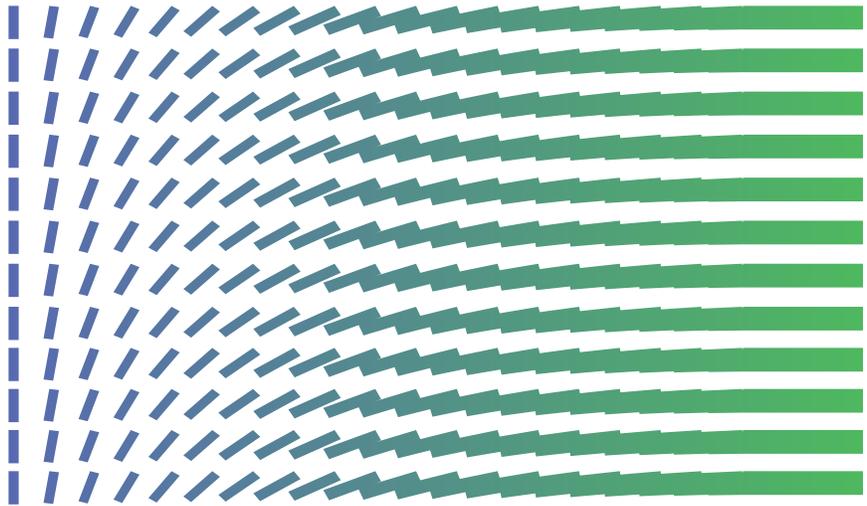




Hillrom™

**SmartCare™ Remote
Management**



Administrator's guide

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Introduction

Purpose

SmartCare™ Remote Management helps the user to service assets, such as devices or beds, remotely. It supports the following service-related tasks.



NOTE The specific items from the list below that apply to your asset may vary depending on asset type.

