Function Description

Ascom Unite Connect for Nurse Call

4 March 2015 / Ver. A

About this document

This document describes Ascom Unite Connect for Nurse Call functionality.

Cross-references in the document

Throughout this document you will find cross-references in the text which indicate further details that can be found in other sections of this document. The cross-references are colored blue and linked to the relevant place in the document (example: see chapter 7. Related Documents on page 19). Positioning your cursor over the cross-reference text and clicking the left mouse button will take you to the relevant section.

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1. Introduction

1.1 What is Unite Connect for Nurse Call?

Part of the Ascom Messaging Suite, Ascom Unite Connect for Nurse Call integrates with leading nurse call systems to provide near real-time alert and message notification to nursing staff. Ascom Unite Connect for Nurse Call offers many benefits to care providers, including:

- Extending nurse call alerts to wireless devices and care area dashboards
- Streamlining workflow to handle patient calls
- Improving response time for patient requests
- Escalating patient calls automatically if there is no response
- Allowing care providers to prioritize patient responses to enhance quality of care
- Allowing care providers to manage their time more effectively and efficiently
- Creating a quieter environment by reducing overhead paging

Ascom Unite Connect for Nurse Call is one of Unite Connect's healthcare applications.

1.2 What are Unite Connect Applications?

Unite Connect applications provide alarm/event management and integration to external systems by receiving input via standard or proprietary protocols. Unite Connect enables two-way interactive messaging with wireless devices to easily communicate alarms, events, and alerts to enhance workflow and patient care.

1.3 Requirements

Refer to the following documentation regarding Ascom Unite Connect for Nurse Call:

- *Data Sheet, Unite Connect TD 93046EN*
- *Data Sheet, Unite Connect for Nurse Call TD 92983EN*
- *Configuration Manual, Unite Connect for Nurse Call TD 92976EN*

1.4 Licensing Considerations

An important aspect of Unite Connect for Nurse Call licensing is understanding how many location licenses are required to service a nurse call system installation. Each ''location'' represents a unique physical location within the facility which may be used to trigger an event that shall be managed by the Unite system. For example, a semi-private room with two beds capable of initiating events from either bed or room represents three separate locations licenses.

1.5 Abbreviations and Glossary

Catch Net	Catch Net is an Ascom Unite function in which unacknowledged Unite Events are automatically distributed to additional recipients independently of that Event's current assignment. For information about Events, see Event.
Event	An Event represents a real-world occurrence, such as a patient's action or a medical monitoring device, which is triggered by defined conditions.
location	A location is a physical location capable of initiating events and identifies itself uniquely. For example, a semi-private room with two beds capable of initiating events from both the beds and the room represents three separate locations. This distinction is important in regards to licensing in determining how many location licenses are required to implement an integration.
Unite Admin	Unite Admin is a Windows-based application used to configure and administer a Unite system.
Unite Assign	Ascom Unite Assign is used for scheduling and assignment of staff members to different work shifts and responsibilities.
Unite Connect	Unite Connect provides alarm/event management and integration to a variety of information systems such as for nurse call, patient monitoring, and RTLS applications.
Unite CM	Ascom Unite Connectivity Manager (Unite CM) interfaces to Ascom Messaging systems and provides messaging support to messaging devices such as phones and pagers.
Unite View	Ascom Unite View is used to centrally display specific integrated alarms and alerts.

2. Features for Supported Nurse Call Systems

Ascom Unite Connect for Nurse Call supports the following nurse call systems:

- Ascom teleCARE IP
- Ascom Telligence
- Hill-Rom® – NaviCare Nurse Call & COMLinx NCM
- Rauland-Borg – Responder V

Functionality between these nurse call systems vary based on features supported by each manufacturer. Table 1 outlines supported features for each nurse call system.

NOTE: See 3. Descriptions of Nurse Call System Features on page 4 for a description of all supported features within Ascom Unite Connect for Nurse Call, or click on a feature within the table.

Table 1. Features for Each Supported Nurse Call System

Feature	Ascom teleCARE IP	Ascom Telligence	Hill-Rom® – NaviCare Nurse Call & COMLinx NCM	Rauland-Borg – Responder V
Alert Customization	●	●	●	●
Ensure All Alerts Are Handled with a Notification Safety Net	●	●	●	●
Escalate Alerts to Other Care Providers	●	●	●	●
Alert Filtering	●	●	●	●
Alert Prioritization	●	●	●	●
Alert Dashboard	●	●	●	●
Provide Communication Back to Patients	●	●	●	●
Staff and Device Assignments	●	●	●	●
Module Redundancy	●	●	●	●
Interact with Alert Messages	●	●	●	●
Nurse Call System Location Importing	●	●		
Enhanced Organization, Location, and Event Management	●	●		
Active Alert Synchronization	●	●		
Remotely Cancel Ongoing Nurse Call Event	●			
Nurse Call System Receives Care Provider Response			●	

3. Descriptions of Nurse Call System Features

Reference the following sections which describe Ascom Unite Connect for Nurse Call features:

3.1 Action Handling

3.1.1 Escalate Alerts to Other Care Providers

If individuals on an assignment level are not available to address alerts describing patient needs, those alerts can be escalated to another assignment level. To ensure all patient needs are addressed in a timely manner, multiple sets of assignment levels can be configured to receive alerts should members of another level are not available.

3.1.2 Ensure All Alerts Are Handled with a Notification Safety Net

Ascom Unite Connect for Nurse Call provides a notification safety net, called Catch Net, which can be configured to notify any number of additional individuals responsible for patient care when alerts are unaddressed. Use Catch Net to ensure all patient requests are communicated.

3.1.3 Provide Communication Back to Patients

A care provider can press a single button on a supported wireless device to easily speak with patients requesting assistance, allow care providers to quickly understand the patient's need before traveling to the patient's location.

3.1.4 Nurse Call System Receives Care Provider Response

Nurse call systems which support this feature can receive and log a care provider's response to an alert. If an alert is not accepted or acknowledged, the nurse call system can use this information to escalate the alert to secondary or tertiary levels.

3.1.5 Remotely Cancel Ongoing Nurse Call Event

Nurse call systems which support this feature allows care providers to request the cancellation of an alert from a supported mobile device. As an option, care providers can press a ''cancel'' option; Ascom Unite Connect for Nurse Call then submits an alert cancellation request to the nurse call system on the care provider's behalf.

