Cisco Nurse Connect Solution
More Efficient Communications for More Efficient Patient Care

The Cisco® Nurse Connect solution facilitates collaboration among mobile caregivers, enabling them to reach each other and to be reached over multiple types of devices, wherever they have a wireless signal. This provides more efficient patient care from almost any location. The integrated Cisco Nurse Connect voice and data solution delivers nurse call alerts to Cisco wireless phones and other end points.

Do More with Existing Staff

Staffing shortages affect all healthcare providers. The United States is facing a growing shortage of registered nurses. With too few nurses, a Joint Commission report, *Health Care at the Crossroads*, states patient safety and healthcare quality can be diminished. According to a report released by the American Hospital Association in July 2007, U.S. hospitals need approximately 116,000 RNs to fill vacant positions. Projections from the U.S. Bureau of Labor Statistics published in the November 2007 *Monthly Labor Review*, show more than one million new and replacement nurses will be needed by 2016. And the same baby-boom trends that are affecting patient populations are also impacting staffing. *The Nursing Management* Aging Workforce Survey released in 2006 by the Bernard Hodes Group, shows 55 percent of surveyed nurses reported their intention to retire between 2011 and 2020.

More than 90 million Americans live with chronic illnesses. The annual medical cost of caring for these patients is more than 75 percent of total healthcare expenses, according to the United States Centers for Disease Control and Prevention. Total health spending in 2007 was $2.26 trillion or $7,439 per person, according to the U.S. government's Medicare and Medicaid office. It is expected to top $4 trillion by 2016. Reduced budgets, the inability to fill open positions, and the increasing number of patient visits by chronically ill patients will require providers to increase productivity of existing staff.
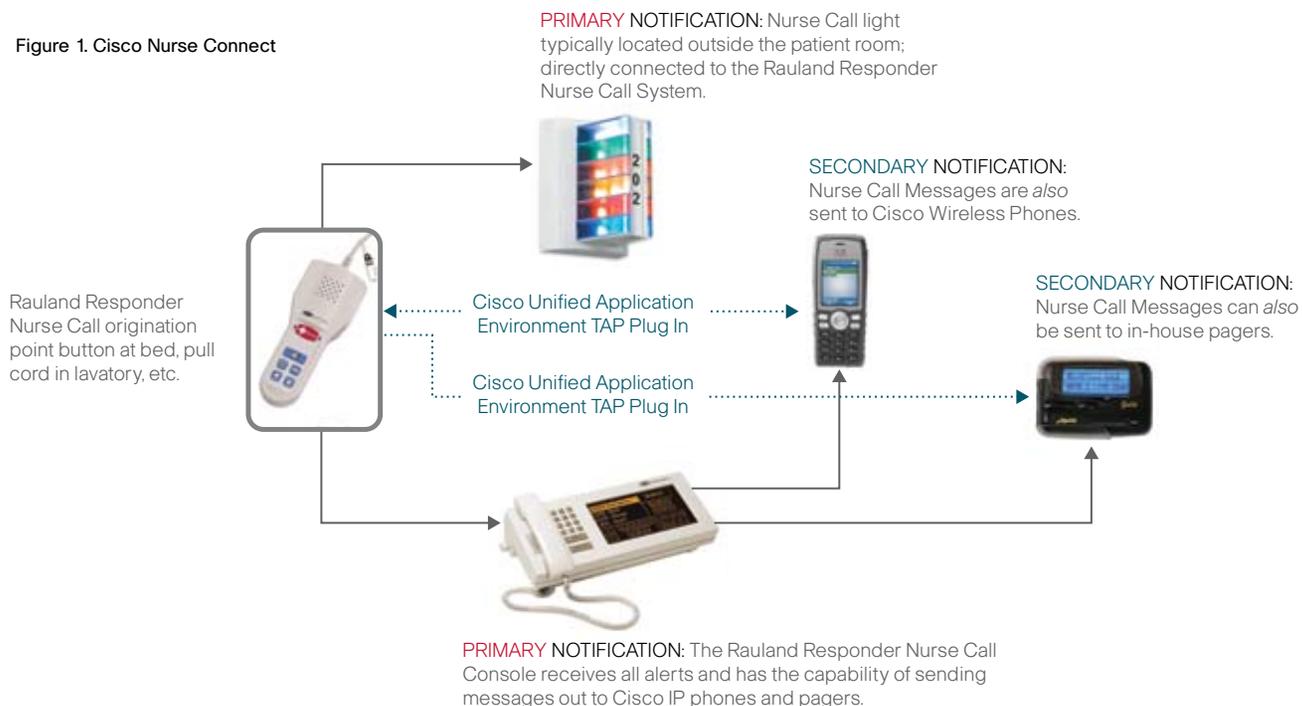
Solution Overview