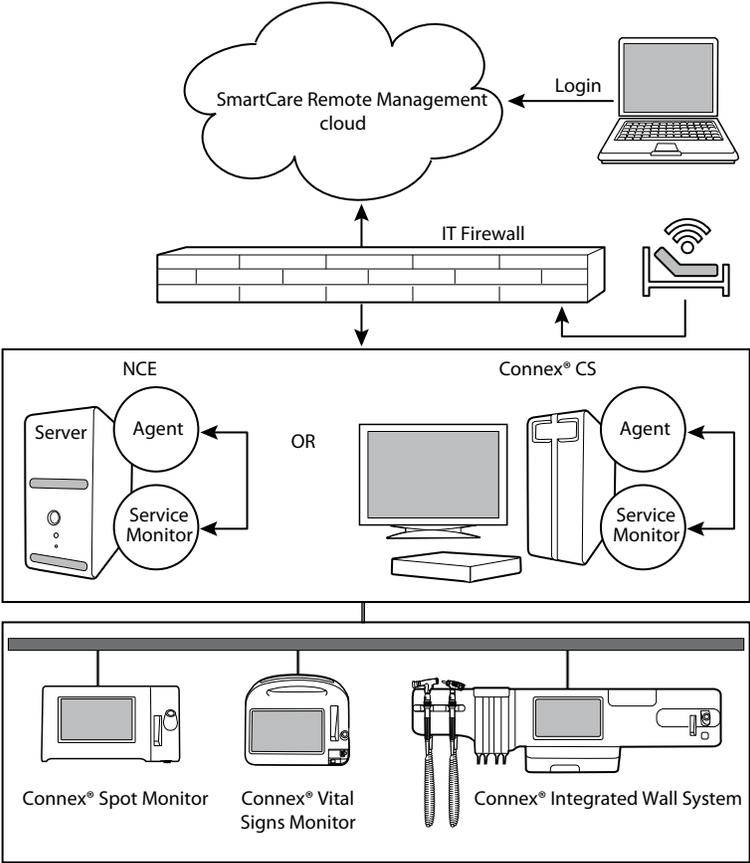


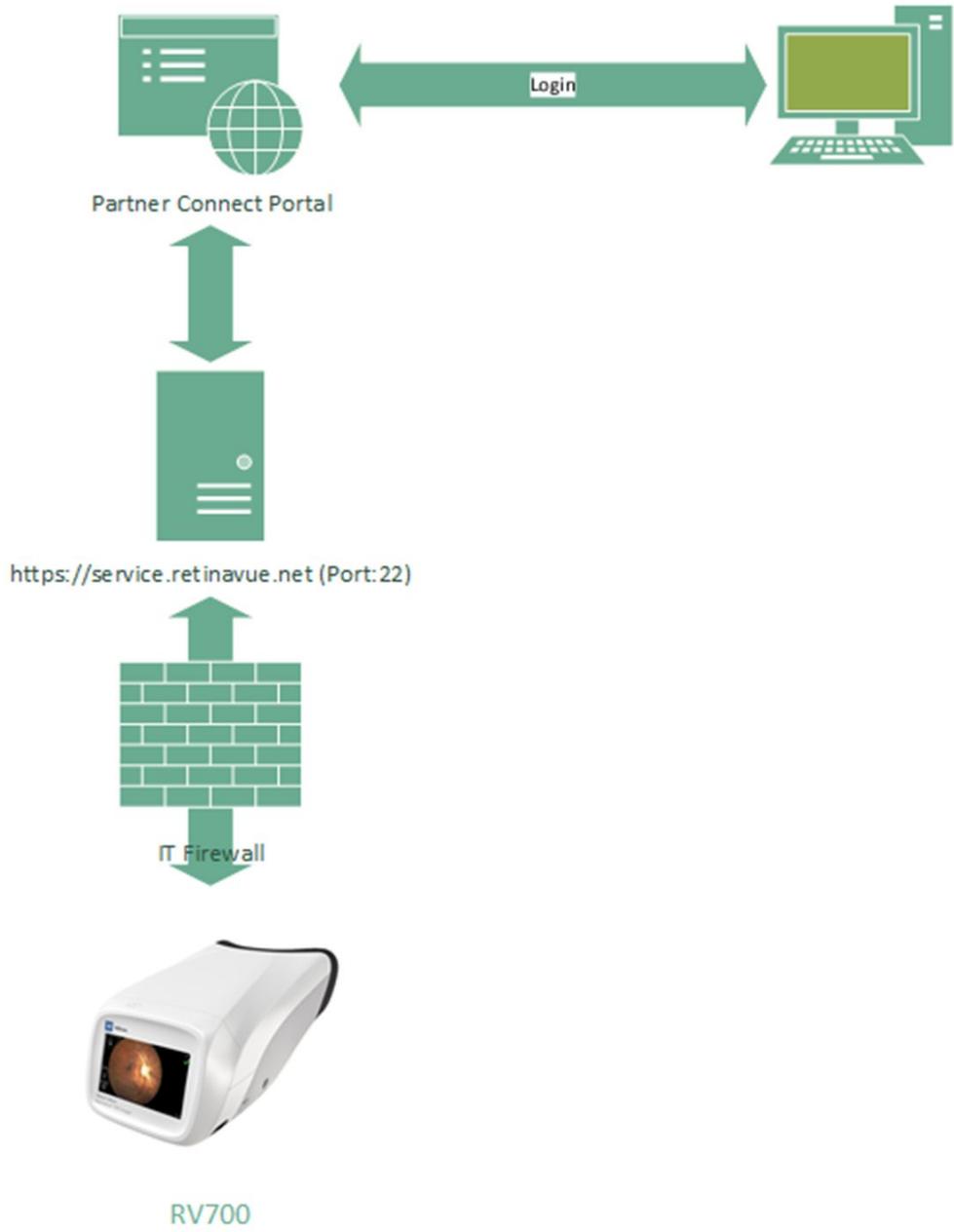
NOTE See *SmartCare Remote Management instructions for use* for a more detailed product overview and a more detailed purpose description.

- Remote update configuration
- Remote upgrade asset firmware
- Review asset preventive maintenance due date
- Remote asset log retrieval
- Remote asset location tracking
- Error code notification

Architect design

Assets that are compatible with SmartCare Remote Management appear in the diagrams below. Connections to your network, whether wired or wireless, vary by configuration and/or asset type. For any of these assets at your facility, SmartCare Remote Management provides quick access to cloud-based service data.





System requirements

Except for Centrella® Smart+ Bed and Progressa® Smart+ Bed, the asset must have either Connex Clinical Surveillance System (Connex CS) or Connex Device Integration Suite – Network Connectivity Engine (CDIS-NCE) system installed, and the asset's network must be configured to use Network Rendezvous Service (NRS) communication.

Proxy server requirements

You may choose to route internet traffic through a Proxy Server (optional).

The following requirements must be met for this option to work.

- Configure the firewall (local or infrastructure) to connect to the appropriate proxy port number.
- Enable the proxy from the agent machine: Configure the control panel settings “HTTP” and “Secure” to point to the proxy and port number.

Host hardware/OS

Supported operating systems

Server	Windows Server 2016 Windows Server 2019
--------	--

Computer requirements

Processor	1.4 GHz 64-bit processor
RAM	8 GB
Disk space	32 GB

Network connection

NIC	1 GB or higher recommended
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Network configuration

To ensure the system functions properly, you may update your network according to the following table:

Application/service	Domain name, IP address, port	Protocol	Connection
PartnerConnect* Agent	iot.hillrom.com 52.224.38.138 Port: 443	TCP (HTTPS)	External
Welch Allyn Service Monitor	283 7721	TCP TCP	Internal Internal
SmartCareRemote Management	https:// smartcareremotemanage ment.hillrom.com 52.224.38.138 Port: 443 MQTT Port: 8883	TCP (HTTPS)	Not applicable
RV700 Fleet Management Server	Production Service: https:// service.retinavue.net Port:22	TCP (SFTP)	External
DCP	NRS port: 7711	UDP	Internal
File outbound types	.log,.zip, .txt, .csv	Not applicable	Not applicable
File inbound types	.tar.gz, .tar, .zip, .pim, .xml, *.txt, *.pdf, .waupdate, *.bas, *.json, .csv	Not applicable	Not applicable