If configured, care providers can cancel an alert on their mobile devices in the following circumstances:

- after accepting an alert
- while on an active call with the patient associated with the alert
- after a call with the patient associated with the alert

3.2 Alert Presentation

3.2.1 Alert Prioritization

Care providers can quickly and easily differentiate the priority of their received nurse call alerts. Each alert is classified by a priority setting which can be unique to the conditions that triggered it.

Distributed alerts can be configured with audio and/or color coding based on their priority settings. For example, all high-priority alerts can be configured to play a unique sound and display a red-colored background when delivered to supporting devices.

3.2.2 Alert Customization

Events can be constructed with additional information to make alerts more meaningful to care providers. Information related to the patient location, priority of the alert, and other information about the patient's condition can be configured for presentation in each alert.

3.2.3 Alert Filtering

Alarm fatigue affects many care providers in healthcare facilities due to the high number of alarms, alerts, messages, and overhead paging that occurs in their work environment.
To address this, Ascom Unite Connect for Nurse Call can filter nurse call system messaging so that only the most important alerts are delivered to display devices.

3.3 Integration Management

3.3.1 Nurse Call System Location Importing

To more easily configure a nurse call system integration, import the locations from nurse call systems which support this feature. Taking advantage of this feature when initially configuring the integration:

- reduces the implementation effort of manually establishing corresponding nurse call locations in Unite.
- avoids much of the risk of introducing errors associated with the manual entry of location condition data.

3.3.2 Enhanced Organization, Location, and Event Management

Nurse call systems which support this feature provide enhanced management for organizations, locations, and events associated with the integration. Integrations associated with supporting nurse call systems use a ''mapping'' feature to:

- associate nurse call organizational units, such as a nursing unit, to Unite departments
- associate locations, such as rooms and beds, to Unite locations
- associate one or more nurse call system events, such as ''Code Blue'' and ''Code Pink'' nurse call events to ''Code Call'' Unite Event

3.4 Interact with Alert Messages

Care providers can respond to alerts by using a soft key on mobile devices to denote their availability by:

- accepting the alert
- assisting another patient and cannot address the alert
- calling the patient requiring assistance

3.5 Data Protection

3.5.1 Module Redundancy

The Unite Connect platform provides module redundancy for Ascom Unite Connect for Nurse Call. Module redundancy is a back-up feature whereby a primary, active Unite Connect module is supported by a secondary, back-up Unite Connect module. If the primary, active Unite Connect module fails, the secondary Unite Connect module automatically becomes active to ensure alert notifications are uninterrupted in the Ascom Unite Connect for Nurse Call integration.

NOTE: See 4.1 Unite Connect on page 8 for an introduction to Unite Connect.

3.5.2 Active Alert Synchronization

Nurse call systems which support this feature provide data synchronization by accepting subscriptions from the Unite system. The subscription provides synchronization between the nurse call system and the Unite system if a power/connectivity loss occurs or the module reboots; if this happens, Unite Connect for Nurse Call can re-initiate all active alerts from the nurse call system once connectivity is re-established.

3.6 Integrations with Other Ascom Products

3.6.1 Staff and Device Assignments

A Staff Assignment is typically a group of people tasked to perform similar functions and/or in a specific location, such as, for example, a group of nurses tasked to work one floor in a hospital.

Staff assignment levels are used in Ascom Unite Assign. Ascom Unite Assign is a software application that supports a single user interface to staff assignment across multiple healthcare systems like nurse call and patient monitoring. Ascom Unite Assign enables hospitals and healthcare clinicians to quickly and easily allocate staff resources across a patient ward or care area unit.

Staff assignment software applications in hospital settings provide these benefits:

- the elimination of manual assignment processes that are inherently inefficient
- increased consistency of staff responses to patient care through clearly defined responsibilities
- improve the patient experience with enhanced staff execution
- reduce operational costs

Through a single user interface, assign staff by simply dragging-and-dropping to work with patients, rooms, or beds, then specify which device each staff member is to use during a shift. Ascom Unite Assign even allows staff scheduling up to two weeks in advance.

3.6.2 Alert Dashboard

Displaying all patient alerts in a nurse call system at any given time allows care providers and managers to quickly assess how to use personnel and equipment in a care facility and better manage overall alert responsiveness and awareness.

To meet this need, Ascom Unite View enables a central display, or ''dashboard,'' of specific alarms and alerts across an entire hospital ward or unit. This dashboard of current alarm conditions allows managers and care providers to keep in touch with active patient alarms and alerts from a central location. This central dashboard provides an important secondary notification of alarms to better manage overall responsiveness and balance patient assignments. Ascom Unite View also mirrors active alarms and alerts sent to wireless devices.

Ascom Unite View offers these benefits:

- Combine message view for both nurse call and patient monitoring alerts.
- Display alerts in either a list view or a bed view where alerts are grouped by unit/ward, then by patient room/bed.
- Customize the sorting of alert information by priority status or by time received.
- Use Ascom Unite View as an alerting communication system in environments where wireless devices are not deployed.

4. Descriptions of Ascom Applications

This chapter summarizes Ascom applications and components associated with an Ascom Unite Connect for Nurse Call integration. See the following sections:

4.1 Unite Connect

What It Is

Unite Connect provides the platform for the Ascom Unite Connect for Nurse Call integration, offering module redundancy and support for all Ascom Unite applications and components. When an integration is configured, Unite Application Manager (Unite AM) sends staff assignments to the Unite Connect platform. During runtime, incoming data from the external nurse call system comes through the Unite Connect platform.

Unite Connect is installed on an Ascom Elise3 module.

When To Use

Unite Connect is a required module for all Ascom Unite Connect for Nurse Call integrations.

More Information

Elise3 module

Data Sheet, Elise3 Hardware TD 92678GB

Unite Connect

Data Sheet, Unite Connect TD 93046EN

Installation and Operation Manual, Unite Connect TD 93047EN

Unite Connect for Nurse Call

Data Sheet, Unite Connect for Nurse Call TD 92983EN

Configuration Manual, Unite Connect for Nurse Call TD 92976EN

4.2 Unite Application Manager (Unite AM)

What It Is

Unite Application Manager (Unite AM) is a Windows-based application server platform that hosts the following Unite applications which may be used with Unite Connect integrations (depending on licensing).

Unite Admin

Use Unite Admin to administer Unite Messaging Systems, including Unite Connect applications through a unified graphical user interface.

Unite Assign

Use Unite Assign for staff assignments throughout a patient ward or care area unit across multiple healthcare systems. Patient assignments be managed quickly and efficiently.

