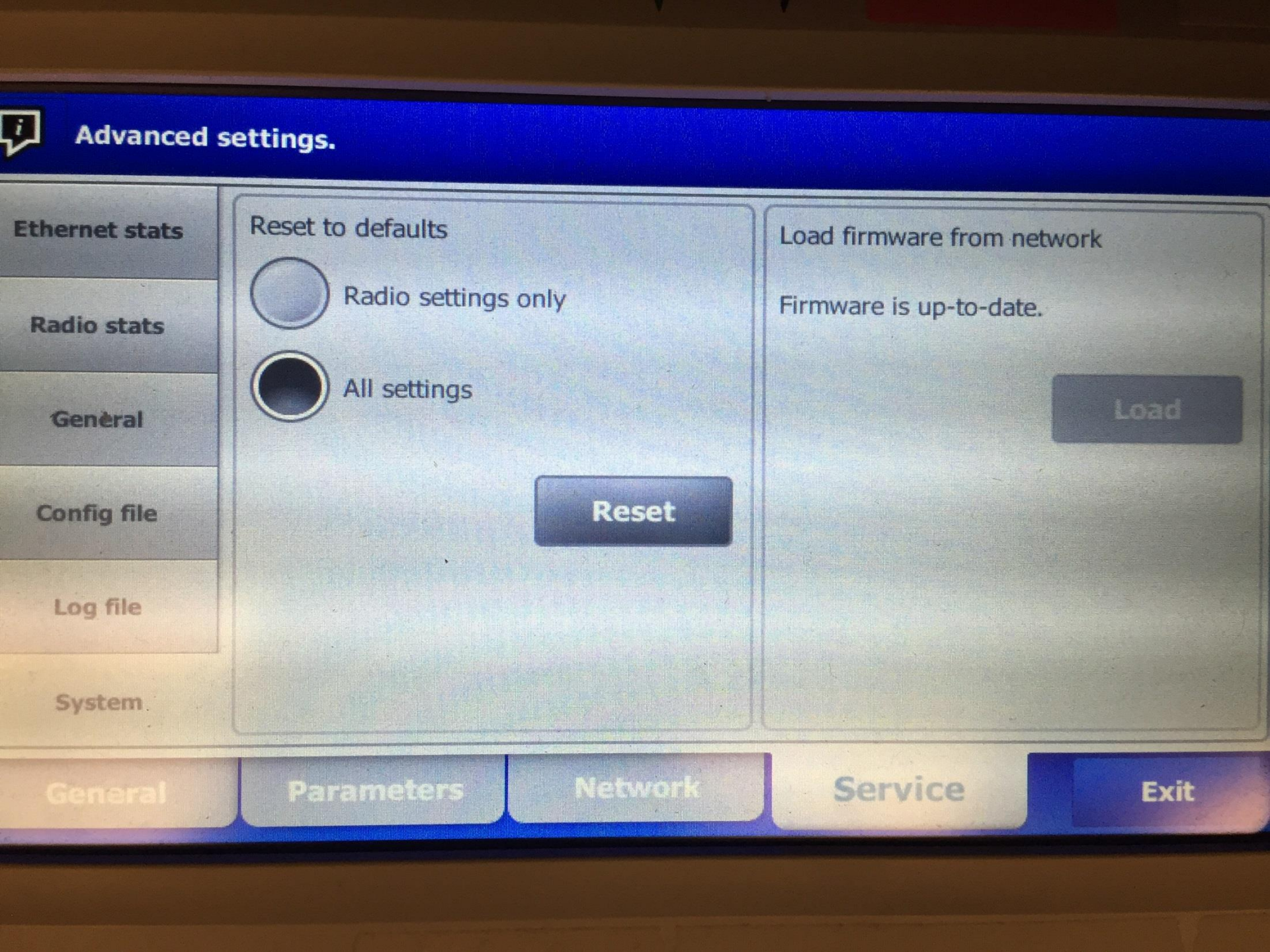

Advanced settings.
Ethernet stats
Radio stats
General
Config file
Log file
System
Asset tag
Device location
Centennial
Device location ID
HCA
Allow display lock
Touchscreen calibration
Start
General
Parameters
Network
Service
Exit


Advanced settings.
Ethernet stats
Radio stats
General
Config file
Log file
System
Configuration file
Active Config file name
CENT03102016_PROD_Copy-signed.w...
Date of generation
2016-06-02
Date loaded to device
2016-12-20
Load configuration from network
Load
Save current configuration.
Save to USB
General
Parameters
Network
Service
Exit


Advanced settings.
Ethernet stats
Radio stats
Genèral
Config file
Log file
System
Log file
Save to USB
General
Parameters
Network
Service
Exit


Advanced settings.
Ethernet stats
Radio stats
General
Config file
Log file
System
Reset to defaults
Radio settings only
All settings
Reset
Load firmware from network
Firmware is up-to-date.
Load
General
Parameters
Network
Service
Exit

  - https://www.youtube.com/watch?v=bTbHwnxCGaI
- Teamwork
  - https://www.youtube.com/watch?v=ftPOy4yUGMQ
- Funny leadership
  - https://www.youtube.com/watch?v=SA7bKo4HRTg