Application and asset compatibility

Asset name	Min. software
Centrella Smart+ Bed	1.36.000
Progressa Smart+ Bed	1.0
CVSM (Connex Vital Signs Monitor)	2.x or later except version 2.40.x

Asset name	Min. software
CIWS (Connex Integrated Wall System)	2.x or later except version 2.40.x
	 NOTE Emulate Spot Vital Sign Lxi must be disabled for the asset to show up on SmartCare Remote Management.
CSM (Connex Spot Monitor)	1.24 or later
Connex CS (Central Station Server)	1.8x, 1.7x
Connex CS (Central Station Client)	1.8x
Connex CS (Central Station Standalone)	1.8x
DCP	3.0.1.1
CDIS-NCE/Cerner VitalsLink*	5.1.0.16
RV700 (RetinaVue* 700 Imager)	1.30.00-A0002 or later
Welch Allyn Configuration Tool	1.8.9 20181220

Determine account infrastructure layout



NOTE This section is not applicable to the RetinaVue 700 Imager, for which data is inherited from the RetinaVue Network. It is also not applicable to the Centrella Smart+ Bed and the Progressa Smart+ Bed.

A single installation supports up to 2,000 connected assets. If an organization has more than 2,000 connected assets between locations, then you must use multiple server installations.

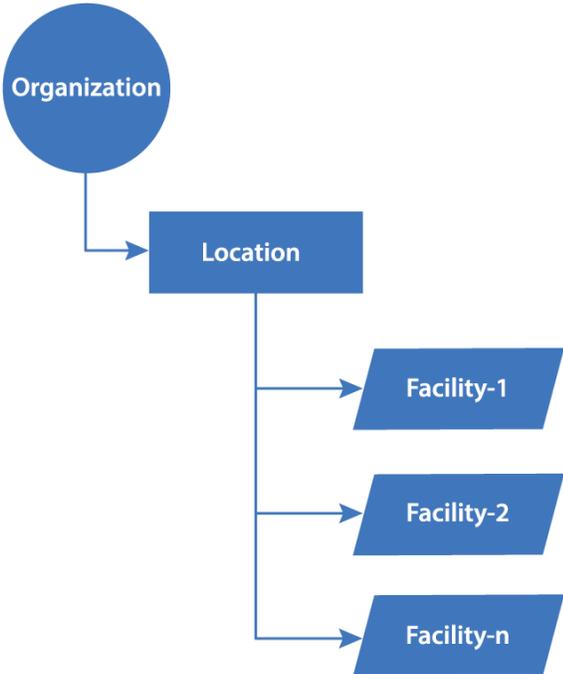
SmartCare Remote Management offers a 3-level organization hierarchy: organization, location, and facility. Depending on how you want to view and manage your assets, you have flexibility in how you utilize the hierarchy. Organization and location are defined at the time of installation. Facility is defined based on the asset location configuration field.

The layout options in the diagrams below offer guidance to help you to determine your SmartCare Remote Management layout and installation. The "Layout options graphic key" provides information to accompany the diagrams.