The Cisco Nurse Connect solution improves the communication of alarm and event notifications in hospitals. It provides an interface between nurse call systems and receiving end points such as desktop and mobile phones and pagers.

Cisco has teamed with a U.S. market leader for nurse call systems, Rauland-Borg, to develop a plug in that provides notifications directly from their nurse call systems to mobile devices. Cisco Nurse Connect will also work with other systems based on the telocator alphanumeric protocol (TAP), and plug ins can be developed using the Cisco Unified Application Environment

platform. Patient alerts from the nurse call system are forwarded to the nursing station as the primary notification, and simultaneously forwarded to the Cisco Unified Wireless IP Phone models 7920, 7921, 7925, or pagers as a secondary notification. The addition of mobile notification helps reduce response times, and permits skills-based routing of requests that can help mitigate the effects of staff shortages. It also cuts down on overhead paging to address the patient satisfaction issue of a noisy healthcare environment.

In addition, mobile notification helps healthcare providers meet the communications improvements recommended in the Joint Commission National Patient Safety Goals.

Figure 1. Cisco Nurse Connect

PRIMARY NOTIFICATION: Nurse Call light typically located outside the patient room; directly connected to the Rauland Responder Nurse Call System.

SECONDARY NOTIFICATION: Nurse Call Messages are *also* sent to Cisco Wireless Phones.

SECONDARY NOTIFICATION: Nurse Call Messages can *also* be sent to in-house pagers.

Rauland Responder Nurse Call origination point button at bed, pull cord in lavatory, etc.

Cisco Unified Application Environment TAP Plug In

Cisco Unified Application Environment TAP Plug In

PRIMARY NOTIFICATION: The Rauland Responder Nurse Call Console receives all alerts and has the capability of sending messages out to Cisco IP phones and pagers.

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Faster Patient Care

With the Cisco Nurse Connect solution, caregivers and patients can easily reach each other from wherever they are. The Cisco Nurse Connect solution provides:

- Faster response times
- More time for staff to spend on primary functions
- Reduction in overhead paging, for a quieter, less-confusing environment
- Rapid assembly of specialty teams
- Ability of nurse to call back and speak to the patient to understand his or her need before going to the patient room or to the nursing station
- Escalation or diversion of service requests on the spot for more appropriate use of caregiver resources

Figure 2. Nurse Call Alert

A Platform for Growth

The Cisco Nurse Connect solution uses the Cisco Unified Application Environment platform, an open development system for unified communications: Cisco Context-Aware Services, paging, Cisco Presence services, instant messaging, video, digital media signage, speech recognition, text-to-speech applications, voicemail, and faxing. With Cisco and the Unified Application Environment, it's easy to integrate more unified communications applications to create a custom solution. The Cisco Unified Application Environment platform provides a wealth of technical and cost advantages as well:

- Eliminates some third-party hardware and software components, which decreases capital expenses plus maintenance and troubleshooting expenses
- Controls adverse effects of revision changes by abstracting configurations, which eliminates constant validation and solution regression testing

Why Cisco?

Integration with the Cisco Unified Application Environment platform offers a unique level of investment protection due to easier revision-level changes on Cisco Unified Communications systems, the elimination of a potential point of failure, and a significant cost reduction. The simple integration with nurse call systems can also serve as the entry point for voice-over-wireless LAN implementations.