



PHILIPS

Mobility

CareEvent and IntelliVue
Mobile Caregiver

Release C.03

Philips CareEvent and IntelliVue Mobile Caregiver

Release C.03 technical data sheet

CareEvent

CareEvent is an event notification and mobile application that provides visual and audible notifications of clinical and informational events on Philips qualified devices. It also allows the care team to communicate and collaborate with each other even when they are on the go.

Allowing the caregiver to receive actionable notifications and communicate directly from a mobile device enables workflow optimization.

Features

Mobile Application

- CareEvent provides a simple, intuitive mobile app called Care Assist for smart phone and tablet users.
- Care Assist mobile app is available on both iOS and Android.
- The Care Assist mobile app coupled with the Philips Patient Monitoring System displays up to four numerics on the smartphone including the numeric limits and four waveforms with a visual indicator to help the caregiver evaluate the priority and severity of the alarm.
- The Care Assist mobile app does not lock down the operating system of the device which enables other mobile apps to run simultaneously.
- A History screen displays the last 12 hours of received events in a user-selectable sorting order.
- A Current screen displays events that have yet to be responded to and the events may be sorted by Importance or Time to help the caregiver with prioritization.
- Philips CareEvent provides clinical care teams an effective secure text messaging platform to discuss patient conditions and share sensitive patient information among Philips CareEvent users. By using the mobile app's secured text messaging, a Philips Care Assist user can securely attach and message an actual event to a specific care team member. This enables care teams to share patient information, collaborate, and make informed decisions.
- In addition to secure text messages, patient-care providers may send Provider Notes to caregivers to direct and inform patient care.
- If Philips Mobile Caregiver is deployed, a CareEvent user can go from a patient monitor alarm notification directly to the live view to view patient information, including waveforms and numerical data.
- CareEvent includes a delegation feature that enables a caregiver to temporarily assign the current user's assignments to another caregiver.

- Three levels of event escalation are supported. Escalation settings can be set for “All Events” or individual event categories and these settings are configurable per unit.
- CareEvent provides 53 ringtones in four distinct categories: Philips monitoring ringtones, standardized IEC ringtones, customizable ringtones and a multitude of generic ringtones.
- With Android devices, a user is clearly notified (optional continuous sound) when disconnected from the network. Acknowledgment and acceptance of the disconnect is clearly identified.
- Refer to the latest Mobility Compatibility Guide (Document Number 453564839041) for smart devices.

Standard Device Support

In addition to supporting Smart devices, CareEvent supports standard devices such as pagers, VOIP phones, and LED signs that receive messages from CareEvent but do not run the iOS or Android operating systems. CareEvent **C.03** enables you to:

- Deliver notifications to standard devices.
- Configure, manage, and support standard devices.
- Reflect all actions in CareEvent Workflow Reports.
- Configure priority per event category.
- Delegate assignment to other standard devices.
- Refer to the latest Mobility Compatibility Guide (Document Number 453564839041) for details on iOS and Android smart devices minimum requirements.

Deployment

- CareEvent offers a single server virtualized deployment to allow a simplified footprint across the health care system to incorporate individual institutions into one event management solution.
- CareEvent runs on the hospital-provided Wi-Fi network.
- CareEvent includes a customizable event catalog listing event and alert categories. You can add, edit, or delete events and event categories associated with a particular vendor product so as to control the event notifications that are sent to caregiver mobile devices.
- CareEvent uses RFC 2030 Simple Network Time Protocol (SNTP) over UDP port 123 to synchronize time.
- CareEvent uses Lightweight Directory Access Protocol (LDAP) to authenticate and authorize users to Microsoft Active Directory.
- CareEvent supports integration with a Lab Service feed to deliver HL7/ORU (Lab Data) messages to Care Assist mobile devices.

Event Monitor

Event Monitor is a feature in the CareEvent Application Host that provides users with easy access to event status from a centralized dashboard view.

Care Assignments

CareEvent includes a care assignment module that is role based and allows assignments to be made by bed with custom workflows per unit.

