Hillrom™ Smart Device Connectivity
Release 1.2.400

Release Notes

Overview

The Hillrom Smart Device Connectivity 1.2.400 release is a sustaining product release built from the 1.2.301 foundation enhancing the 1.2.301 foundation with new features and functionality. It is a cloud-hosted solution that enables transmission of patient vital signs, patient demographics, and bed device data and alerts to various configured endpoints to include the hospital EMR, Nurse Call Systems, Status Board, Dashboard, Reporting, and Third Party interfaces, in near real-time. The Smart Device Connectivity system acts as the bridge between hospital EMR/ADT systems, devices and defined clinical interfaces from which clinicians can access the data provided and determine appropriate actions according to hospital-defined protocols.

New Features 1.2.400

Support for On-Call Schedule Integration
- Support for pulling on-call schedule data from Qgenda
- Storage of on-call schedule data and ability to populate that data to clinical interfaces

CFCM on/off, alarm limits, bed rail states
- Gateway to receive and send CFCM on/off data
- Risk Integration - Risk (Falls, Pulmonary, Skin) Score from EMR to trigger proper risk indication
- Provide Bed Rail states as Quantity

Dashboard Enhancements
- Display CFCM on/off status
- Clear Patient Data on Discharge/Disassociation

Reporting Enhancements
- Work instruction to outline the process for data de-identification and how to access the de-identified data and for what purposes.
- Contact Free Continuous Monitoring (CFCM) updates and the ability to report on changes to CFCM thresholds (bed dependency) and when CFCM is on or off.
- New MRN Lookup report
- Updated paginated report headers

Miscellaneous Enhancements
- Support for additional Bed MQTT data points (ISE)

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- SDC to add new data point, intaking from the bed whenever the limits change, outputting for reporting purposes, and updating the data dictionary accordingly
- Rename Clinical Vectors to Patient Risk Surviellence in SDC displays
- Automation/Health Check for Mirth Channels
- Remove Legacy Voalte Support
- Removie the CDS refresh channel from EG

Notes from Previous Releases

Issue Resolved in 1.2.301

RabbitMQ became unusable for several services. The issue resulted in running out of disk space, which causes all queues to stop functioning.

Features 1.2.300

Support for On-Call Schedule Integration
- Support for pulling on-call schedule data from Lightning Bolt
- Storage of on-call schedule data and ability to populate that data to clinical interfaces

Dashboard Enhancements
- Support for renewing interactive user session
- Additional support for handling/displaying large units
- Long contact information now fits in display boxes

Reporting Enhancements
- New bed status reports for falls risk patients
- CFCM Patient view enchancements
- EWS Insight report enchancements
- Increased row limitations

Miscellaneous Enhancements
- Ability to process local or UTC date/time independently
- Support for new external Hillrom application user group for VCS
- Listen for incoming ADT and non-ADT HL7 data on separate ports
- Location creation standardized

Notes From Previous Releases

Issues Resolved in 1.2.201

The Hillrom Smart Device Connectivity 1.2.201 release is a hotfix that addresses an issue with the EventHub Publisher service. The release includes all the features and fixes included in previous Hillrom Smart Device Connectivity releases.

The EventHub Publisher was not appropriately updating Encounter location references, causing issues displaying MEWS for some patients.

Features 1.2.200

Support for Virtual Care Solution 1.0.000 release
- Support for new external Hillrom application user groups, authentication, access, and configurations
- Receiving, storing, and providing Virtual Care request-related information, including patient data

Dashboard Enhancements
- Decoupling of the Dashboard infrastructure from Smart Device Connectivity to remove dependency of Dashboard releases on Smart Device Connectivity releases
- Displaying all bed locations when in paging mode when the number of bed locations spans more than one page
- Displaying a warning to confirm that clinical interfaces render the configured number of locations when auto-rotating mode is selected
- Displaying a warning when locations are not visible when auto-rotating mode is selected
- Display of incontinence status (icon) for supported beds
- Display of the following contact-free (e.g. EarlySense) non-vitals alerts (icons):
    - Unstable signal
    - Vitals no motion
    - Unit malfunction
    - Bed sensor problem
    - Expired sensor
- Display of the 'Dashboard Down' error screen when either the MQTT Broker, Bed Device Gateway, or Redis cache are offline
- Email notification in the event of Dashboard health check failure
- Updated Dashboard health check to not indicate beds are offline if there is at least one Bed Device Gateway instance available to process messages

Reporting Enhancements
- Decoupling of the Reporting infrastructure from Smart Device Connectivity to remove dependency of Reporting releases on Smart Device Connectivity releases
- Updates to report definitions, configurations, content, rendering and amount of data returned to improve Reporting performance
- Storage and accessibility of Virtual Care Solution data within the Reporting Data Warehouse to support data analytics

Miscellaneous Enhancements
- Limited architectural re-design to improve system throughput and performance
- Support for accessing 'Admitted Diagnosis' from ADT messages (including multiple diagnoses if available) and storing along with corresponding ADT message description
- Support for sending contact-free (e.g. EarlySense) monitoring and sensor data as unconfimed outbound data to the EMR and third party systems, defaulted to 'Off' except for HR and RR
- Filtering of incoming observation data time-stamped in the future beyond a defined threshold

- Support for additional Falls, Pulmonary, and Skin risk indicator values beyond just 'true' and 'false', including 'yes', 'no', 'y', 'n', 't', 'f', 'high', and 'low'.
- Updated font for tenant ID within Enterprise Configuration Portal to be more readable
- Removed time zone setting for unit-level entities to allow units to inherit their time zones from the facility level

Features 1.2.100

Reporting
- Display of Reporting data in local time per facility time zone configuration in Enterprise Configuration Portal
- Addition of internal patient identifier (UUID) to non-PHI data in Reporting Data Warehouse
- Retention of existing non-PHI data in Reporting Data Warehouse when Long-Term Storage permission is revoked
- Support for conditions as risk factors in the Early Warning Scores Patient View Report and Early Warning Scores Insights Report
- Support for access to and processing of customer-specific PHI by authorized Hillrom data scientists for customers that have signed a research agreement with Hillrom