Unite View

Through a central dashboard, use Unite View to display alarms and alerts across an entire hospital ward or care area unit. Unite View provides an important secondary alarm notification to allow care providers to better manage overall responsiveness and to balance patient assignments.

Unite Alarm Agent

Unite Alarm Agent provides a unified approach to manage rapid response team communication and dispatching. When an emergency occurs, Unite Alarm Agent delivers alert messages to the relevant response team members, quickly mobilizing resources.

When To Use

Use Unite AM in the following capacities based on application functionality. Application availability and access is based on application licensing and individual user log on rights.

- Unite Admin is a required component of a Unite system. Use Unite Admin to:
  - Manage the system infrastructure related to the integration
  - Create or revise events, such as alarms, that are to be used throughout the integration
  - Adjust organizations and locations associated with the integration
  - Make changes to users within the care facility which might affect the integration
  - Change devices, and their numbers, within the care facility which would affect the integration
- Use Unite Assign to:
  - Create or revise staff assignments across multiple healthcare systems including patient monitoring and nurse call
  - Assign which mobile devices are assigned to which care provider during a shift
  - Specify staff response to patient care through clearly defined responsibilities and automatic escalation
  - Optimize staff workflows to improve patient care and reduce operational cost
  - Create staff assignments up to two weeks in advance

- Use Unite View to:
  - Enable secondary visual and audible alarm notification
  - Better manage overall alert responsiveness and awareness
  - Balance workflow and optimize patient assignment
  - Manage patient assignments in environments where no mobile devices are deployed
  - Centrally dispatch an alert to a care provider's mobile device rather than having alerts automatically forwarded to an assigned care provider
- Use Unite Alarm Agent to:
  - Reduce risk of error and time required to assemble rapid response teams
  - Enhance patient safety by helping minimize adverse events
  - Measure, benchmark, and improve response performance
  - Free up staff resources previously allocated to manual alerting routines
  - Provide greater efficiency over cumbersome manual alerting systems

More Information

Unite Application Manager

Installation Guide, Unite Application Manager TD 92971EN

Configuration Notes, Unite Application Manager TD 92993EN

Unite Admin

Unite Admin System Configuration Help

Unite View

Data Sheet, Unite View TD 93045EN

Installation Guide, Unite View Client TD 93068EN

User Manual, Unite View TD 93008

Unite Alarm Agent

Data Sheet, Unite Alarm Agent TD 93044EN

Installation Guide, Unite Alarm Agent TD 93043EN

4.3 Unite Connectivity Manager (Unite CM)

What It Is

Unite Connectivity Manager (Unite CM) provides the core messaging and system services along with interfaces to messaging devices such as phones and pagers for the Unite messaging platform.

When To Use

Unite CM is required for any Unite system to enable sending messages and alerts to any messaging devices, including:

- sending messages to mobile devices and pagers
- sending SMTP mail
- sending messages to external text displays and other compatible fixed devices

More Information

Ascom Elise3 module

Data Sheet, Elise3 Hardware TD 92678GB

Ascom Unite Connectivity Manager

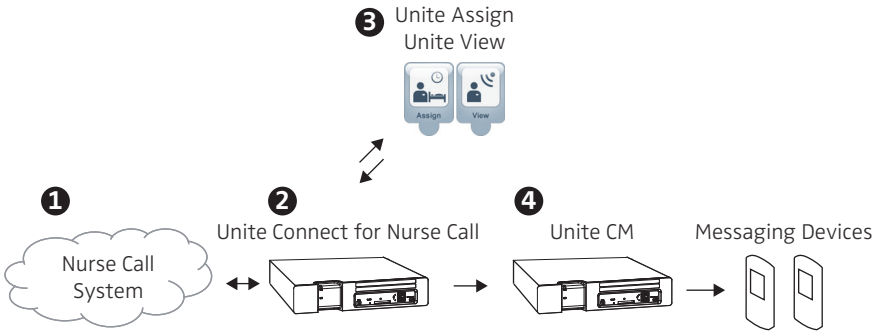
Data Sheet, Unite Connectivity Manager TD 92739EN

Configuration Manual, Unite CM TD 92735EN

5. Overview of Data Flow for Nurse Call Integrations

A nurse call system installation can be customized to a customer's requirements. Figure 1 outlines the data flow for an example nurse call system integration. Below the illustration are descriptions of each call out.

Figure 1. Outline of an example nurse call system installation



1 The external nurse call system submits a message, alert, or alarm.

2 Ascom Unite Connect for Nurse Call receives input from the external nurse call system and determines if and which event shall be triggered.

If an event is triggered, then Ascom Unite Connect for Nurse Call manages that triggered event until the event is completed.

3 Unite Assign and Unite View interact with Ascom Unite Connect for Nurse Call for the following functions:

- Ascom Unite Assign is used for scheduling and assignment of staff members to devices, job roles, and notification coverage.
- Ascom Unite View provides a central dashboard view of active nurse call alerts and alarms which helps care providers better manage overall responsiveness and balance patient assignments.

4 Unite Connectivity Manager (Unite CM) facilitates the distribution of messages to messaging devices.

6. System Architectural Overview

This chapter provides an overview of system architectures for nurse call systems supported by Ascom Unite Connect for Nurse Call. See the following sections:

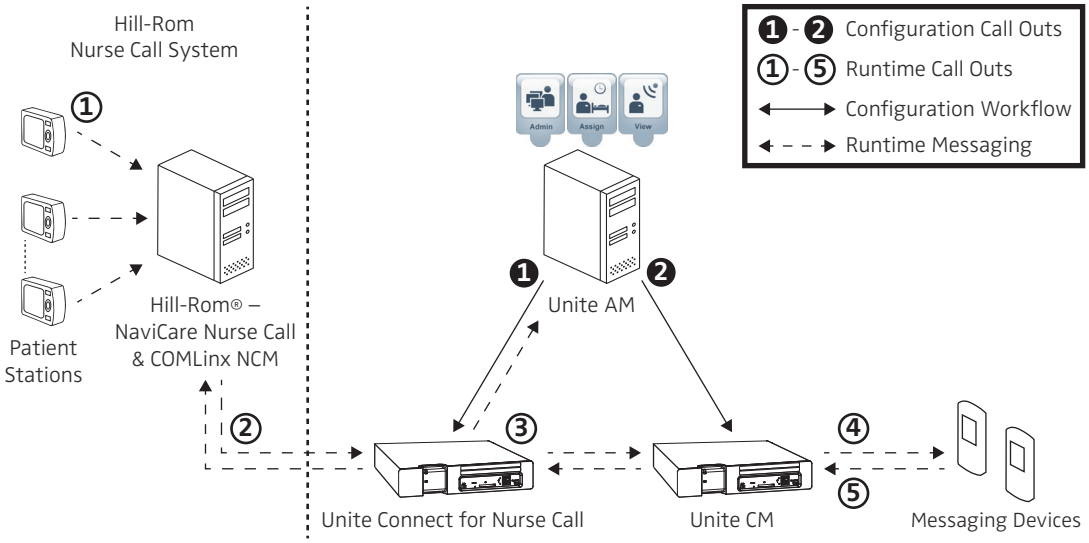
6.1 Hill-Rom® – NaviCare Nurse Call & COMLinx NCM