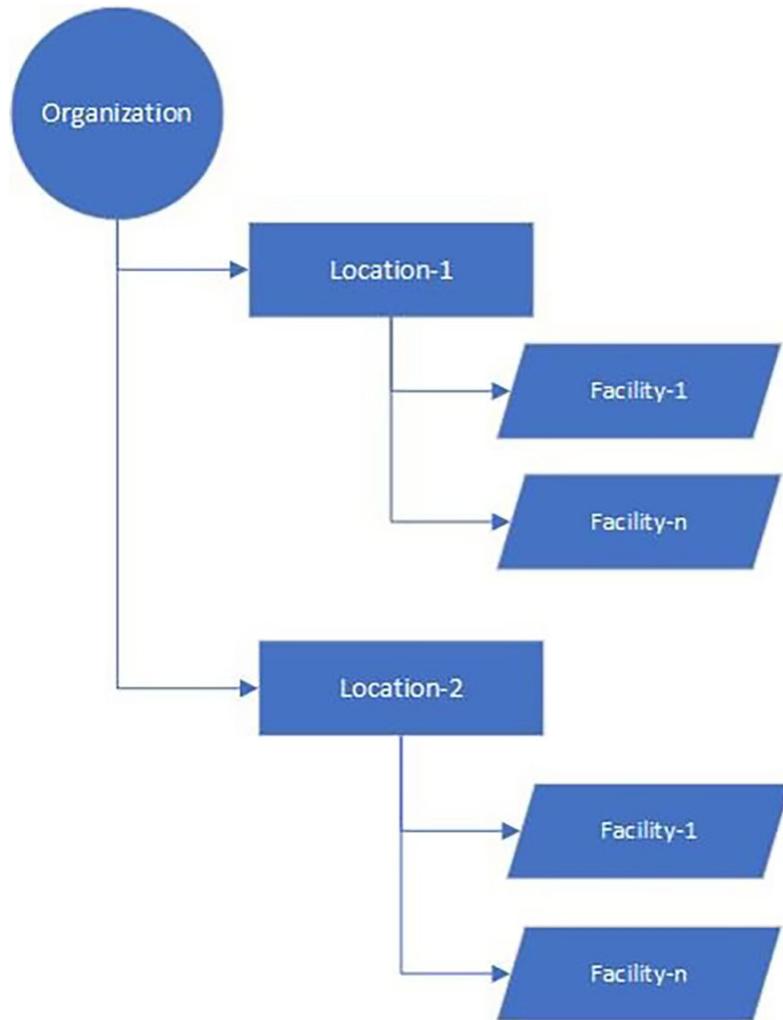
Layout options graphic key

Organization	Organization is the highest node level. You may choose to have more than one organization node.
Location	Location is the second node level. You may choose to have more than one location under an organization. The installation sets the organization-location level. For user access, you may request to set up users who can only view and manage a single location.
Facility	The facility node level is not set during the installation. It is driven by asset configuration, such as asset location and asset tag configurations.

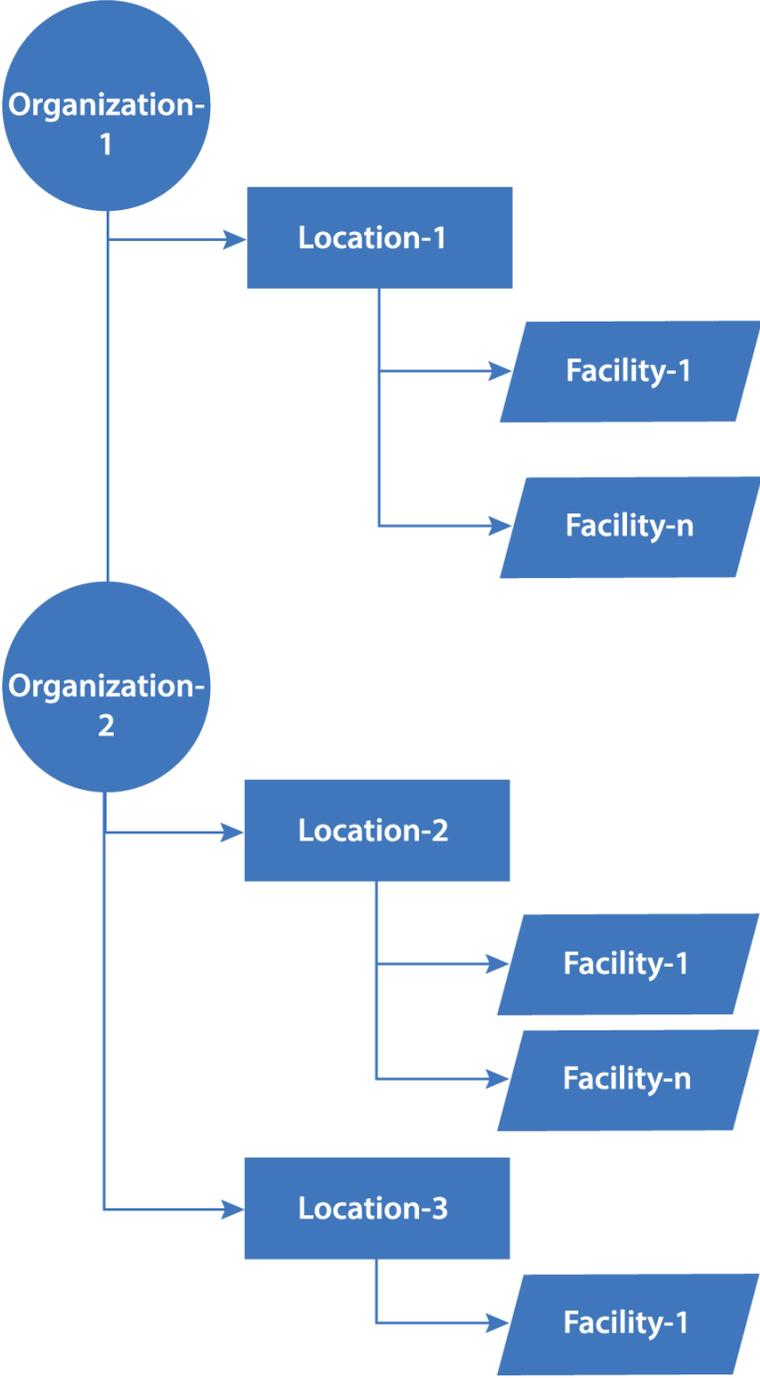
Option 1 – Single server installation with 1 location and up to 2,000 connected assets.



Option 2 – Single organization, two or more locations, with multiple facilities and at least two server installations, as well as more than 2,000 connected assets.



Option 3 – Multiple organizations, two or more locations, with multiple facilities and at least three server installations, as well as more than 2,000 connected assets.



Configuration request for SmartCare Remote Management

The Hillrom Solution Architect should open a sales lead in Sales Force and assign it to a project manager.

Third party suppliers: Please submit an email request to servicehub@hillrom.com with subject line "Service Hub Request."

When the above is completed, Hillrom will respond to the request with an email containing a ticket number and a checklist of items that need to be sent back by replying to the email.