Support for Patient Risk Surveillance 1.0.100 release
- Definition of a new user role, Azure Active Directory group, and access privileges for an authorized user to access the Global Risk Factor settings within the Rules Manager in order to define a risk factor's data type and default stale time at a global level
- Support for expiration times for configured Patient Risk Surveillance risk factors in order to allow long-lived risk factors to be persisted beyond the current event hub limit of 7 days, as necessary

Miscellaneous Enhancements
- Support for Smart Device Connectivity tenant validation for Voalte Video Communications Broker (to support Voalte 3.9 release)
- Support for external Hillrom application user groups, configuration, and authentication (to support Voalte Family Messaging 1.0 release)
- Support for feature flags in Azure to turn on/off specific features and functionality
- Support for display of risk scores as either a ValueQuantity or ValueRatio on supported clinical interfaces such as Dashboard and Status Board
- Filtering of exception values for patient height and weight from supported beds to prevent display in Reporting and on supported clinical interfaces

Features 1.2.000

Vitals Connectivity
- Support of Connex CS connected vitals monitors to the Gateway.
- Removed support for NCE 5.2 by disabling all NCE ports due to an identified security vulnerability.

Device Connectivity
- Receive data and alerts from wireless Accella and Centrella beds
- Transmission of bed data and alerts to supported clinical interfaces.

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- Bedside association for wireless beds support including
  - Location Hierarchy lists for use in associating the bed to a location
  - ADT updates for use in patient association

Enterprise Configuration Portal (ECP) Enhancements

- **Navigation Enhancements**
  - Hierarchy navigation improvements (⛁)
  - Addition of an actions menu for entity level functionality
  - Addition of an application navigation element (≡)
- **Certificates**
  - Creation or uploading new certificates
  - Managing certificates (View, Delete, Download)

- **Inbound Connections Enhancements**
  - Added Certificate as a security method for EMR/ADT and IHE connections
  - Added support for character encoding for ISO-8859-1, ISO-8859-2, ISO-8859-3, ISO-8859-4, ISO-8859-15, windows-1252
  - Connections added
    - IHE Alarms – receiving alert statuses from third party alert managers.
    - Bed Connectivity – receiving bed data/alerts/events and contact-free monitoring device data/alerts.
- **Outbound Connections Enhancements**
  - Added Certificate as a security method for EMR/ADT and IHE connections
  - Added support for character encoding for ISO-8859-1, ISO-8859-2, ISO-8859-3, ISO-8859-4, ISO-8859-15, windows-1252
  - Connections
    - Renamed Vitals outbound to Confirmed Data and added an outbound data filter options.
    - Reporting – Added to allow the Reporting component to access data.
    - Unconfirmed Data – Added to allow data to flow to an unconfirmed (e.g. EMR) interface with options for data filtering.
- **Credential Management Enhancements**
  - Ability to download a facility configuration file for configuring a wireless bed
  - Restrict the deletion of credentials when assigned to a facility.

- **Unit Location Mapping Enhancements**
  - Import/Export of EMR and Voalte Nurse Call location hierarchy lists
- **Transaction Enhancements**
  - Viewing of connection logs
  - Searching transactions

- o Filtering by column header

Digital Health Portal

- Central access point for all the Smart Device Connectivity features and applications.
  - o Administration
  - o Dashboard
  - o Enterprise Configuration Portal
  - o Rules Manager
  - o Reporting

Admnistration

- Application that allows authorized user to perform the following.
  - o Export an entity contact list for the selected entity and all the related children
  - o Export patient data
  - o Process patient data removal request after a patient has been discharged

Reporting

- Access to a reporting application that provide customers with the ability to generate standard and customized reports based on patient and device data.
- Reporting times are displayed in UTC time format.
- Standard report set provided includes:
  - o **Early Warning Scores – Patient View** which includes patient demographics, admission details, location history, patient scores and clinical parameters used in the score calculations, a timeline of events during the patients stay, and Severe Sepsis details if the patient was identified as having Severe Sepsis.
  - o **Early Warning Scores** – Insights which includes patient deterioration metrics, score statistics and comparisons, and regression analysis between sepsis risk factors and average scores.
  - o **Contact Free Continuous Monitoring – Patient View** which includes patient demographics, admission details, location history, vital averages (daily and hourly) and standard deviations, observed vitals, and alerts.
  - o **Contact Free Continuous Monitoring – Insights** which includes devices metrics by device type for heart rate and respiratory rate, such as the number of observations, min/max observation value, number of minutes between observed values.
  - o **Contact Free Continuous Monitoring – Sensor Expiration and Alerts** which includes sensors expired between a selected start and end date or expiring within 30 days from current date.
  - o **Sepsis Insights** for tracking compliance with a facilities severe sepsis prevention protocol and includes patient demographics, patients treated with antibiotics, severity of sepsis, and if the outcome (discharge or death), patients having pathogens, outcome trends (mortality/discharge), and overall length of stay.

- o **Sepsis Bundle Compliance** for tracking compliance with a facilities severe sepsis prevention protocol and includes percentage of sepsis bundle tasks completed, percentage completed on time, 3-hour bundles completed and on time, 6 hours bundles completed and on time. This data is across locations within a customer's hierarchy over time periods. As well as average minutes from sepsis onset to 3- and 6-hour bundle completion times.

Dashboard

- A web-based application that provides caregivers the ability to monitor a facility's patients for the units configured to view.

  NOTE: The Dashboard is intended to be used when the customer does not have Voalte Nurse Call. Voalte Nurse Call is required for wired bed connectivity and the Voalte Nurse Call Status Board should be used as the primary visualization tool when available.