Figure 2 depicts Hill-Rom® – NaviCare Nurse Call & COMLinx NCM system architecture in an Ascom Unite Connect for Nurse Call integration. The illustration outlines:

- how settings are propagating from Unite AM to the Unite Connect for Nurse Call and Unite CM modules (represented by black lines and black-background call outs)
- how an Event is propagated during runtime (represented by dotted lines and white-background call outs)

Below the illustration are descriptions for both configuration and runtime call outs.

Figure 2. Hill-Rom® – NaviCare Nurse Call & COMLinx NCM system architecture



Configuration Workflow

See Figure 2 on page 13 for the following configuration call out explanations:

1 Unite AM sends staff assignments to the Unite Connect for Nurse Call module (as set in Unite Assign).

2 Unite AM sends device information to the Unite CM module. This is so Unite CM can deliver runtime messages to appropriate users and the devices they are using.

Runtime Workflow

See Figure 2 on page 13 for the following runtime call out explanations:

1 Hill-Rom® – NaviCare Nurse Call & COMLinx NCM patient stations send events as they occur within the facility.

2 The Unite Connect for Nurse Call module interacts with the nurse call system to receive events.

3 Each incoming Hill-Rom® – NaviCare Nurse Call & COMLinx NCM event is processed by the Unite Connect for Nurse Call module. The module determines conditions by which an event should trigger an alert and who should receive that alert.

If an event meets conditions in which an alert should be triggered, the Unite Connect for Nurse Call module sends each alert to:

- Unite CM for delivery
- Unite View to display the alert on its dashboard

4 Unite CM delivers each alert. Unite CM may deliver alerts to the designated devices and services (collectively referred to as ''messaging devices'').

5 Devices which support two-way messaging allow recipients to respond to the alert:

- If the alert is acknowledged, the messaging device sends a message to the nurse call system. The return message is routed back through the Unite CM and Unite Connect for Nurse Call modules to the nurse call system.
- If the alert is not responded to in a set period of time, the Unite Connect for Nurse Call module sends a message to the nurse call system.

The nurse call system receives and can log the alert response. If the alert was not acknowledged, the nurse call system can escalate the alert to a secondary or tertiary level.

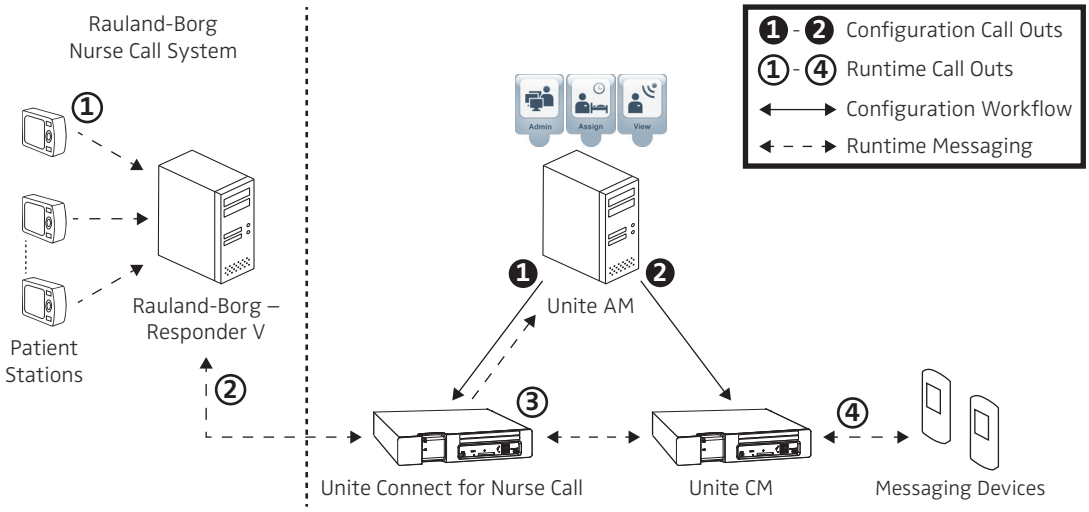
6.2 Rauland-Borg – Responder V

Figure 3 on page 15 depicts Rauland-Borg – Responder V system architecture in an Ascom Unite Connect for Nurse Call integration. The illustration outlines:

- how settings are propagating from Unite AM to the Unite Connect for Nurse Call and Unite CM modules (represented by black lines and black-background call outs)
- how an Event is propagated during runtime (represented by dotted lines and white-background call outs)

Below the illustration are descriptions for both configuration and runtime call outs.

Figure 3. Rauland-Borg – Responder V system architecture



Configuration Workflow

See Figure 3 for the following configuration call out explanations:

1 Unite AM sends staff assignments to the Unite Connect for Nurse Call module (as set in Unite Assign).

2 Unite AM sends device information to the Unite CM module. This is so Unite CM can deliver runtime messages to appropriate users and the devices they are using.

NOTE: Rauland-Borg nurse call systems can leverage Ascom Unite Shared Assign to use a single application to define staff assignments across multiple integrations including nurse call and patient monitoring systems. Retrieved information includes assignments to relate units, users, locations, devices, and teams between systems.

For more information, see *Function Description, Unite Shared Assign TD 92997EN*.

Runtime Workflow

See Figure 3 for the following runtime call out explanations:

1 Rauland-Borg – Responder V patient stations send events as they occur within the facility.

2 The Unite Connect for Nurse Call module interacts with the nurse call system to receive events.

3 Each incoming Rauland-Borg – Responder V event is processed by the Unite Connect for Nurse Call module. The module determines conditions by which an event should trigger an alert and who should receive that alert.

If an event meets conditions in which an alert should be triggered, the Unite Connect for Nurse Call module sends each alert to:

- Unite CM for delivery
- Unite View to display the alert on its dashboard

4 Unite CM delivers each alert. Unite CM may deliver alerts to the designated devices and services (collectively referred to as ''messaging devices'').