Reply to this email with the following information to have SmartCare Remote Management set up correctly; any request without the items above will be rejected and delayed.



NOTE Use the Administrator's Guide and not this email alone, as the email only details the information that Hillrom requires for setting up the account in the PartnerConnect cloud system.

The checklist will be similar to the one below.

- Project manager's name:
 - Contact name
 - Contact email address

- Customer/SmartCare Remote Management user contact information:
 - Company name
 - Contact name
 - Contact phone number
 - User email address(es) to be used for SmartCare Remote Management access
 - Configuration tool login email address (if available)

- For CSM and CVSM/CIWS assets that use Gateway Agent, the customer's operating system is supported, and the customer's host hardware/OS meets requirements:
 - Windows 2016

- Windows 2019
- For CSM and CVSM/CIWS assets, the customer's network is preconfigured for the appropriate application/configurations:
 - PartnerConnect
 - Service Monitor
 - DCP
 - NCE/Cerner Vitals Link
 - Connex CS
- Type of SmartCare Remote Management account:
 - Existing update – Include user email address
 - New
- Software applications that Hillrom must install for CSM and CVSM/CIWS assets:
 - PartnerConnect
 - Service Monitor
 - DCP
 - NCE/Cerner Vitals Link
 - Connex CS
- Supported assets/applications meet minimum software versions:
 -  **NOTE** Confirm the latest supported versions with the *SmartCare Remote Management administrator's guide*.
 - Centrella Smart+ Bed – 1.36.000
 - Progressa Smart+ Bed – 1.0
 - CIWS (Connex Integrated Wall System) – 2.x or later except version 2.40.x
 - CSM (Connex Spot Monitor) – 1.24 or later
 - CVSM (Connex Vital Signs Monitor) – 2.x or later except version 2.40.x
 - Connex CS (Central Station Server) – 1.8x or later
 - Connex CS (Central Station Client) – 1.8x or later
 - DCP – 3.1.0
 - NCE/Cerner VitalsLink – NCE 5.1.0.16

NCE/Cerner Vital Links – NCE 5.1.0.16

RV700 (RetinaVue 700 Imager)

- Number of CSM and CVSM/CIWS assets that each PartnerConnect Agent instance will support:

≤ 2,000 (per single agent installation)

> 2,000 (per single agent installation)

- Requested infrastructure layout for the account (for CSM and CVSM/CIWS assets only):



NOTE Confirm the latest supported options with the *SmartCare Remote Management administrator's guide*.

Single server, Option 1 – One bootstrap.json file

Two or more servers, Option 2 – Two or more bootstrap.json files

Two or more servers, Option 3 – Three or more bootstrap.json files

- Single sign-on (customer option) requirement:



NOTE The single sign-on method allows customers to authenticate their credentials through the company's existing Active Directory (Windows login). This method eliminates the need to provide a username and password at every login.



NOTE Single sign-on is available to customers with corporate accounts that are compatible with SmartCare Remote Management.

Confirm that customers are using the cloud-based Microsoft Azure Active Directory (no on-prem legacy). The user authentication must be compatible with the SmartCare Remote Management single sign-on option.

- Attachments that are required:

Signed Statement of Work (SOW). See the software subscription agreement (DIR 20017092).

bootstrap.json files, quantity dependent on option selected above (only applicable to PartnerConnect Agent and CSM and CVSM/CIWS assets)



NOTE Important! Any request without the items listed above will be rejected and will not result in setup.

Software requirements and installation



NOTE The "Software requirements and installation" section is not applicable to any of the following assets: the RetinaVue 700 Imager, the Centrella Smart+ Bed, and the Progressa Smart+ Bed.

Prepare for software installation

1. Run an installation to update to the latest version, regardless of the installed version.
2. Verify all system requirements are met.
3. See "Determine account infrastructure layout." If you have Option 1 with more than 2,000 assets, Option 2, or Option 3, then the following applies:

Each server that does not have Connex CS or NCE will need to have DCP, Service Monitor, and PartnerConnect Agent installed. DCP will need to be configured on these servers to have vital signs routed to port 281 for one of the following ordinals: 5, 8, or 12, depending on the type the customer is using to point to the NCE or Connex CS server. Configure port 281 on ordinal 8 for the service monitor connection pointing to the server with DCP installed.

4. Obtain PartnerConnect agent software.
5. Obtain Welch Allyn Service Monitor software
6. Ensure you have administrator's rights on the host machine.
7. Ensure you have chosen an Account Infrastructure Layout option. (See "Determine account infrastructure layout.")

NCE software installation

For details about installing NCE, follow the installation instructions provided as needed by the project manager. These instructions are not part of this document as the installation should be done prior to this step.

Download and install the Hillrom PartnerConnect application

1. Log in as Administrator.
Navigate to <https://smartcareremotemanagement.hillrom.com> and Scroll and click **PartnerConnect** to download.

2. Start Windows Explorer and open the PartnerConnect download.
3. Unzip the file.
4. Double-click **PartnerConnect.exe**.

The installation package welcome screen appears.

5. Click **Next**.
6. Accept the terms of the License agreement.
7. Click **Next**.
8. Populate the registration page information except the serial number.