Reporting

CareEvent supports data storage and makes it easy to create reports for retrospective analysis. It offers a configurable reporting and analytic tool to capture archived transactions – including all alarms, events, messages and assignments.

The baseline data of alarms and events is designed to help develop alarm response workflows, and supports the minimization of alarm fatigue. It also enables traceability of communication, especially in sentinel event investigation.

* Available in the reporting and analytic tool are 16 reports within 6 different categories.

* All 16 reports are visible and can be queried but certain reports are only usable if customer uses PIC iX C.02 and above and certain reports are only usable if customer uses the notification function.

* The reporting function can be purchased without the notification feature.

* A managed copy of the CareEvent database can be created and this secondary database can be used for third party reporting applications or other tasks unsuitable for the live system.

Logging

- Within CareEvent critical data is logged as associated with the alarm and event activity. System activity is logged to the database and allows for the ability to filter by severity, category, host name or key word.
- CareEvent notifies users when the CareEvent solution is unable to send alerts due to inputs being disconnected or idle.

Server Platform Specifications

This table contains the server platform specifications for hardware supplied by Philips.

	Small Server	Large or Enterprise Server
Operating System	Microsoft Windows Server 2016 Standard Edition (64-bit)	Microsoft Windows Server 2016 Standard Edition (64-bit)
SQL Server	Microsoft SQL Server 2016 Standard Edition SP2	Microsoft SQL Server 2016 Standard Edition SP2
IIS	10.0 (If Event Workflow is licensed)	10.0 (If Event Workflow is licensed)
.NET	.NET 4.5.1 and 4.7.2	.NET 4.5.1 and 4.7.2
Philips-supplied Hardware Platform	HP rp5810 PC	HP DL360 Gen10 Server or HP DL180 Gen9 Server
Core	4	10

CareEvent Virtualized System Specifications

In addition to running the CareEvent Server on Philips-supplied hardware, the CareEvent Server may be virtualized and run on customer-supplied hardware.

Release **C.03** of the CareEvent Server may be virtualized using:

- **VMware ESX/ESXI Versions 6.0, and 6.5.**

The individual virtual machine specifications must meet or exceed the following values:

	< 128 Beds (Small)	> 128 Beds (Large or Enterprise)
Processor Speed (GHz)	2.2	2.7
Cores	2	4
RAM (GB)	8	12
Storage (GB)	300 - 900	900 - 7200
Event Workflow Free Disk Space (GB)	40 ^a to 505 ^b formatted	324 ^c to 4800 ^d formatted
Link Speed & Duplex	100 Mbps Full	1 Gbps Full

^a- 30 days of Event Workflow data at sustained load.

^b- 2 years of Event Workflow data at sustained load.

^c - 30 days of Event Workflow data at sustained load.

^d - 2 years of Event Workflow data at sustained load.

CareEvent Application (Client) System Requirements

Standard Windows Professional- or Enterprise-compatible PC that meets the following specifications:

- 2GB RAM
- 120GB disk space
- 1GB LAN connection
- 1280 x 1024 resolution (or higher) display
- Correct keyboard for required language
- Windows 10 Pro or Enterprise
- .NET 4.5.1 and .NET 4.7.2

CareEvent Web Browser Compatibility

Philips CareEvent server C.03 supports the following web browsers:

- Microsoft Internet Explorer 11

CareEvent Focal Point Compatibility

CareEvent server C.03 supports the Philips PerformanceBridge Focal Point performance monitoring tool, Version A.01.

Wireless LAN Specifications

The Care Assist mobile application operates on customer supplied devices that typically operate on an 802.11a/n/ac RF environment. The Philips RF environment requirements are designed to support minimal latency and lowest packet loss.

The Care Assist mobile application data is transactional (event/response or request/response). As such, high delivery reliability and low latency are the most important considerations. As the devices will typically support VoIP applications, high bandwidth for real-time streaming devices is also a requirement.