- Dashboard User Roles
  - o Dashboard Read – view the Dashboard and save configuration for local use only
  - o Dashboard Configuration Admin – view the Dashboard and save configuration for local use and facility use.
  - o Dashboard Dynamic Column Admin – configure dynamic data columns for the Dashboard
  - o Dashboard Admin – All of the above.
- Displays the following information
  - o Available locations to which a bed can be associated, or patient can be admitted.
    - Nursing Unit
    - Room Number
  - o Patient related physiological data
    - Heart Rate, Respiratory Rate, Temperature, BP, SpO2, Pain Score, and Weight
    - Heart Rate, Respiratory Rate alert status with a red background
    - Dashes when configured to display and no data received.
  - o Patient risk from EMR
    - Skin ( ), Pulmonary ( ), and Falls ( )
  - o Bed status data
    - Rail Position (head left/right, foot left/right)
      - Up ( )
      - Down ( )
      - Unknown ( )
    - Patient Detection
      - Patient detected ( ), not detected ( ), unknown ( )
    - Bed Low, Brake Status, and Bed Exit
      - Ok ( )
      - Off ( )

- Alarming (△)
- Unknown (—)
  - HOB angle
    - Displays the degree value unless armed and alarming
    - Alarming (△)
  - Bed Service Required (🔧)
  - Dashes when configured to display and there is no bed connected or data has not yet been received.
- Risk Scores and stratifications
  - MEWS (Low 2 , Medium 5 , High 7)
  - SIRS (Not High 1/4 , High 2/4)
- Contact-free Continuous Monitoring data and alert status
  - Heart Rate, Respiratory Rate
  - High/Low
  - Dashes when configured to display and no data received.
  - Displays background color change for active alerts(89)
- Ability to configure
  - The facility the Dashboard is servicing.
  - The nursing unit(s) in the facility to display.
  - The columns to display, the names of the columns being displayed.
  - Options for scrolling, rows count, and paging.
  - Patient name masking.
    - HIPAA encoded (Ja..eD) – default
    - First Name Last Initial (Jane D)
    - Last Name First Initial (Doe J)
    - Last Name Only (Doe)
    - First Name Only (Jane)
    - Last Name, First Name (Doe, Jane)
    - Full Name (John Martin Doe III)
  - Change column size and order
  - Save the configuration as a view (supporting multiple saved views).
  - Utilize the same view across many Dashboards within the facility.
  - Editing, deleting, renaming of views
- Supports interactive and non-interactive user sessions with a timeout counter when nearing the end of the session. A non-interactive user session is to support user needs to display the dashboard for an extended period, up to 90 days, with little to no user interaction, such as in a hallway or above a nursing unit. Whereas an Interactive user session expires in one hour.
  - NOTE: The Digital Health Portal window/tab needs closed prior to logging into a non-interactive session to ensure the Digital Health Portal idle time does not close the non-interactive user session as indicated in the following steps

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- Log into the Digital Health Portal and Launch the Dashboard page
- From the Settings for Dashboard, change the display to non-interactive mode
- A message is displayed asking you to Reload the page. Click Reload
- Close the Digital Health Portal tab (and any other Digital Health Platform tabs) and return to the Dashboard tab
- Log in again when prompted.

Alerts

- Support for receiving Alert Status (PCD-05) from IHE alert managers and Voalte.
- Ability to send alerts associated with a patient received from a supported bed, including Contact Free Continuous Monitoring devices integrated with a bed, to IHE or Voalte Nurse Call alert managers. Voalte Nurse Call is only sent wireless bed Contact Free Continuous Monitoring device alerts.

Alert	IHE AM	VoalteNurse Call AM
High Heart Rate	Yes	Yes
Low Heart Rate	Yes	Yes
High Respiratory Rate	Yes	Yes
Low Respiratory Rate	Yes	Yes
EarlySense Service Required	Yes	Yes
HR/RR Monitoring Unstable Signal	Yes	Yes
EarlySense Signal Loss	Yes	Yes
Bed Sensor Problem	Yes	Yes
Bed Before Sensor Expiration	Yes	Yes
Bed Sensor Expired	Yes	Yes
Head of Bed Angle	Yes	Yes
Patient Positioning	Yes	Yes

Additional Enhancements

- Support for Microsoft Edge Browser Version 84 or higher (excluding the Dashboard)
- International Language support for Dutch, French, German, Italian, Spanish, Swedish.

Preexisting Issue Resolved in 1.1.001

- Terminology provider API parameter was hard coded in the application rather than parameterized. As a parameter this allows Hillrom to change the value from environment to environment via the CI/CD Pipelines.

Features 1.1.000

Vitals Connectivity

- Connex® Spot Monitor and Connex® Vitals Signs Monitor direct connection to the Gateway providing connectivity to hospital ADT and EMR systems for transmission of patient data.

ADT and EMR Notifications
- Support HL7 and AllScripts Unity interfaces.

Device Connectivity
- Contact-Free monitoring EarlySense via a wired Centrella in NaivCare connectivity for Clinical Decision Systems (Patient Risk Surveillance).
  - Vitals supported
    - Heart Rate
    - Respiratory Rate
  - Alerts Supported
    - High Heart Rate
    - Low Heart Rate
    - High Respiratory Rate
    - Low Respiratory Rate
    - EarlySense Service Required
    - HR/RR Monitoring Unstable Signal
    - EarlySense Signal Loss

Status Board (NaviCare)
- Provide Vitals data from inbound monitors and systems, excluding contact-free monitoring (EarlySense) for display.
  - Heart Rate
  - Respiratory Rate
- Provide Early Warning Scores for display
  - MEWS Score
  - SIRS Score

Clinical Decision Support
- Provide patient related data to configured clinical decision engines (Patient Risk Surveillance)
- Receive and store risk-based notification

Terminology Mapping
- Terminology mapping to common codes supporting SNOMED, LOINC, ICD, RxNorm