Devices which support two-way messaging allow recipients to respond to the alert.

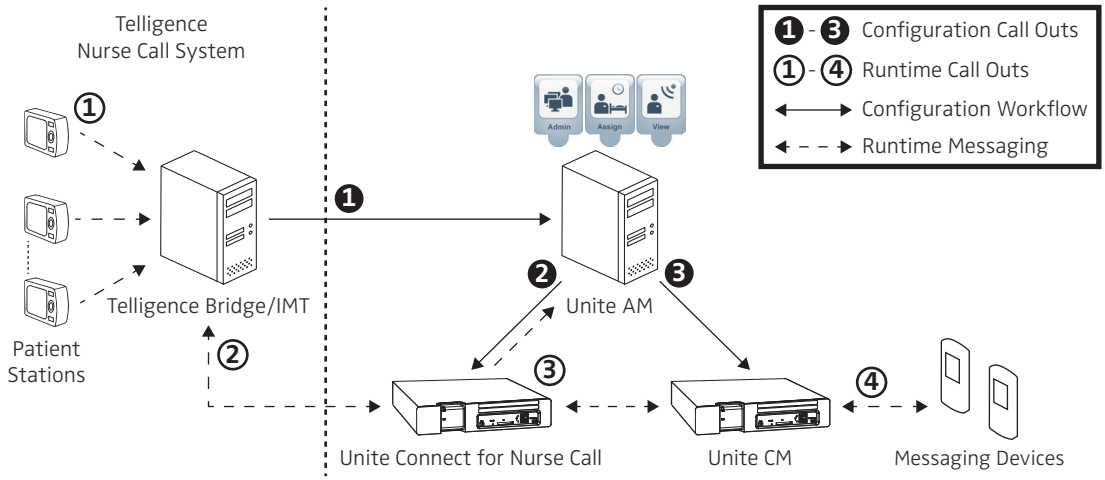
6.3 Ascom Telligence

Figure 4 depicts Ascom Telligence system architecture in an Ascom Unite Connect for Nurse Call integration. The illustration outlines:

- how settings are propagating from Unite AM to the Unite Connect for Nurse Call and Unite CM modules (represented by black lines and black-background call outs)
- how an Event is propagated during runtime (represented by dotted lines and white-background call outs)

Below the illustration are descriptions for both configuration and runtime call outs. For a description of the IMT shown in Figure 4, see Appendix C. Design Considerations: Ascom Telligence Nurse Call System on page 24.

Figure 4. Ascom Telligence system architecture



Configuration Workflow

See Figure 4 for the following configuration call out explanations:

1 The IMT sends all locations (and events associated with those locations) to Unite AM.

2 Unite AM sends staff assignments to the Unite Connect for Nurse Call module (as set in Unite Assign).

3 Unite AM sends device information to the Unite CM module. This is so Unite CM can deliver runtime messages to appropriate users and the devices they are using.

Runtime Workflow

See Figure 4 for the following runtime call out explanations:

1 Ascom Telligence patient stations send events to the Telligence Bridge/IMT as they occur within the facility.

2 The Unite Connect for Nurse Call module subscribes to the IMT to receive those events from the nurse call system. The subscription is important: if synchronization is lost

with the IMT due to the module rebooting or power/connectivity loss, the Unite Connect for Nurse Call module can solicit all events from the IMT once connectivity is re-established.

Once the Unite Connect for Nurse Call module has subscribed to an IMT, that IMT sends Telligence events to the module.

3 Each incoming Telligence event is processed by the Unite Connect for Nurse Call module. The module determines conditions by which an event should trigger an alert and who should receive that alert.

If an event meets conditions in which an alert should be triggered, the Unite Connect for Nurse Call module sends each alert to:

- Unite CM for delivery
- Unite View to display the alert on its dashboard

4 Unite CM delivers each alert. Unite CM may deliver alerts to the designated devices and services (collectively referred to as "messaging devices").

Devices which support two-way messaging allow recipients to respond to the alert.

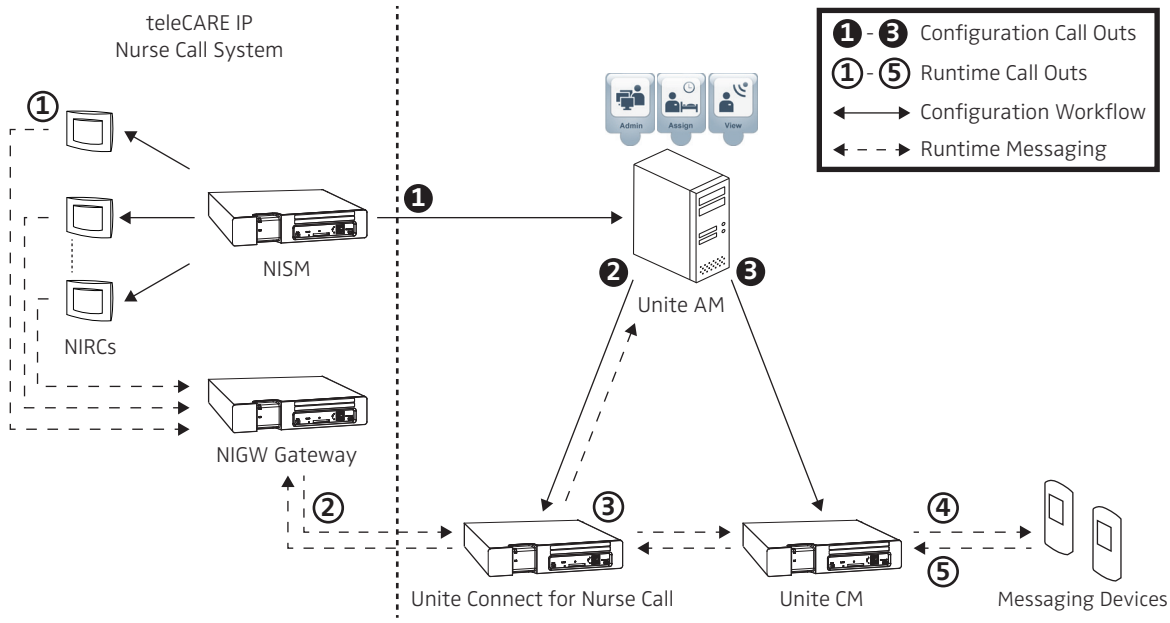
6.4 Ascom teleCARE IP

Figure 5 depicts Ascom teleCARE IP system architecture in an Ascom Unite Connect for Nurse Call integration. The illustration outlines:

- how settings are propagating from Unite AM to the Unite Connect for Nurse Call and Unite CM modules (represented by black lines and black-background call outs)
- how an Event is propagated during runtime (represented by dotted lines and white-background call outs)

Below the illustration are descriptions for both configuration and runtime call outs. For a description of the NISM or NIGW Gateway shown in Figure 5, see Appendix D. Design Considerations: Ascom teleCARE IP Nurse Call System on page 26.

