

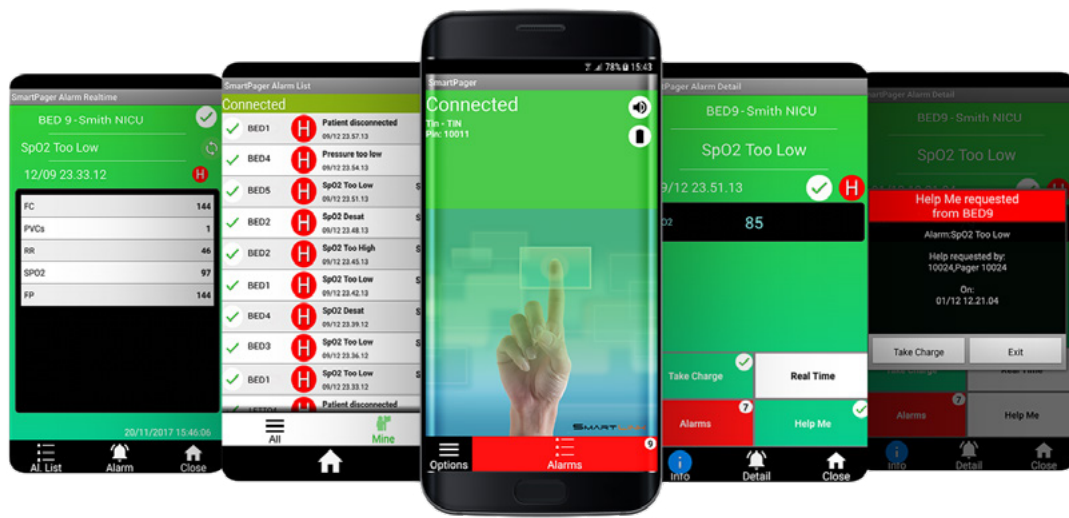
SmartPager

Distributed Alarm System (DAS)



Nihon Kohden's Distributed Alarm System (DAS)

SmartPager is a sophisticated system designed to provide doctors and nurses with highly relevant alarm messages. These alarms can be seamlessly sent directly to their mobile devices, resulting in a significant enhancement of clinical workflow, reduction of extraneous actions, and a consequent improvement in patient safety.



The key features of the Alarm Management system include:

Distribution – Each patient bed can be assigned to a specific caregiver. Others are only notified in cases of unavailability or after escalation.

Take over – Alarms with an immediate acknowledgement (“take charge”) help prevent unnecessary disruptions for other caregivers. Accepting an alarm promptly deactivates it on other pagers.

Re-send – Even after taking charge, an alarm can be reactivated as a call for assistance if needed.

Silencing – Medical devices can be assigned to dedicated “rooms.” When a nurse is in that room, the devices within it do not send alarms.

Customization – Bed assignments can be adjusted manually or automatically on a scheduled basis, such as during night or weekend shifts.

Prioritization – The alarm priority for each alarm type can be customized individually within the Distributed Alarm System, independent of monitoring settings.

“Code Blue” Call – A manual “call for help” button is available for urgent situations.

Filtering – Device operation and display are primarily focused on assigned beds, while information from other beds can be accessed with a single click.

Safety – Irregular events, such as unassigned alarms or all devices going offline, are promptly directed to selected emergency terminals. A range of wired and wireless devices are available to handle technical alarms and system failure warning.

Functional Components

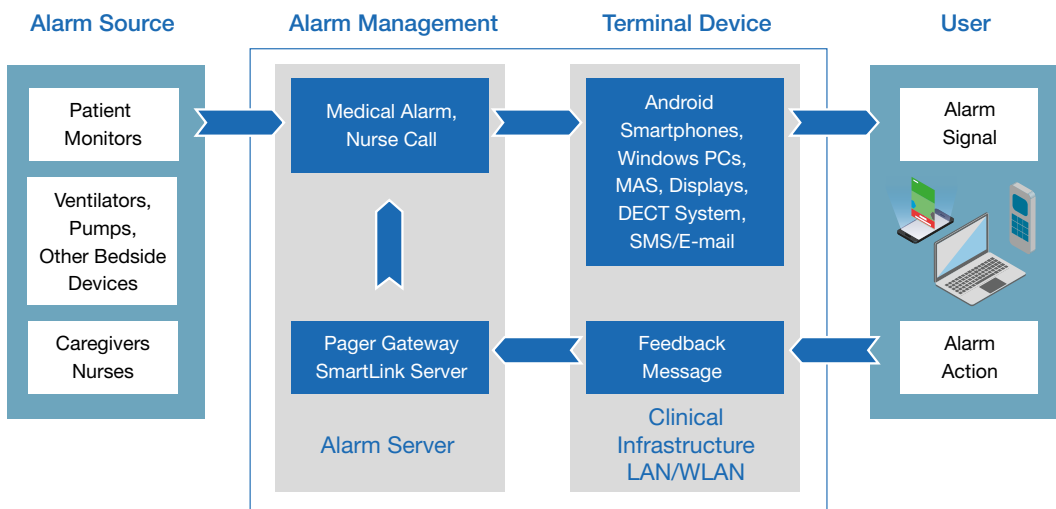
The Distributed Alarm System comprises several components that work in tandem to ensure the efficient relay of patient-related alarm signals to designated doctors and nurses.