Enterprise Configuration Portal (ECP) Enhancements
- **Inbound Connections**
  - Download connection configuration
  - Connections added
    - IHE Alarms – receiving alert notifications from third party alert managers.
    - Bed Connectivity – receiving bed data/alerts/events and contact-free monitoring device data/alerts.
- **Outbound Connections**

- o Download connection configuration
- o Multiple outbound HL7 interface support
- o Connections added
  - Terminology Providers – connectivity to third party system for coding standards.
  - Patient Risk Surveillance – Send patient data for scoring and receiving risk score and notifications for communicating the clinical interfaces.
- **Credential Management**
  - o MQTT – Authentication for bed devices
  - o Rabbit MQ – Authentication for federated queues
- **Unit Location Mapping**
  - o Associate an EMR uniquely identifiable location with a unit within the hierarchy.
- **Tansactions Enhancements**
  - o Replay failed transaction, single and by date range
  - o View status and details of transactions
- **Active Directory Support**
  - o Interface with an Organizations Active Directory
  - o Role mapping between Active Directory and Smart Device Connectivity roles
- **Rules Manager Access**
  - o Access point for Rules Manager for an Enterprise
- **Role Base Acess Control (RBAC)**
  - o Utilization of tokens for access control to areas within the ECP
- **Entities**
  - o Copy contact feature
  - o Connection setup indicators (parent, configured in child entity , inherited from parent)

Alerts
- Alerting to configured IHE alert managers, including NaviCare.
- Supported Alerts
  - o Medium MEWS
  - o High MEWS
  - o High SIRS

Early Warning Support
- MEWS
- SIRS

Data Retentions
- Data retention options to remove data from the Clinical Data Repository 90 days (default) or 24 hours after discharge.
- Patient removal process, post discharge.

Features 1.0.000

Vitals Connectivity
- Connex® Spot Monitor connectivity to hospital ADT and EMR systems for transmission of patient data

ADT and EMR Notifications
- Transmission of hospital ADT- and EMR-configured notifications to Voalte One mobile devices

Known Issues

Product Functionality	Global ID	Short Name	Workaround	Affects Versions
The same customer number can be entered for more than one entity within the ECP	ZEN-5272	ECP – Duplicate customer numbers are allowed	None	Hillrom Smart Device Connectivity 1.2.400
When entity name is updated in ECP, Mirth channel names do not reflect the updated entity name	ZEN-5420	Editing the entity name after a deployment is made doesn't update the corresponding Mirth channel names	Get channel ID and look it up on Mirth to find the correct channels	Hillrom Smart Device Connectivity 1.2.400
Dashboard patient displayed as ".." instead of configured encoding	ZEN-14920	DRF - All locations do not have any patients displays ' .. ' in Patient Column after selecting the HIPAA Encoded option back	Refresh Dashboard	Hillrom Smart Device Connectivity 1.2.400
Dashboard displays in wrong browser after token refresh for IE.	ZEN-16447	Token refresh causes Dashboard to display in the token refresh window instead of the original dashboard window – IE issue	Close the browser session and relaunch IE in admin mode	Hillrom Smart Device Connectivity 1.2.400
Beds were not receiving ADT updates when PV1.3.4 segment is not populated	ZEN-16543	Location update is not sent to BDG when ADT is processed without facility level.	Gateway to add facility level from MSH4 segment when processing ADT message	Hillrom Smart Device Connectivity 1.2.400
Report showing data with incorrect date of 1/1/1970	ZEN-16880	Discharge date is shown as NULL if the discharge is triggered with ROL segment and without discharge date on A03 message	Customer should send HL7 compliant message otherwise mirth channel customization required.	Hillrom Smart Device Connectivity 1.2.400
Status Board not displaying existing dynamic column data when patient is transferred to a new location within the same facility (with two different units each configured in a different Nurse Call instance)	ZEN-17918	Many to Many: On Patient Transfer, dynamic column data is not moving to new location within same facility (with two different units configured in two different VNCs)	None	Hillrom Smart Device Connectivity 1.2.400
For Internet Explorer: Dashboard Test Facility drop down list items are overlapping on current Test Facility selected. Evidence is attached.	ZEN-18728	Internet Explorer: Test Facility Drop down display issue in dashboard configuration settings	Click on Dropdown again to see for current Test Facility.	Hillrom Smart Device Connectivity 1.2.400
Contactless HR and RR options are displayed within the Enterprise Configuration Portal when configuring an unconfirmed data outbound connection despite no longer being sent via this connection	ZEN-18774	Contactless HR and RR are displayed on the Unconfirmed Outbound connection	None (note: feature not part of GW 1.2.100 scope)	Hillrom Smart Device Connectivity 1.2.400

When the Platform Portal browser tab is closed, the Ohana (Voalte Family Messaging) tab does not close automatically	ZEN-18775	Ohana tab is not closing after closing the Platform Portal tab	Close the Ohana tab manually	Hillrom Smart Device Connectivity 1.2.400
When the Voalte Family Administration application is launched from the Platform Portal, the token is not refreshed after 30 minutes as expected. The token is also not refreshed as expected when "Continue" is selected on the prompt that appears within the Platform Portal after 55 minutes of inactivity.	ZEN-19351	Token refresh in Platform Portal is not working	None	Hillrom Smart Device Connectivity 1.2.400
Remove all entities except for the enterprise level, switch to another enterprise and navigate around and then go back to the original enterprise and try to remove the enterprise.	ZEN-20240	Unable to remove enterprise entity under specific circumstances	None	Hillrom Smart Device Connectivity 1.2.400

Issues Resolved

Preexisting issues Resolved in Smart Device Connectivity 1.2.400

Product Functionality	Global ID	Short Name	Fix Versions
Dashboard does not load Facilities and Units on Settings > Configuration > Nursing Units pane within tolerance range after selecting the enterprise.	ZEN-22501	Dashboard takes a long time to load units with 40+ units	Hillrom Smart Device Connectivity 1.2.400
Dashboard displays zero locations for a facility having more than 1000 bed locations.	ZEN-22482	Dashboard does not display locations with too many units	Hillrom Smart Device Connectivity 1.2.400
Scores column in Dashboard gets flickered for a row with patient even though there are no scores for the patient.	ZEN-22421	After refresh, score column values flicker	Hillrom Smart Device Connectivity 1.2.400

