# stryker

## iBed Server

Installation/Configuration Manual

Version 3.x REF 5212



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## Warning/Caution/Note Definition

The words WARNING, CAUTION, and NOTE carry special meanings and should be carefully reviewed.

#### WARNING

Alerts the reader about a situation which, if not avoided, could result in death or serious injury. It may also describe potential serious adverse reactions and safety hazards.

#### CAUTION

Alerts the reader of a potentially hazardous situation which, if not avoided, may result in minor or moderate injury to the user or patient or damage to the product or other property. This includes special care necessary for the safe and effective use of the device and the care necessary to avoid damage to a device that may occur as a result of use or misuse.

Note - Provides special information to make maintenance easier or important instructions clearer.

## Introduction

This manual assists you with the operation or maintenance of your Stryker product. Read this manual before operating or maintaining this product. Set methods and procedures to educate and train your staff on the safe operation or maintenance of this product.

**Note** - Stryker continually seeks advancements in product design and quality. This manual contains the most current product information available at the time of printing. There may be minor discrepancies between your product and this manual. If you have any questions, contact Stryker Customer Service or Technical Support at 1-800-327-0770.

## Installing the iBed Server software

- 1. Copy the files listed to the Public Documents folder.
  - BBIDList.xml
  - DeviceBBIDLocationAssociation.xml
  - DeviceURLs.xml
  - HospitalLocationList.xml
- 2. Uninstall the application.
- 3. Install the new application.

Install directory\Stryker\iBedServerApplication\Data

Note - The new application imports the files from the Public Documentation folder.

4. Using the iBed Server Tool, configure the Master Device List and the Locator Associations.

Stryker disclaims all responsibility for information transmitted off of its devices.

### System requirements and recommendations

#### Note

- If the minimum system requirements are not met, the system performance is impacted.
- Always apply relevant software updates and patches.
- The minimum system requirements for the server hardware depend on the number of products that are connected to the system.

Hardware requirements	
Capacity	Requirement
1-300 connected products	2.x GHz processor or better with a total of 4 cores Memory: 8 GB RAM Hard drive: 150 GB
301-600 connected products	2.x GHz processor or better with 8 cores Memory: 16 GB RAM Hard drive: 150 GB
601-800 connected products	2.x GHz processor or better with 16 cores Memory: 32 GB RAM Hard drive: 150 GB
801-1,000 connected products	2.x GHz processor or better with 24 cores Memory: 32 GB RAM Hard drive: 150 GB

Hardware requirements	
Capacity	Requirement
1,001-1,300 connected products	2.x GHz processor or better with 32 cores Memory: 64 GB RAM Hard drive: 150 GB
1,300+ connected products	For systems that have over 1,300 connected products, add a core for every 50 products.

#### Note

- Two server environments for the server are recommended: test and production.
- The server is supported in either physical or virtual environments.
- The server supports high availability in Active Passive configuration. Contact the Stryker Wireless Implementation Team for more information.

Software and setup requirements					
Scope	Requirement	Requirement			
Operating system	Microsoft Windows Server 2019	Microsoft Windows Server 2022			
Server roles	<ul> <li>Add roles</li> <li>Web server (IIS) (installed)</li> <li>Roles services <ul> <li>Application development</li> <li>ASP.NET 3.5 (installed)</li> <li>ASP.NET 4.5 (or higher) (installed)</li> <li>ASP (installed)</li> </ul> </li> </ul>	Add roles  • Web server (IIS) (installed)  • Common HTTP features  • Performance  • Security  • Application development Net Extensibility 4.8  - ASP.NET 4.8  - ISAPI Extensions  - ISAPI Filters			
	Management tools     IIS management console (installed)	Management tools     IIS management console (installed)			
Server features	<ul> <li>.NET Framework 3.5 features (installed)</li> <li>.NET Framework 4.5 (or higher) features (installed)</li> <li>Telnet client <ul> <li>WCF services</li> <li>HTTP Activation</li> </ul> </li> </ul>	<ul> <li>.NET Framework 4.8 features (installed)</li> <li>.NET Framework 4.8 (or higher) features (installed)</li> <li>Telnet client <ul> <li>WCF services</li> <li>HTTP Activation</li> </ul> </li> </ul>			
Other	Update the server for all current Microsoft priority updates. <b>Note</b> - For Windows Server 2019, download and install .Net Framework 4.8 runtime from the official Microsoft site (https://dotnet. microsoft.com/en-us/download/dotnet- framework/net48).	Update the server for all current Microsoft priority updates and optional updates for .NET Framework 4.8.			