NOTE It is very important to properly fill out the registration page with proper spelling, punctuation, capitalization, etc. as this is how SmartCare Remote Management will be displayed.



NOTE The PartnerConnect Agent will not be able to register with any special characters or characters other than English in the Customer name field.

9. Click **Next**.

The Tenant Information screen appears (auto-populated).

10. Click **Next**.
11. Click **Install**.
12. Click **Finish**.

The PartnerConnect application is installed.

13. To verify the successful installation and registration and to collect registration information for setting up your SmartCare Remote Management access, please obtain the following file: C:\Program Files (x86)\Welch Allyn\PartnerConnect\config\bootstrap.json

The file contains the following information as the result of a successful installation:

```

"serialnumber": "VMTEST3_F2D119EC-7D8E-4983-AF2F-61D0A832A4E4",
"enterprise": "Hillrom",
"Customer": "University Hospital",
"facility": "North Medical",
"Line1": "",
"Line2": "",
"City": "",
"State": "",
"Zip": "",
"Country": "United States",
"Region": "North America",

```

Download and install the Welch Allyn Service Monitor application



NOTE As a reminder, this section is not applicable to RV700.

1. Navigate to <https://smartcareremotemanagement.hillrom.com> and Scroll and click **Service Monitor** to download.
2. Log in to your host server as Administrator.
3. Start Windows Explorer and open the Service Monitor download.
4. Double click **setup.exe**.

The installation package setup wizard screens appear.

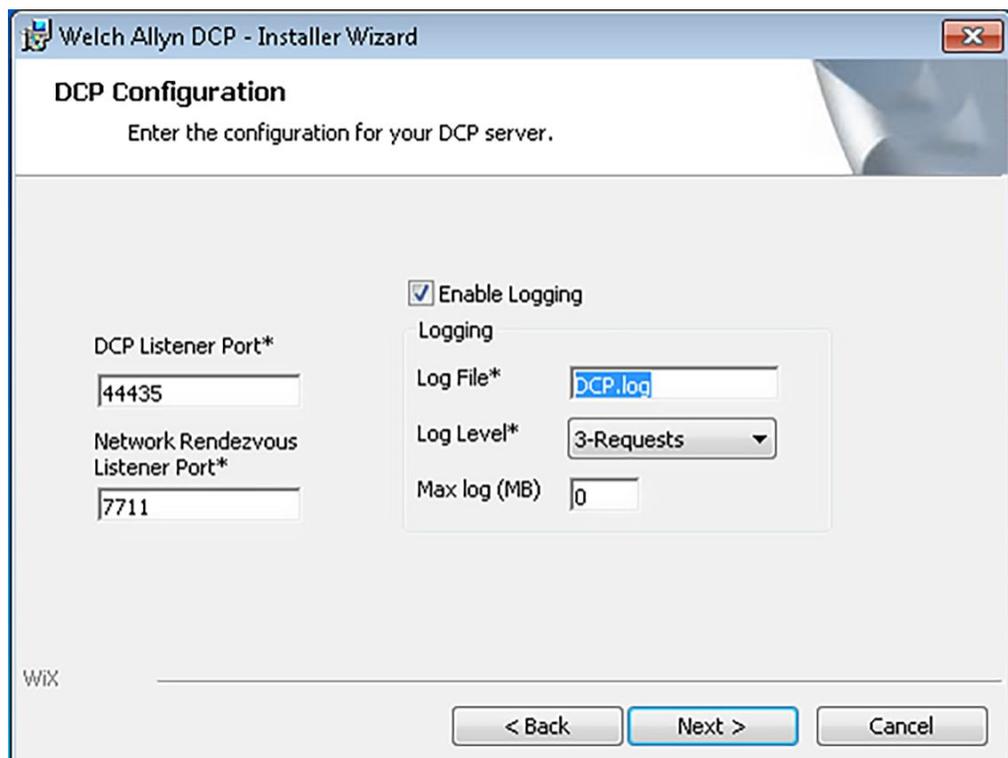
5. Click **Next**.
6. Click **Next** without changing the installation location.
7. Click **Install**.
8. Click **Close**.

The Service Monitor application is installed.

Download and install the Welch Allyn DCP application

This is for a SmartCare Remote Management dual server option that is not on a Connex CS or NCE installation. The DCP component is part of a CDIS-NCE system. The CDIS-NCE documentation provides comprehensive DCP installation and configuration instructions.. The following steps are for your reference only and are only applicable for the SmartCare Remote Management system setup.

1. Log in as Administrator.
2. Navigate to <http://smartcareremotemanagement.hillrom.com> and scroll and click **DCP** to download.
3. With the exception of the screens called out below, install the software by selecting **Next** or similar on each screen.