Preexisting issues Resolved in Smart Device Connectivity 1.2.301

Product Functionality	Global ID	Short Name	Fix Versions
Upgrade to RabbitMQ needed to fix Production Issue	ZEN-23348	RabbitMQ became unusable for several services. The issue resulted in running out of disk space, which causes all queues to stop functioning	Hillrom Smart Device Connectivity 1.2.301

Preexisting issues Resolved in Smart Device Connectivity 1.2.300

Product Functionality	Global ID	Short Name	Fix Versions

Contacts information is displayed out of the dialog box, when it is configured with max characters in ECP	ZEN-16318	Dashboard Display issue where data is visible, but exceeds the configuration window dialog	Hillrom Smart Device Connectivity 1.2.300
Dashboard configuration options display when they should not.	ZEN-16329	Rename, Delete, Save, Save As options are displayed on the Current View dialog when de-activating the unit that was originally being displayed	Hillrom Smart Device Connectivity 1.2.300
Rule Manager legal entity display overruns text box.	ZEN-18873	Platform Portal not providing Rule Manager with entity name in session storage variable	Hillrom Smart Device Connectivity 1.2.300
Help Center document links are broken.	ZEN-22156	Links do not open properly when clicked in the Help Center	Hillrom Smart Device Connectivity 1.2.300

Preexisting issues Resolved in Smart Device Connectivity 1.2.201

Product Functionality	Global ID	Short Name	Fix Versions
Some patients do not display MEWS on Dashboard	ZEN-22050	EventHub Publisher is not appropriately updating Encounter location reference	Hillrom Smart Device Connectivity 1.2.201

Preexisting issues Resolved in Smart Device Connectivity 1.2.200

Product Functionality	Global ID	Short Name	Fix Versions
Dynamic Column configuration screen show scrollbar when not needed.	ZEN-15383	DRF - Dynamic Column Configuration screen displays scroll bars that show blank spaces	Hillrom Smart Device Connectivity 1.2.200
Bed Device Gateway API provides page not found	ZEN-15902	DRF - ZEN-14119/ZEN-15746 - Incorrect BDG APIs behavior when user is not authorized.	Hillrom Smart Device Connectivity 1.2.200
Wireless bed cannot associate when a wired bed is disconnected during a connectivity outage.	ZEN-16090	DRF - BDG - (Dual mode to Wireless) - Wireless beds cannot associate to a location when ASBC connector is removed while BDG is down and comes back online.	Hillrom Smart Device Connectivity 1.2.200
Dashboard configurations not tested with 75 and 150 instances	ZEN-16471	Dashboard Configuration Test	Hillrom Smart Device Connectivity 1.2.200
Dashboard doesn't display all rows for some resolutions	ZEN-16638	Dashboard is not displaying more than 22 locations if page display is set to 23 or more	Hillrom Smart Device Connectivity 1.2.200
The.status field in the Procedure FHIR resource is not currently supported by the system	ZEN-16795	EG – Procedure Resource – Missing Required Fields	Hillrom Smart Device Connectivity 1.2.200

Only a single combined health check status is being returned (for the Bed Device Gateway), instead of individual health check statuses for the MQTT Broker, Redis cache, and Bed Device Gateway	ZEN-17668	BDG Health Check API is returning bdg health check value instead of individual health checks for mqtt, redis, bdg	Hillrom Smart Device Connectivity 1.2.200
An error message is displayed and the session times out when a Hillrom Clinical Informaticist user attempts to edit an outbound connection (other than Reporting) within the Enterprise Configuration Portal	ZEN-17994	Hillrom Clinical Informaticist user getting session timeout while editing the connection at facility level	Hillrom Smart Device Connectivity 1.2.200
When a bed is unplugged while its forced location override of another bed is being processed, the system assumes the unplugged bed is in the new location and the overridden bed is disassociated. However, the Dashboard displays the overridden bed in its original location and with the device ID of the unplugged bed.	ZEN-18400	Inconsistent State in Zenith compared to real bed when bed offline is received before set location request is processed with force flag	Hillrom Smart Device Connectivity 1.2.200
The system is not generating error notification emails when errors are generated due to bed data being sent with incorrect JSON	ZEN-18401	Error emails are not generated when bed data is sent with invalid values	Hillrom Smart Device Connectivity 1.2.200
The Bed Device Gateway fails to send the following observations from the bed_state topic to the Enterprise Gateway and CDR: 1. ConnectivityProtocol 2. BedModelName 3. SidecomSerialNumber 4. SideComSoftwareRevision FrameSerialNumber	ZEN-19134	Some of the device information in the bed_state topic is not reaching EG/CDR from a wired bed	Hillrom Smart Device Connectivity 1.2.200
The Dashboard does not display wireless-only beds after the Bed Device Gateway or Redis cache are brought down and back up	ZEN-19350	Dashboard does not display the wireless bed after Redis/BDG is brought down and back up	Hillrom Smart Device Connectivity 1.2.200
The following unnecessary bed reconnection issues occur when the Bed Device Gateway comes back online: 1. When all instances of the Bed Device Gateway come back online, each instance sends a state online notification, resulting in all beds reconnecting the same number of times. When just a single instance of the Bed Device Gateway comes back online, all beds reconnect even though the other Bed Device Gateway instances are available to serve the beds.	ZEN-19507	BDG is sending gateway_state (online) for each instance instead of sending for only one instance	Hillrom Smart Device Connectivity 1.2.200
Hillrom users can only access reporting for Enterprises that have more than 6 facilities from powerbi.com. Customer access can be configured via user roles in ECP but reporting access can only be granted for up to 6 facilities per person.	ZEN-20602	Defect Reporting not supporting more than 6 facilities under the same Enterprise	Hillrom Smart Device Connectivity 1.2.200