To make sure that your network is secure, Stryker recommends the following:

- Use antivirus/malware protection
- Close unused network ports
- Disable unused services
- Manage access to system/network infrastructure (firewall, approved IP addresses, or other cybersecurity strategy)
- Monitor network activity for irregularities
- Disable TLS 1.0 and 1.1 on servers and enforce TLS 1.2 or TLS 1.3
- Disable weak SSL cipher suites

You may need more configuration or setup depending on equipment and other variables. Contact Stryker Technical Support at 1-800-327-0770 if you have difficulties with:

- Installation
- Setup
- Configuration
- · Connections (between the server and Stryker wireless clients)

### Product connection requirements

**Note** - If the product can travel to multiple subnets, you are required to use the DNS naming convention for each Stryker product.

- · DHCP connections use a reserved IP address for each product via its MAC address
- · Static connections use a static IP address for each product via its MAC address
- DNS naming convention use a product hostname that is hardcoded to each product (hostname example = SYK-82453f21f0c2 [SYK product MAC address])

## **Contact information**

Contact Stryker Customer Service or Technical Support at: 1-800-327-0770.

Stryker Medical 3800 E. Centre Avenue Portage, MI 49002 USA

Email: medicaliBedWirelessSupport@stryker.com

## Installation

## Server configuration

#### Windows Server 2019/2022

- 1. In the Server Manager, navigate to the Dashboard.
- 2. Select the Add Roles and Features link (Figure 1).

🚘 Server Manager				- 8 ×
Server N	lanager • Dashboard			- 😥   🚩 Manage Tools View Help
Dashboard	WELCOME TO SERVER MANAGER			
■ Local server ■ All Servers ■ File and Storage Services ▷	1 Confi	gure this local server		
	2 Add	d roles and features		
	3 Add	d other servers to manage		
	WHAT'S NEW 4 Cre	ate a server group		
	5 Cor	nnect this server to cloud service	5	
	LEARN MORE			Hide
	Roles: 1   Server groups: 1   Servers total:	1		
	File and Storage	Local Server 1	E All Servers 1	
	Services	Managaphility	Manageability	
	Events	Events	Events	
	Performance	Services	Services	
	BPA results	Performance RPA regults	Performance RPA results	
		DPA results	DPA results	
				N

Figure 1 – Add Roles and Features

3. In the Add Roles and Features Wizard, select Next (Figure 2).





4. In the Select installation type, select Role-based or feature-based installation. Select Next (Figure 3).

📥 Add Roles and Features Wizard		_		$\times$
Select installation	type	DESTINA	ATION SERV ibed-	ER
Before You Begin Installation Type Server Selection Server Roles Features Confirmation Results	<ul> <li>Select the installation type. You can install roles and features on a running physic machine, or on an offline virtual hard disk (VHD).</li> <li>Role-based or feature-based installation Configure a single server by adding roles, role services, and features.</li> <li>Remote Desktop Services installation Install required role services for Virtual Desktop Infrastructure (VDI) to create or session-based desktop deployment.</li> </ul>	a virtual m	er or virtu achine-ba	ial
	< Previous Next > Ir	stall	Cancel	1

Figure 3 – Installation Type

5. In the Select destination server, select Select a server from the server pool. Verify that the server is correct in the Server Pool box. Select Next (Figure 4).

🔁 Add Roles and Features Wizard				-		×
Select destination	server			DESTINA	TION SERV	/ER
Before You Begin	Select a server or a	virtual hard disk on which	to install roles and features.			
Installation Type	<ul> <li>Select a server fr</li> </ul>	rom the server pool				
Server Selection	O Select a virtual h	nard disk				
Server Roles	Server Pool					
Features						
Confirmation	Filter:					
Results	Name	IP Address	Operating System			
	ibed-	10.0.4.4	Microsoft Windows Server 2	019 Datacente	r	
	1 Computer(s) foun	d				
	This page shows ser	- rvers that are running Wir	dows Server 2012 or a newer re	lease of Windo	ows Serv	er,
	and that have been	added by using the Add	Servers command in Server Man	ager. Offline s	ervers an	d
	newly-added server	s nom which data collect	on is surmicomplete are not sno			
						_
		< Pre	vious Next >	Install	Cance	9