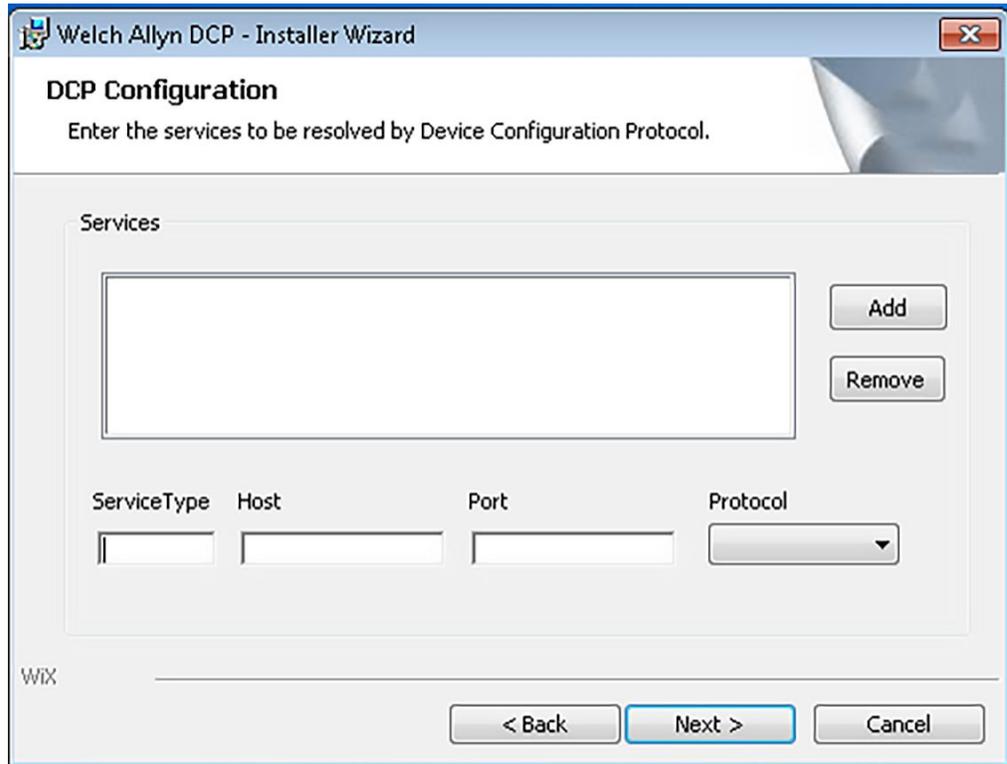


The screenshot shows the 'Welch Allyn DCP - Installer Wizard' window, specifically the 'DCP Configuration' screen. The window title is 'Welch Allyn DCP - Installer Wizard' and it has a close button in the top right corner. The main heading is 'DCP Configuration' with the instruction 'Enter the configuration for your DCP server.' Below this, there are several configuration fields:

- DCP Listener Port*:** A text box containing the value '44435'.
- Network Rendezvous Listener Port*:** A text box containing the value '7711'.
- Enable Logging:** A checked checkbox.
- Logging:** A section containing:
 - Log File*:** A text box containing 'DCP.log'.
 - Log Level*:** A dropdown menu set to '3-Requests'.
 - Max log (MB):** A text box containing '0'.

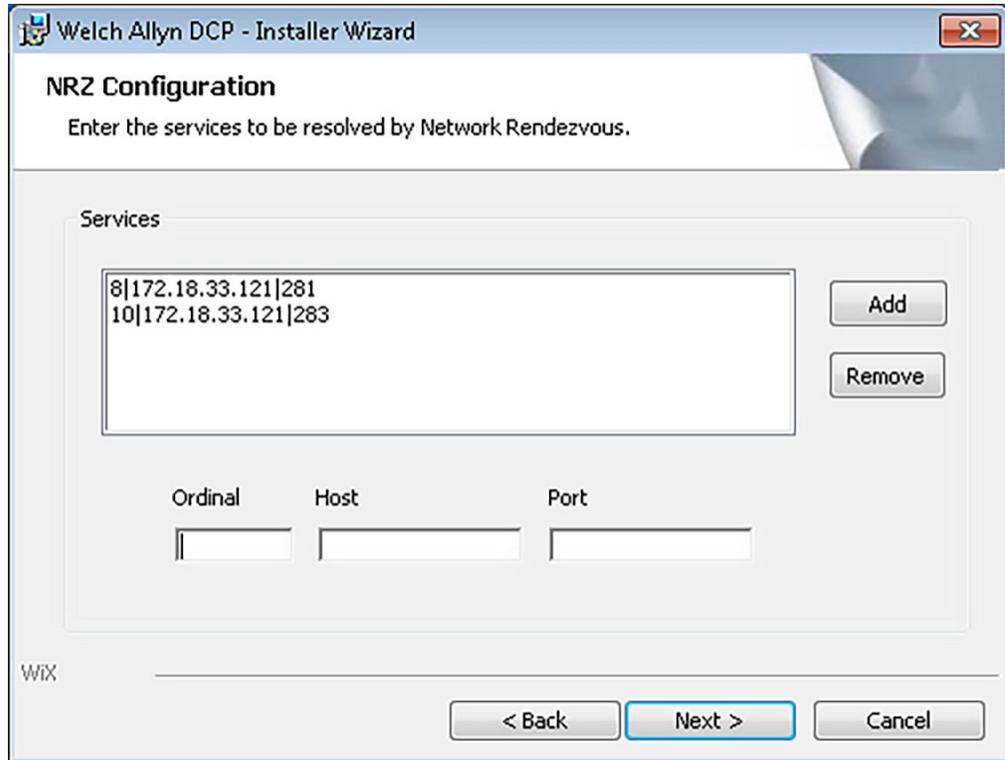
At the bottom left, there is a 'WIX' logo. At the bottom right, there are three buttons: '< Back', 'Next >', and 'Cancel'.