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Preexisting issues Resolved in Smart Device Connectivity 1.2.100

Product Functionality	Global ID	Short Name	Fix Versions
Refresh of Dashboard causes Dashboard to become non-functional	ZEN-15726	DRF - Widgets are displayed on Dashboard (Dashboard is NOT functional at all once that happens)	Hillrom Smart Device Connectivity 1.2.100
Dashboard configuration text size is not translated to Italian	ZEN-15845	DRF - 'Large' and 'Extra Large' options are NOT translated in Italian	Hillrom Smart Device Connectivity 1.2.100
Dashboard long-lived sessions are not supported beyond 24 hours	ZEN-16213	Dashboard should support extended periods of time when the user is on Non-interactive session	Hillrom Smart Device Connectivity 1.2.100
Dashboard displays local error message and refresh is required	ZEN-16449	Dashboard – On browser refresh, an error message is seen related to "Data Tables"	Hillrom Smart Device Connectivity 1.2.100
Dashboard real-time bed data updates not processed for ADT events for swaps	ZEN-16591	Bed Data Real time update issues as a result of ADT events	Hillrom Smart Device Connectivity 1.2.100
Dashboard data stops updating in IE11 due to communication error	ZEN-16710	IE11 - Getting "Error: Failed to start the transport 'WebSockets': SecurityError"	Hillrom Smart Device Connectivity 1.2.100
Dashboard displays old alert at location patient is transferred to upon reload	ZEN-16711	On Reload, Dashboard is displaying HR/RR alert at the location that the patient is transferred to.	Hillrom Smart Device Connectivity 1.2.100
Dashboard displays HR/RR empty cell instead of a dash when a patient is discharged with an active alert	ZEN-16712	HR dynamic column displays blank cell instead of a dash on patient discharge - Reproducible with only REAL BED	Hillrom Smart Device Connectivity 1.2.100
Dashboard opens new blank tab when logging in with non-interactive mode in IE11	ZEN-16723	A new blank tab is opened when the user navigates to Non-Interactive Mode on Settings dialog or when the user logs out from Dashboard - Digital Health Platform	Hillrom Smart Device Connectivity 1.2.100
Dashboard refresh causes user to log back in repeatedly	ZEN-16836	Dashboard is getting ECP token even though the user logs into Dashboard Directly	Hillrom Smart Device Connectivity 1.2.100
Dashboard displays partial brake icon and no bed icons	ZEN-16847	Dashboard is displaying bed data inaccurately – Icon Issue	Hillrom Smart Device Connectivity 1.2.100
The dbo.dsn_sp_getmappings SPROC definition does not exist in the EG SQL migration script, preventing it from being created automatically during deployment	ZEN-17199	EG – dbo.dsn_sp_getmappings DNE in Migration Script	Hillrom Smart Device Connectivity 1.2.100
Transaction (message) details do not display when selecting a transaction within the Enterprise Configuration Portal	ZEN-18620	ECP Transactions page does not display transaction information	Hillrom Smart Device Connectivity 1.2.100

Preexisting issues Resolved in Smart Device Connectivity 1.2.000

Product Functionality	Global ID	Short Name	Fix Versions
The ECP allowed a deployment to be performed on an incomplete tenant hierarchy	ZEN-5270	Preventing user from halfway deployment in ECP	Hillrom Smart Device Connectivity 1.2.000
The rebooting of the production servers causes some mirth channels to not get deployed	ZEN-10529	Mirth Channels did not redeploy in Prod correctly following reboot	Hillrom Smart Device Connectivity 1.2.000
Deployment indicators blocks at a certain threshold of async API calls and forces the user to wait for loading to complete.	ZEN-11216	ECP issues with Internet Explorer	Hillrom Smart Device Connectivity 1.2.000
Countdown to logout stops at 15 minutes and logout pop-up shows prematurely	ZEN-11352	ECP logs out the user before 60 minutes	Hillrom Smart Device Connectivity 1.2.000
ProcedureRequest having timing associated will not be processed	ZEN-12021	ProcedureRequest POST returning 500 Internal Server Error	Hillrom Smart Device Connectivity 1.2.000
In the ECP spinner remains where a failed message should be displayed.	ZEN-12382	Intermittent - The GET messages?_skip=0&_take=10 call for transactions doesn't retrieve any messages	Hillrom Smart Device Connectivity 1.2.000
When creating an Enterprise hierarchy the "copy address from parent" link does not populate the address from the parent	ZEN-13148	Copy Address from Parent button not working	Hillrom Smart Device Connectivity 1.2.000
Vitals data still being accepted into the system using credentials that no longer exist	ZEN-13700	Deleted credentials on ECP is allowing for vitals data to go through to the end points	Hillrom Smart Device Connectivity 1.2.000
Incorrect middle name, prefix, suffix displayed on Voalte	ZEN-15934	EG – Not supporting multiple patient names	Hillrom Smart Device Connectivity 1.2.000

Preexisting issues Resolved in Smart Device Connectivity 1.1.100

Product Functionality	Global ID	Short Name	Fix Versions
Application Insights does not log the browser used to login to the ECP	ZEN-5696	Browser information is not included in the environment AI logs	Hillrom Smart Device Connectivity 1.1.000
Download/upload configuration buttons for Allscripts EMR deployment are missing	ZEN-5716	Download/Upload configuration files for Allscripts EMR deployment missing	Hillrom Smart Device Connectivity 1.1.000
Responses to API calls by services are taking longer than the expected 5-10 seconds	ZEN-5728	B2C performance causing test to fail	Hillrom Smart Device Connectivity 1.1.000

ECP Transactions page does not load and error is logged	ZEN-11420	Transactions page in ECP fails to populate	Hillrom Smart Device Connectivity 1.1.000

Software Upgrade Paths

Ensure that all connected devices and interfaces are upgraded in accordance with the compatible versions supported in the below product compatiblity section.