Figure 5. Ascom teleCARE IP system architecture



Configuration Workflow

See Figure 5 on page 17 for the following configuration call out explanations:

1 The NISM sends all locations (and events associated with those locations) to Unite AM.

2 Unite AM sends staff assignments to the Unite Connect for Nurse Call module (as set in Unite Assign).

3 Unite AM sends device information to the Unite CM module. This is so Unite CM can deliver runtime messages to appropriate users and the devices they are using.

Runtime Workflow

See Figure 5 on page 17 for the following runtime call out explanations:

1 Ascom teleCARE IP room controllers (NIRCs) send events as they occur within the facility. The NIGW Gateway (Nurse Call Gateway) collects these events; it coordinates messaging between the nurse call system and the Ascom Unite Connect for Nurse Call integration.

2 The Unite Connect for Nurse Call module maintains a subscription with the NIGW to receive events as they are reported from room controllers. The subscription provides synchronization which guarantees events are delivered even if the module is rebooted due to power or connectivity issues.

3 Each incoming teleCARE IP event is processed by the Unite Connect for Nurse Call module. The module determines conditions by which an event should trigger an alert and who should receive that alert.

If an event meets conditions in which an alert should be triggered, the Unite Connect for Nurse Call module sends each alert to:

- Unite CM for delivery
- Unite View to display the alert on its dashboard

4 Unite CM delivers each alert. Unite CM may deliver alerts to the designated devices and services (collectively referred to as ''messaging devices'').

5 Devices which support two-way messaging allow recipients to respond to those alerts. If a message recipient remotely cancels an alert from a supporting messaging device, a cancellation request is submitted to the teleCARE IP nurse call system.

7. Related Documents

Unite Admin System Configuration Help	
Data Sheet, Elise3 Hardware	TD 92678GB
Data Sheet, Unite Messaging Suite for Healthcare	TD 92948EN
Data Sheet, Unite Connect	TD 93046EN
Installation and Operation Manual, Unite Connect	TD 93047EN
Installation Guide, Unite Application Manager	TD 92971EN
Configuration Notes, Unite Application Manager	TD 92993EN
Data Sheet, Unite Connectivity Manager	TD 92739EN
Configuration Manual, Unite CM	TD 92735EN
Data Sheet, Unite Connect for Nurse Call	TD 92983EN
Configuration Manual, Unite Connect for Nurse Call	TD 92976EN
Data Sheet, Unite View	TD 93045EN
Installation Guide, Unite View Client	TD 93068EN
User Manual, Unite View	TD 93008
Data Sheet, Unite Alarm Agent	TD 93044EN
Installation Guide, Unite Alarm Agent	TD 93043EN
Function Description, Unite Shared Assign	TD 92997EN
Planning Guide, Telligence	P/N 3101214
System Description, teleCARE IP	TD 92608EN

8. Document History

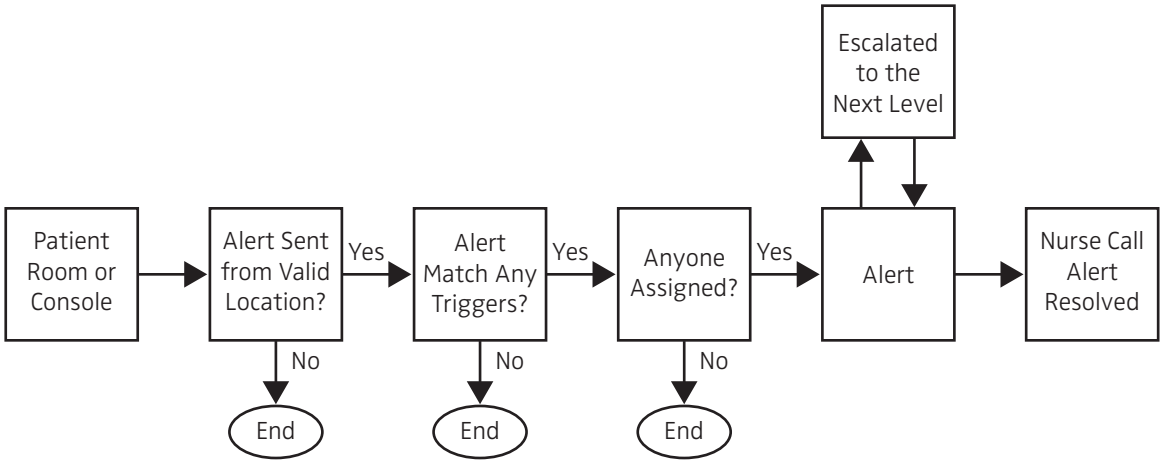
For details in the latest version, see change bars in the document.

Version	Date	Description
A	2 March 2015	First released version

Appendix A. Alert Processing Workflow

Alert processing workflow within a nurse call system can be customized to a customer's workflow requirements. Figure 6 illustrates an example how an alert from a nurse call system can be resolved.

Figure 6. Overview of an alert workflow



In this example, an alert is handled as an Event using the following workflow:

- A patient initiates an alert by pressing a button on a console. Alerts can be generated from a bed-side console, a room console, or other nurse call peripherals.
- Ascom Unite Connect for Nurse Call determines whether the alert comes from a valid location. Only Events delivered to provisioned locations are handled by Ascom Unite Connect for Nurse Call.
- Unite Connect for Nurse Call determines whether the alert matches any configured Event triggers, such as code calls, patient, and staff assistance requests.
- Alerts matching an Event trigger are associated with a care provider based on the relationship established in the staff assignment application, Unite Assign, then are delivered to Unite Connectivity Manager (Unite CM).
- Unite CM sends the alert to the assigned care provider(s).
- If the assigned care provider is unable to accept or is unable to respond to the request within a configurable time period, the alert is automatically escalated to additional staff based on the configured workflow.

For more information about alarm processing, see *Configuration Manual, Unite Connect for Nurse Call TD 92976EN*.