- Skip the next screen for CVSM and CSM. (See below.)



- Update ordinal settings to include ordinal 10 as shown below.

Ordinal	Description	Host	Port
10	Remote services	IPv4 address of the Service Monitor server	283



Welch Allyn Product Configuration Tool (CSM only)

Perform the steps below to create an account if an existing account is not present for the organization. If an account is already created, there is no need to create a new account.

1. Go to the following website: <https://config.welchallyn.com/configurator/>
2. Click **Register Here**.
3. Populate the request form with user details. The email address must be professional business email only: Gmail or Yahoo accounts cannot be used.
4. Click **Register**.

System verification

This chapter explains how to verify your system setup and proper access to your account.

Verify that the asset can connect to the data gateway software (for CSM and CVSM/CIWS assets)

This process verifies that the asset can connect to the wireless network, that there is a valid network path to the server, that DCP is configured correctly (for NCE installations only), and that NCE is installed correctly.

1. From the asset, navigate to the server display and go to **Settings > Advanced > Network > Server**.
2. Touch the **Test** button.
3. If the test fails, check the following (and try again).
 - a. Make sure the asset has an IP address.

CVSM: Navigate to **Settings > Advanced > Network > Status**.

CSM: Navigate to **Settings > Advanced > Service > Ethernet stats**.

- b. Make sure the asset's connectivity is set to NRS IP. To check, navigate through the following path: **Network > Server > Connectivity**.
- c. Make sure the asset's IP address is set to the server address containing DCP software. To check, navigate through the following path: **Network > Server > IP Address**.
- d. Make sure the asset's Port is 7711. To check, navigate through the following path: **Network > Server > Port**.
- e. Make sure the server(s) have the following ports open: TCP 281, TCP 283, UDP 7711, UDP 293.

Acceptance Criteria: After touching the test button, the asset contains a message stating that the test passed.

Verify that the asset can connect to remote service

This verifies that the asset can connect to the wireless network, that there is a valid network path to the server, that DCP is configured correctly, and that the Service Monitor and PartnerConnect are configured correctly.

Verify CVSM/CIWS connection

1. From the device, navigate to the Server display and go to **Settings > Advanced > Service**.
2. Touch the PartnerConnect **Sync with server** button.
3. If the test fails, check the steps in the "System requirements" section (and try again).
4. If it passes, go to SmartCare Remote Management (<https://smartcareremotemanagement.hillrom.com>) and verify that the device is visible under the new account and is online.

Verify CSM connection

1. From the device, navigate to the Server display.
2. Go to **Settings > Advanced > Settings > Service > General**.
3. Touch the Service Monitor **Sync Now** button.
4. If the test fails, check the steps in the "System requirements" section (and try again).
5. If it passes, go to SmartCare Remote Management (<https://smartcareremotemanagement.hillrom.com>) and verify that the device is visible under the new account and is online.

Acceptance Criteria: After touching the **Sync with server** button the device contains a message stating that the test passed.

Verify RV700 connection

1. From the device, navigate to the main Patients screen.
2. Touch the menu button in the lower left corner of the screen.
3. Touch **Settings**.
4. Scroll to and touch **Advanced settings**.
5. Press **Service connection**.
6. Press **Sync now**.

The screen will display the message "Syncing in progress..." Once the sync is complete, the screen will display the message "Sync with server is complete."

Verify Centrella Smart+ Bed or Progressa Smart+ Bed connection

1. From the bedside display (GCI), touch the **Settings** menu control.
2. Touch **Bed Service**.
3. Enter **812** and then touch **Enter**.
4. Navigate to the Remote Service option.
5. Touch **Remote Service**.

The screen shows the customer name.

6. If the screen does not show the customer name, touch **Update Facility**.

Verify account setup



NOTE This is completed after Hillrom performs the configuration setup of the SmartCare Remote Management account for you.

1. Go to <https://smartcareremotemanagement.hillrom.com>.
2. Log in to the account with your username/password.
3. For a PartnerConnect Agent with CSM and/or CVSM/CIWS, verify that the organization, location, and facility setup match the user configuration of each option.
4. For the Centrella Smart+ Bed or the Progressa Smart+ Bed, verify that the organization and location are populated based on the Hillrom sales record.
5. Verify that the assets show up on SmartCare Remote Management.
6. Verify that the customer's configuration files (CSM only) appear on the account and match what is present on the Configuration Tool.

Appendices

Appendix A – Statement of work (SOW) and warranty terms

The SOW, also referred to as the Scope of work document or Statement of work document, must be completed before the performance of any installation work. See the software subscription agreement (DIR 20017092).