Figure 4 – Server Selection

6. In the Select server roles, scroll through the options under Roles. Select Web Server (IIS) (Figure 5).

📥 Add Roles and Features Wizard		– 🗆 X
Add Roles and Features Wizard  Select server roles  Before You Begin Installation Type Server Selection  Server Selection  Server Roles Features  Active Directory Certificate Services Chitre Directory Domain Services Chitre Directory Information Services Chitre Directory Information Services Chitre Directory Services Chitre Directory Services Chitre Directory Services		DESTINATION SERVER ibed: Description Web Server (IIS) provides a reliable, manageable, and scalable Web application infrastructure.
Confirmation Results	Active Directory Rights Management Services     Device Health Attestation     DHCP Server     DNS Server     Fax Server     Fax Server     Hole and Storage Services (1 of 12 installed)     Host Guardian Service     Hyper-V     Network Controller     Network Policy and Access Services     Print and Document Services     Remote Desktop Services     Volume Activation Services     Web Server (IIS)     Windows Deployment Services     v	
	< Previous Next >	Install Cancel

Figure 5 – Web Server (IIS)

7. In the Add features that are required for Web Server (IIS), select Add Features (Figure 6).

📥 Add Roles and Features Wizard	Х
Add features that are required for Web Server (IIS)?	
The following tools are required to manage this feature, but do not have to be installed on the same server.	
<ul> <li>Web Server (IIS)</li> <li>Management Tools [Tools] IIS Management Console</li> </ul>	
✓ Include management tools (if applicable)          Add Features       Cancel	

Figure 6 – Add Features

8. In the Select server roles, select Next (Figure 7).

🔁 Add Roles and Features Wizard			-		×
Select server role	S		DESTINA	ATION SERV ibed-	'ER
Before You Begin Installation Type	Select one or more roles to install on the selected server. Roles	Description			
Server Selection Server Roles Features Confirmation Results	Active Directory Certificate Services     Active Directory Domain Services     Active Directory Federation Services     Active Directory Lightweight Directory Services     Active Directory Rights Management Services     Device Health Attestation     DHCP Server     Fax Server     Fax Server     Fax Server     File and Storage Services (1 of 12 installed)     Host Guardian Service     Hyper-V     Network Controller     Network Policy and Access Services     Remote Access     Remote Desktop Services     Volume Activation Services     Web Server (IS)     Windows Deployment Services     V	Web Server (IIS manageable, a application infi	() provide: nd scalabi rastructure	s a reliabl le Web a.	е,
	< Previous Next	> Ins	stall	Cance	I

Figure 7 – Server confirmation

9. In the Select features, select .NET Framework 3.5 Features, .NET Framework 4.7 Features, and Telnet Client in the Features box (Figure 8).

🚵 Add Roles and Features Wizard		- 🗆 X
Select features	Select one or more features to install on the selected server	DESTINATION SERVER ibed-;
Before You Begin		
Installation Type	Features	Description
Server Selection	Image: NET Framework 3.5 Features	<ul> <li>Telnet Client uses the Telnet protocol</li> </ul>
Server Roles	<ul> <li>NET Framework 4.7 Features (2 of 7 installed)</li> <li>Reduces and latellineast Transfer Service (RITS)</li> </ul>	and run applications on that server.
Features	BitLocker Drive Encryption (Installed)	
Web Server Role (IIS)	BitLocker Network Unlock	
Role Services	BranchCache      Client for NES	
Confirmation	Containers	
Results	Data Center Bridging	
	<ul> <li>Enhanced Storage (Installed)</li> </ul>	
	Failover Clustering	
	Group Policy Management	
	<ul> <li>I/O Quality of Service</li> </ul>	
	IIS Hostable Web Core	
	Internet Printing Client	
	iSNS Server service	v .
	< >>	
	< Previous N	ext > Install Cancel

Figure 8 – Features selection

10. In the Web Server Role (IIS), select Next (Figure 9).

🚔 Add Roles and Features Wizard		-		×
Web Server Role	(IIS)	DESTINA	ION SERVI	ER
Before You Begin Installation Type Server Selection Server Roles	Web servers are computers that let you share information over the Internet, or thron extranets. The Web Server role includes Internet Information Services (IIS) 10.0 with diagnostic and administration, a unified Web platform that integrates IIS 10.0, ASP.7 Communication Foundation.	ugh intra enhance NET, and	anets and d securit Window	y, s
Features Web Server Role (IIS) Role Services Confirmation Results	<ul> <li>The default installation for the Web Server (IIS) role includes the installation of role nable you to serve static content, make minor customizations (such as default derrors), monitor and log server activity, and configure static content compression</li> </ul>	le service ocument	es that Is and HT	ТР
	More information about Web Server IIS			
	< Previous Next > Insta		Cancel	