Appendix B. Design Considerations: Data Throughput

There are many major considerations when designing a system, such as the number of access points, Unite CMs, and Ascom Unite Connect for Nurse Call modules needed to adequately support a customer's system requirements. When designing a system, consider the following:

- How many users will use the system?
- Which times of day will the system be heavy-loaded?
  The system shall be planned so it cannot be overloaded during peak hours.
- What is the capacity of the network/backbone?
  The network/backbone shall be adapted to handle the required amount of data transmitted in the system, even during heavy load times.

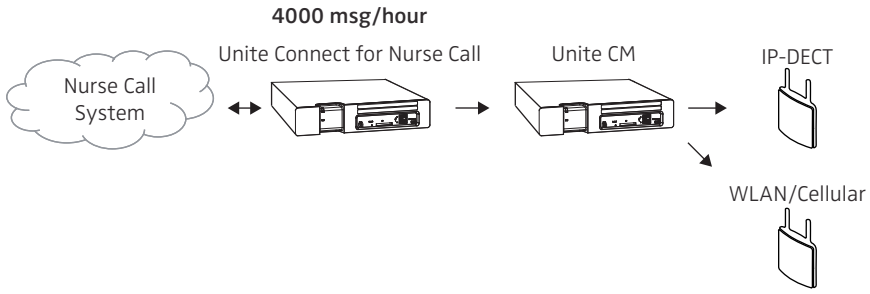
B.1 Messaging Capacity

The messaging capacity in a system can be affected by a number of items, including the number of Unite Connect integrations (based on the number of locations) and the type of wireless system.

NOTE: For more information regarding Unite Connectivity Manager's message capacity, see *Data Sheet, Unite Connectivity Manager TD 92739EN*.

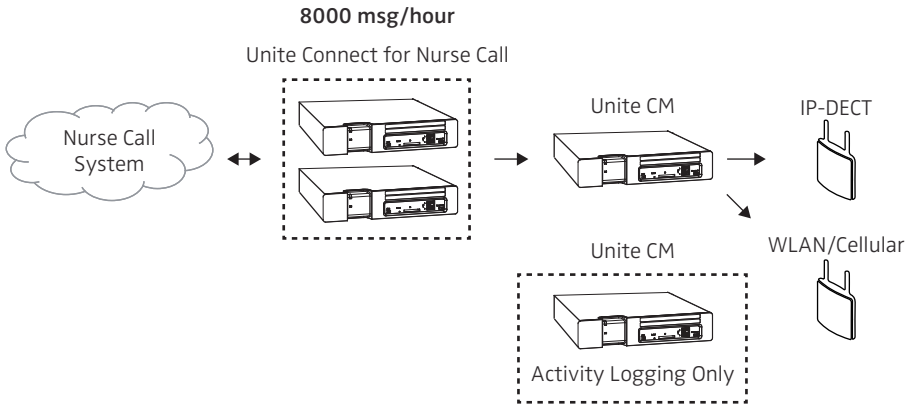
A basic system shown in Figure 7 includes one Ascom Unite Connect for Nurse Call module and one Unite Connectivity Manager (Unite CM) module. In an ideal environment, this configuration can provide up to 4000 messages/hour message capacity.

Figure 7. Standard system



The system shown in Figure 8 includes multiple Ascom Unite Connect for Nurse Call and Unite CM modules, presumably to support more than 1000 locations. A separate Unite CM module is dedicated to support activity logging. In an ideal environment, this configuration can provide up to 8000 messages/hour.

Figure 8. Large system



B.2 Backbone Capacity

Depending on the network size, a backbone of a least 100 Mbps should be used. See the System Planning documentation for IP-DECT or VoWiFi.

Appendix C. Design Considerations: Ascom Telligence Nurse Call System

This appendix outlines Ascom Telligence nurse call system design considerations beyond the basic system architecture in 6. System Architectural Overview on page 13. Content in this appendix is not intended to be used as a planning guide; see *Planning Guide, Telligence P/N 3101214* on Ascom Support's ''Nurse Call Guide'' Web site.

C.1 Description of the Integration Module for Telligence (IMT)

The Integration Module for Telligence (IMT) allows the Telligence nurse call system to integrate with Ascom's Unite platform. The IMT provides the following services:

- The IMT facilitates the sharing of location and event information with the rest of the Unite system infrastructure.
- The IMT coordinates messaging between the nurse call system and the Ascom Unite Connect for Nurse Call integration.

C.2 Scalability Considerations

The IMT has the following scalability considerations and attributes:

- One IMT supports up to five Telligence systems and 25 ProCare 6000 systems.
- One IMT supports up to two Ascom Unite Connect for Nurse Call modules.
- One Unite Admin installation supports up to five IMTs.
- One IMT supports up to two Ascom Unite Connect for RTLS integrations.

IMPORTANT: A single Ascom Unite Connect for Nurse Call module can support up to 1000 locations, where a location is identified as a physical location capable of initiating events and identifies itself uniquely. For example, a semi-private room with two beds capable of initiating events from both the beds and the room represents three separate locations.

Ascom Unite Connect for Nurse Call can manage events initiated from Telligence locations identified as Rooms, Beds, and ''Virtual Beds.'' Ascom Unite Connect for Nurse Call shall be licensed for the total number of Rooms, Beds, and ''Virtual Beds'' for which it is to manage events.

These distinctions are important in regards to Unite Connect for Nurse Call licensing to determine how many location licenses are required to implement a nurse call system installation.

When integrating with a Telligence nurse call system, multiple Unite Connect for Nurse Call modules call be added to an integration to expand the maximum number of supported locations to 2000 for that system. Since one IMT supports up to five Telligence systems and one Unite Admin installation supports up to five IMTs, the Unite system could support up to 10,000 locations.

For more information, see *Data Sheet, Unite Messaging Suite for Healthcare TD 92948EN*.

Figure 9 depicts how a single Telligence IMT supports Unite applications.