The devices the Care Assist mobile application is installed on are typically clipped to the belt of a clinician or in a jacket pocket and the body may block the signal or significantly reduce the received signal quality. This should be considered during the User Acceptance Testing.

Data Encryption

Philips is committed to the proper handling of personal or sensitive information, ePHI (electronic protected health information) and PHI (protected health information), which will maintain the confidentiality, integrity, and the availability of these types of data.

To this end, the CareEvent system protects confidential patient information by providing the following data encryption:

- CareEvent encrypts patient identifying data transmitted via Wi-Fi between the CareEvent server and the Care Assist mobile application.
- The Care Assist mobile application encrypts all patient information and user-sensitive data that it stores on mobile devices including:
 - Events (lab results, provider notes, and alarms)
 - User credentials
 - Contact names
 - Text messages (and any attached data)
- Patient identifying data processed between the PIC iX server and the CareEvent server is also encrypted.

CareEvent uses secure data authentication that incorporates Advanced Encryption Standard (AES) encryption with Cipher-Blocking Chaining (CBC). A 32-byte encryption key is used. TLS 1.2 is used on the server.

Enterprise Considerations

Each facility WLAN must meet the CareEvent requirements for both local and also end-to-end performance between the CareEvent server in the data center and the mobile devices on the WLAN.

Wireless LAN Requirements

The following table shows a summary of the wireless performance requirements for the deployment of CareEvent on a customer WLAN.

WLAN Performance Requirement	Care Assist Mobile App Host Device	Note
WPA2-Enterprise	Optional	TTLS or PEAP
SSID Broadcast	Recommended	Required "ON" if DFS channels are used.
802.11 PHY	802.11 a/b/g/n/ac	802.11 a, n, and ac highly recommended.
RF Site Survey	Optional	
Minimum RSSI	Meets device specifications	As measured in operating bands within clinical coverage area.
Minimum SNR	Meets device specifications	As measured in operating bands within clinical coverage area.
Minimum Co-channel Separation	Meets device specifications	As measured in operating bands within clinical coverage area.
RF Manager (Dynamic Channels)	Minimize or disable	
Dedicated LAN	Recommended	
Dedicated VLAN	Recommended	
Dedicated SSID	Recommended	
802.11 a/ac/n band	Recommended	Most current devices require that higher speeds be enabled and lower speeds be disabled.
802.11 bg band	Not recommended	Difficult to meet RF performance levels.
WPA2-Enterprise	Optional	TTLS or PEAP
Wireless Capacity	50% utilization at peak	Must meet CareEvent event notification delivery requirements.

IntelliVue Mobile Caregiver

Description

IntelliVue Mobile Caregiver is an application that expands clinicians' access to patient monitoring information. It provides remote viewing of physiological waveforms and parameters and retrospective review of alarm and wave data on a compatible smart device from other locations within the hospital.

Integrated into the Release **C.03** Care Assist mobile app, IntelliVue Mobile Caregiver provides secured access to compatible PIC iX beds. With the Care Assist mobile application, using your mobile device, you can add/remove beds from authorized units across licensed PIC iX systems, view physiological vitals and alarms for your assigned beds, access physiological waves, vitals, and alarms for a single bed, and acquire retrospective view of supported waves and physiological parameters.

Mobility Application

IntelliVue Mobile Caregiver uses the same Care Assist mobile application as CareEvent.

Mobility Service Requirements

- Appropriate licenses are required at the Web or Mobility Server iX.
- Web Portal Hosts must be configured on PIC iX
- Mobile device user must have Remote Access to Patient data permission for the unit you want to access.
- Your mobile device must have connectivity to the Mobility Server iX.

PIC iX Mobility Service

PIC iX Mobility Services provides an open communication link between PIC iX and any TCP enabled device. The service hosts IntelliVue Open Bus messaging which accommodates the following:

- User Authentication/Authorization
- Bed List
- Bed-to-User Assignments
- Publish and subscribe for Physiological data

Regulatory Information

For regulatory compliance information, see the Safety and Regulatory Information chapter in the *CareEvent Instructions for Use (453564838051)*.

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