Software Upgrade Process

Software upgrades are deployed in a Hillrom-dedicated, Microsoft-hosted Azure cloud environment. Prior to full deployment of the system at a customer site, the system will be certified within the customer environment with customer-defined configurations. The system will be re-certified when customer configurations are changed and/or additional customer facilities are supported. The software upgrade process will require limited customer downtime.

Software upgrades that address system infrastructure, other back-end changes, and bug fixes without clinical impact are deployed seamlessly according to Hillrom's established internal software upgrade process and do not require any customer action. Customers will be informed in advance of all software upgrades. Please refer to the Help Center for additional information about the software upgrade process.

Product Compatibility

Product Compatibility of 1.2.400

The Hillrom Smart Device Connectivity 1.2.400 release is compatible with the following vital signs monitors, beds, EMR, and other systems:
Vital signs monitors
- Connex® CS
  - Version 1.8.4 and later
- Connex® Spot Monitor
  - Versions 1.52.xx and later
- Connex® Vitals Signs Monitor
  - 2.43.xx and later

Contact-Free Monitoring
- Early Sense
  - 03.13.030 and later

Beds
- Centrella
  - 1.30 and later – Wired (with or without EarlySense)
  - 1.35.000 and later – Wireless (with or without EarlySense)
- Accella

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- o Bed
  - ▪ >= CS900B41xxx with an HRP (serial number) > HRP004026834
  - ▪ HIB 2.x or later and ICB 2.x or later
- o WAM
  - ▪ >= 1.05.000

EMR Systems
- Allscripts
  - o All versions via standard HL7 Interface
- Epic
  - o All versions via standard HL7 Interface
- Meditech
  - o All versions via standard HL7 Interface

Other Systems
- NaviCare/Voalte (including Nurse Call and Status Board)
  - o Versions 3.9.600 and later
- Voalte Server
  - o Versions 3.7.10 and later via Message Bus
- Patient Risk Surveillance
  - o Versions 1.0.400 and later
- Symedical
  - o Versions 2.2.7.10 and later
- Voalte Family Messaging
  - o Version 1.0
- Virtual Care Solution
  - o Version 1.0.000
- Lightning Bolt
  - o All versions via Web API
- Mattress International surface Expansion (ISE)
  - o 1.0 or above
- Qgenda
  - o All versions via Web API

Product Compatibility From Previous Releases

Product Compatibility of 1.2.301 and 1.2.300

The Hillrom Smart Device Connectivity 1.2.301 and 1.2.300 release is compatible with the following vital signs monitors, beds, EMR, and other systems:

Vital signs monitors
- Connex® CS
  - o Version 1.8.4 and later
- Connex® Spot Monitor

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- o Versions 1.52.xx and later
- Connex® Vitals Signs Monitor
    - o 2.43.xx and later

Contact-Free Monitoring

- Early Sense
    - o 03.13.030 and later

Beds

- Centrella
    - o 1.30 and later – Wired via Voalte NurseCall (with or without EarlySense)
    - o 1.35.000 and later – Wireless via Voalte NurseCall (with or without EarlySense)
- Accella
    - o Bed
        - ▪ >= CS900B41xxx with an HRP (serial number) > HRP004026834
        - ▪ HIB 2.x or later and ICB 2.x or later
    - o WAM
        - ▪ >= 1.05.000

EMR Systems

- Allscripts
    - o All versions via standard HL7 Interface
- Epic
    - o All versions via standard HL7 Interface
- Meditech
    - o All versions via standard HL7 Interface

Other Systems

- NaviCare/Voalte (including Nurse Call and Status Board)
    - o Versions 3.9.600 and later
- Voalte Server
    - o Versions 3.6.3 – Direct connect to Smart Device Connectivity
    - o Versions 3.7.10 and later via Message Bus
- Patient Risk Surveillance
    - o Versions 1.0.300 and later
- Symedical
    - o Versions 2.2.7.10 and later
- Voalte Family Messaging
    - o Version 1.0
- Virtual Care Solution
    - o Version 1.0.000
- Lightning Bolt
    - o All versions via Web API

Product Compatibility of 1.2.200 and 1.2.201

The Hillrom Smart Device Connectivity 1.2.200 and 1.2.201 releases are compatible with the following vital signs monitors, beds, EMR, and other systems:

Vital signs monitors
- Connex® CS
  - Version 1.8.4 and later
- Connex® Spot Monitor
  - Versions 1.30.xx and later - Connected via Connex CS
  - Versions 1.52.xx and later - Connected directly to Smart Device Connectivity
- Connex® Vitals Signs Monitor (versions 2.43 and later)
  - 2.43.xx and later – direct connect to Smart Device Connectivity

Contact-Free Monitoring
- Early Sense
  - 03.13.030 and later

Beds
- Centrella
  - 1.30 and later – Wired via Voalte NurseCall (with or without EarlySense)
  - 1.35.000 and later – Wireless via Voalte NurseCall (with or without EarlySense)
- Accella
  - Bed
    - >= CS900B41xxx with an HRP (serial number) > HRP004026834
    - HIB 2.x or later and ICB 2.x or later
  - WAM
    - >= 1.05.000

EMR Systems
- Allscripts
  - ADT Inbound / Vitals Outbound
    - Sunrise: 17.3
    - Sunrise 18.4 + Unity: BOD 04/28/2021
  - ADT Inbound
    - All versions via standard HL7 interface
- Epic
  - All versions via standard HL7 Interface
- Meditech
  - All versions via standard HL7 Interface

Other Systems
- NaviCare/Voalte (including Nurse Call and Status Board)
  - Versions 3.9.600 and later
- Voalte Server
  - Versions 3.6.3 – Direct connect to Smart Device Connectivity
  - Versions 3.7.10 and later via Message Bus

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- Clinical Vectors
    - Versions 1.0.100 and later
- Symedical
    - Versions 2.2.7.10 and later
- Voalte Family Messaging
    - Version 1.0
- Virtual Care Solution
    - Version 1.0.000