Nihon Kohden Patient Monitoring and Telemetry Devices are scalable and configurable, catering to various clinical settings and patient conditions, both at the bedside and during transportation.

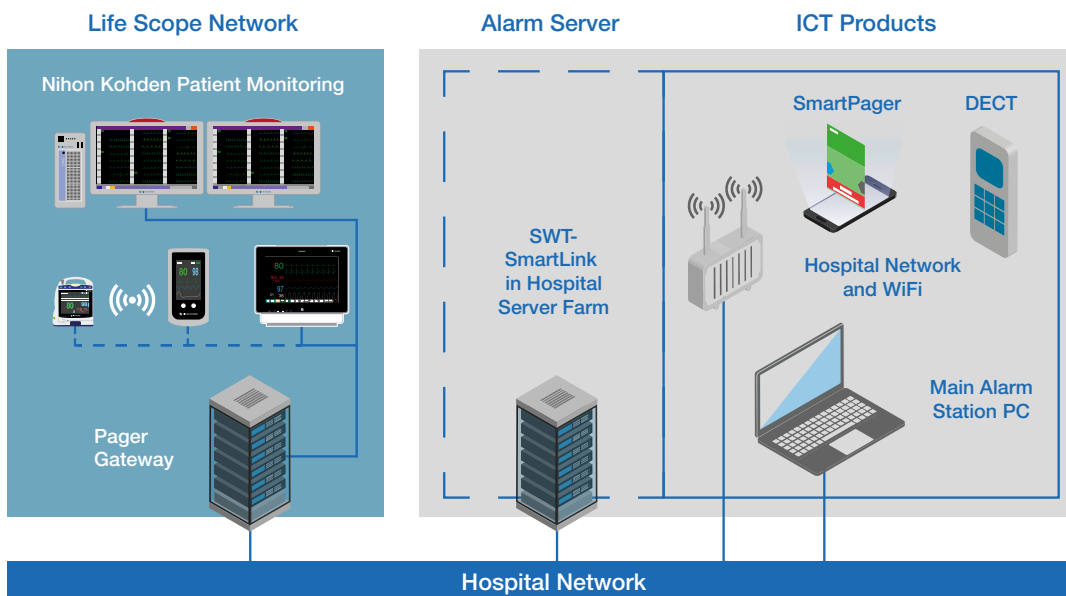
Communication Gateway Server boasts a wide array of communication interfaces, guaranteeing consistent data availability and uniformity across all subsystems.

SmartLink Server as a core device within the Distributed Alarm System, is responsible for generating and distributing alarm signals remotely from the patient. It also facilitates the connection of other alarm sources, such as pumps or ventilators.

Mobile (and Stationary) Terminals enable the reception and acknowledgement of alarm information while also permitting the initiation of help calls.



Functional components



Network concept

Specifications

Specification SmartLink VM (Alarm Server)

Processor: 2 processors

RAM (64bit OS): 8 Gbyte

Storage (available disk space): 80 Gbyte

Graphic card <undefined>

Virtualization OS: ESXi5.5.0 VMware virtualization system (or later)

Operating System: Windows 10 Pro, Windows Server 2008 R2 Std,
Windows Server 2012, Windows Server 2016, Windows Server 2019,
Automatic Windows Updates disabled

Internet Browser: Google Chrome required to access the configuration

Specification SmartPager (Mobile Devices)

WLAN requirement for mobile devices:

100% area coverage if possible

WPA/WPA2 PSK or enterprise

2.4GHz (802.11bg) or 5GHz (802.11a/n/ac, recommended)

Min. -65dBm at the cell borders, min 25dB SNR,

Min. 20 dB co-channel separation

Recommended: Separate VLAN, dedicated SSID

Communication ports (SL-Server ↔ SmartPager): TCP 20010 and 61613

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