Figure 9. A single Telligence IMT supporting Unite applications

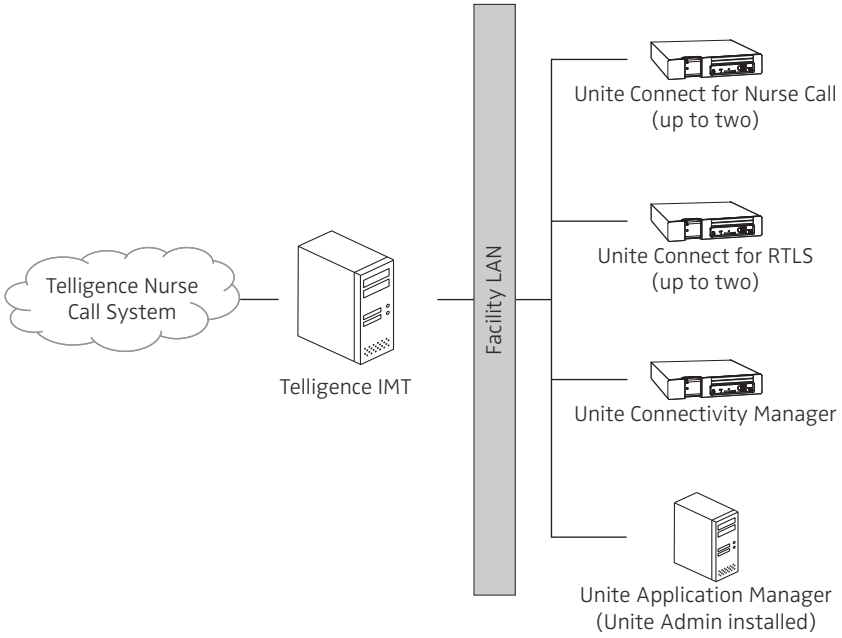
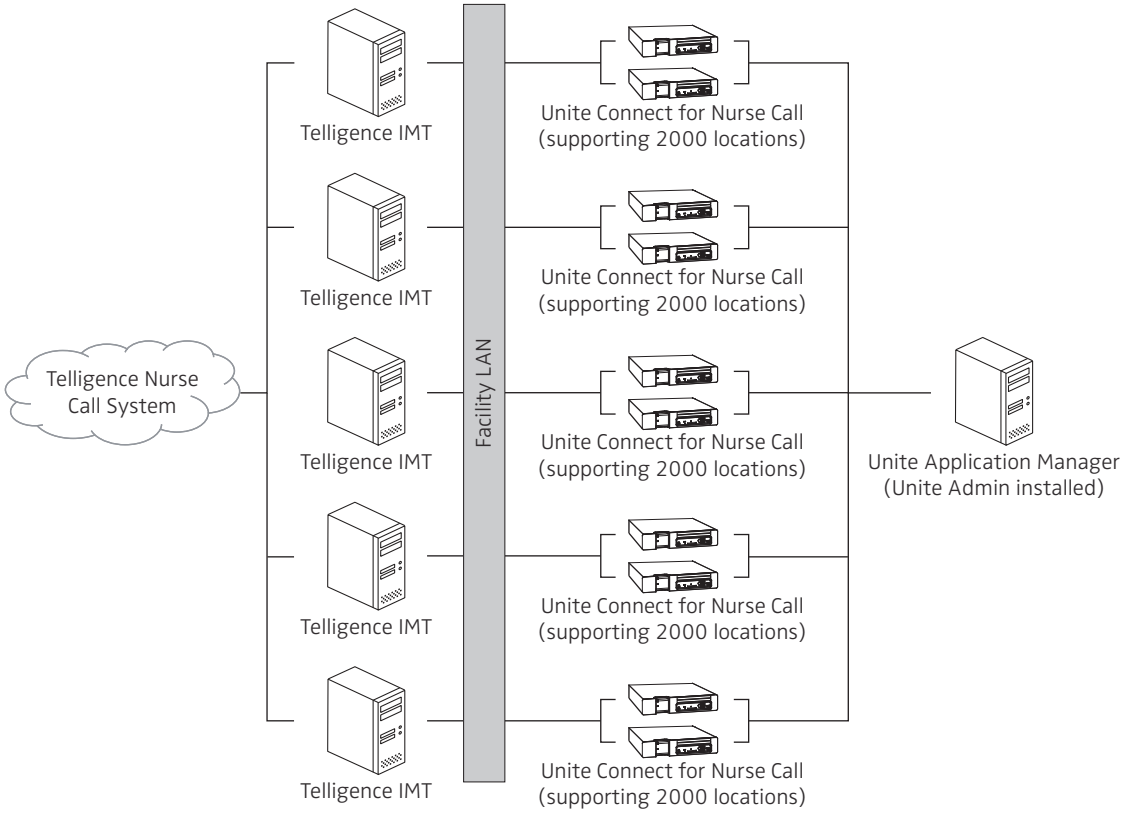


Figure 10 depicts how five Telligence IMTs support multiple Unite Connect for Nurse Call modules to support more than 2000 locations.

Figure 10. Multiple Telligence IMTs used to support more than 2000 locations



Appendix D. Design Considerations: Ascom teleCARE IP Nurse Call System

This appendix outlines Ascom teleCARE IP nurse call system design considerations beyond the basic system architecture in 6. System Architectural Overview on page 13. Content in this appendix is not intended to be used as a planning guide; see *System Description, teleCARE IP TD 92608EN*.

D.1 teleCARE IP System Manager (NISM)

D.1.1 Description

The NISM is the management tool to centrally manage the teleCARE IP nurse call system. The NISM manages locations in the nurse call facility as well as events associated with each location. The NISM connects to the IP network within the facility and stores the configurations for each of the teleCARE IP Room Controllers and/or Ward Controllers that are connected to the IP network.

D.1.2 Scalability Considerations

The NISM has the following scalability considerations:

- The NISM supports up to approximately 200 controllers (Room Controllers, Ward Controllers, or a combination of both).
- Unite Admin can support up to five NISMs.

D.2 NIGW Gateway (Nurse Call Gateway)

D.2.1 Description

Ascom teleCARE IP room controllers send events as they occur within the facility. The NIGW Gateway collects these events; it coordinates messaging between the nurse call system and the Ascom Unite Connect for Nurse Call integration.

D.2.2 Scalability Considerations

The NIGW Gateway has the following scalability considerations:

- The NIGW Gateway supports up to approximately 200 controllers (Room Controllers, Ward Controllers, or a combination of both).
- Up to two Ascom Unite Connect for Nurse Call modules can be implemented with a NIGW Gateway.

IMPORTANT: A single Ascom Unite Connect for Nurse Call module can support up to 1000 locations, where a location is identified as a physical location capable of initiating events and identifies itself uniquely. For example, a semi-private room with two beds capable of initiating events from both the beds and the room represents three separate locations. This distinction is important in regards to licensing in determining how many location licenses are required to implement a nurse call system installation.

For more information, see *Data Sheet, Unite Messaging Suite for Healthcare TD 92948EN*.

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