Product Compatibility of 1.2.100

The Hillrom Smart Device Connectivity 1.2.100 release is compatible with the following vital signs monitors, beds, EMR, and other systems:

Vital signs monitors
- Connex® CS
    - Version 1.8.4 and later
- Connex® Spot Monitor
    - Versions 1.30.xx and later - Connected via Connex CS
    - Versions 1.52.xx and later - Connected directly to Smart Device Connectivity
- Connex® Vitals Signs Monitor (versions 2.43 and later)
    - 2.43.xx and later – direct connect to Smart Device Connectivity

Contact-Free Monitoring
- EarlySense
    - 03.13.030 and later

Beds
- Centrella
    - 1.30 and later – Wired via Voalte NurseCall (with or without EarlySense)
    - 1.35.000 and later – Wireless via Voalte NurseCall (with or without EarlySense)
- Accella
    - Bed
        - >= CS900B41xxx with an HRP (serial number) > HRP004026834
        - HIB 2.x or later and ICB 2.x or later
    - WAM
        - >= 1.05.000

EMR Systems
- Allscripts
    - ADT Inbound / Vitals Outbound
        - Sunrise: 17.3
        - Sunrise 18.4 + Unity: BOD 2/24/2021
    - ADT Inbound
        - All versions via standard HL7 interface

- Epic
    - All versions via standard HL7 Interface
- Meditech
    - All versions via standard HL7 Interface

Other Systems
- NaviCare (including Nurse Call and Status Board)
    - Versions 3.9.600 and later
- Voalte Server
    - Version 3.6.3 – Direct connect to Smart Device Connectivity
    - Versions 3.7.10 and later via Message Bus
- Patient Risk Surveillance
    - Versions 1.0 and later
- Symedical
    - Versions 2.2.7.10 and later
- Voalte Family Messaging
    - Version 1.0

Product Compatibility of 1.2.000

The Hillrom Smart Device Connectivity 1.2.000 release is compatible with the following vital signs monitors, beds, EMR, and other systems:
Vital signs monitors
- Connex CS
    - Version 1.8.4 and later
- Connex® Spot Monitor
    - Versions 1.30.xx and later - Connected via Connex CS
    - Versions 1.52.xx and later - Connected directly to Smart Device Connectivity
- Connex® Vitals Signs Monitor (versions 2.43 and later)
    - 2.43.xx and later – direct connect to Smart Device Connectivity

Contact-Free Monitoring
- Early Sense
    - 03.13.030 and later

Beds
- Centrella
    - 1.30 and later – Wired via Voalte NurseCall (with or without EarlySense)
    - 1.32.000 and later – Wireless via Voalte NurseCall (with or without EarlySense)
- Accella
    - Bed
        - >= CS900B41xxx with an HRP (serial number) > HRP004026834
        - HIB 2.x or later and ICB 2.x or later

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- o WAM
  - ▪ >= 1.05.000

EMR Systems
- Allscripts
  - o ADT Inbound / Vitals Outbound
    - ▪ Sunrise: 17.3
    - ▪ Sunrise 18.4 + Unity: BOD 9/18/2019
  - o ADT Inbound
    - ▪ Versions via standard HL7 interface
- Epic
  - o All Versions via standard HL7 Interface
- Meditech
  - o All Versions via standard HL7 Interface

Other Systems
- NaviCare
  - o Versions 3.9.600 and later
- Voalte Server
  - o Versions 3.6.3 – Direct connect to Smart Device Connectivity
  - o Versions 3.7.10 and later via Message Bus
- Patient Risk Surveillance
  - o Versions 1.0 or above
- Symedical
  - o Versions 2.2.7.10 and later

Product Compatibility of 1.1.001

The Hillrom Smart Device Connectivity systems:
Vital signs monitors
- Connex® Spot Monitor
  - o Versions 1.30.XX and less than Versoin 1.52.xx - Connected via NCE
  - o Versions 1.52.xx and later - Connected directly to Smart Device Connectivity
- Connex® Vitals Signs Monitor (versions 2.43 and later)
  - o 2.43.xx and later – direct connect to Smart Device Connectivity
Contact-Free Monitoring
- Early Sense
  - o 03.13.030 and later via a wired Centrella bed

Beds
- Centrella
  - o 1.27 and later – Wired via NaviCare NurseCall (with or without EarlySense)

EMR Systems
- Allscripts
    - Sunrise: 17.3
    - Sunrise 18.4 + Unity: BOD 9/18/2019
    - Versions via standard HL7 interface
- Epic
    - All Versions via standard HL7 Interface
- Meditech
    - All Versions via standard HL7 Interface

Other Systems
- NaviCare
    - Versions 3.9.500 and later
- Voalte Server
    - Versions 3.6.3, 3.7.5 – Direct connect to Smart Device Connectivity
    - Versions 3.7.10 and later via Message Bus
- NCE (Network Connectivity Engine) for CSM devices
    - Versions 5.2 and later
- Patient Risk Surveillance
    - Versions 1.0 or above
- Symedical
    - Versions 2.21 and later

Product Compatibility of 1.0.000

The Hillrom Smart Device Connectivity 1.0.000 release is compatible with the following vital signs monitors and EMR systems:
Vital signs monitors:
- Connex® Spot Monitor (versions 1.30.XX and later)

EMR systems:
- Allscripts
    - Sunrise (versions 17.3 and 18.4)
    - Unity (version BOD 9/18/2019)
    - via HL7 interface
- Epic
    - via HL7 interface
- Meditech
    - via HL7 interface
- Voalte Server (versions 3.6.3, 3.7.5 and later)

Technical Support

Hill-Rom Technical Support is available 24/7, 365 days a year. If you need help, please call:
1-800-445-3720.

Additional hard copies of this guide can be obtained from Hill-Rom by addressing your request to Hill-Rom Technical Support Department Telephone: (800) 445-3720.