Figure 9 – Web Server Role (IIS)

#### 11. In the Edit Services, select Next (Figure 10).

📥 Add Roles and Features Wizard			-		×
Select role service	25 Select the role services to install for Web Server (115)		DESTINA	ATION SER\ ibed-	/ER
Before You Begin	Select the fole services to install for web Server (h5)				
Installation Type	Role services	Description			
Server Selection	▲ ✔ Web Server	Web Server pr	ovides sup	port for	
Server Roles	Common HTTP Features	HIML Web sit	es and opt	lional P. and W	eb
Features	Default Document     Directory Browsing	server extensio	ons. You ca	an use the	2
Web Server Role (IIS)	HTTP Errors	Web Server to	host an in	iternal or	
Role Services	Static Content     HTTP Redirection	environment f	for develop	pers to	· · · ·
Confirmation	WebDAV Publishing	create Web-ba	ased applic	ations.	
Results					
	< Previous Next	t > In	stall	Cance	:1

Figure 10 – Role Services

12. In the **Confirmation installation selections**, select **Install**. The installation of the role and feature starts (Figure 11).

📥 Add Roles and Features Wizard		-		×
Confirm installation	on selections	DESTINA	TION SERV ibed-	ER
Before You Begin	To install the following roles, role services, or features on selected server, click Insta	all.		
Installation Type	Restart the destination server automatically if required			
Server Selection Server Roles	Optional features (such as administration tools) might be displayed on this page b been selected automatically. If you do not want to install these optional features, c their check boxes.	ecause th lick Previ	ney have ous to cle	ear
Features				_
Web Server Role (IIS)	.NET Framework 3.5 Features			^
Role Services	.NET Framework 3.5 (includes .NET 2.0 and 3.0)			
Confirmation	Telnet Client			
Results	Web Server (IIS) Management Tools IIS Management Console Web Server Common HTTP Features Default Document Directory Browsing UTT C Export configuration settings Specify an alternate source path			×
	< Previous Next > Inst	all	Cance	I

Figure 11 – Install confirmation

13. When the installation is finished, select Close (Figure 12).

		_		
Installation progr	ess	DESTINA	ATION SER ibed-	VER
	View installation progress			
Installation Type	Feature installation			
Server Roles	Installation succeeded on ibed-2019.			
	.NET Framework 3.5 Features			/
Web Server Role (IIS)	.NET Framework 3.5 (includes .NET 2.0 and 3.0)			
Role Services	Telnet Client			
Confirmation	Web Server (IIS)			
Results	Management Iools IIS Management Console			
	Web Server			1
	Common HTTP Features			
	Default Document			
	HTTP Errors			
	You can close this wizard without interrupting running tasks. View task pr page again by clicking Notifications in the command bar, and then Task D Export configuration settings	ogress or o Details.	open thi	s

Figure 12 – Completed installation

14. Select the Add Roles and Features link (Figure 13).

🛼 Server Manager		- 0	×
Server M	lanager • Dashboard	• 🕝   🏴 Menage Tools View He	<b>I</b> P
Dashboard	WELCOME TO SERVER MANAGER		
III Dathboard ■ Local Server ■ Al Servers ■ and Servers ■ and Servage Services ▷ E0 IIS	VELCOME TO SERVER MANAGES         Image: Server se		
	Bite: 2   Sever groups 1   Sever stud; 1         Image: 2   Sever groups 1   Sever stud;		

Figure 13 – Add Roles and Features

15. In the Add Roles and Features Wizard, select Next (Figure 14).

📥 Add Roles and Features Wizard		_		×
Before you begin		DESTINA	TION SER\ ibed-	/ER
Before You Begin Installation Type	This wizard helps you install roles, role services, or features. You determine which r features to install based on the computing needs of your organization, such as she hosting a website.	oles, role aring docu	services, uments, o	or
Server Roles	To remove roles, role services, or features: Start the Remove Roles and Features Wizard			
Features Confirmation Results	Before you continue, verify that the following tasks have been completed: • The Administrator account has a strong password • Network settings, such as static IP addresses, are configured • The most current security updates from Windows Update are installed If you must verify that any of the preceding prerequisites have been completed, cl complete the steps, and then run the wizard again. To continue, click Next.	ose the w	izard,	
	Skip this page by default			
	< Previous Next > Inst	all	Cance	:I

Figure 14 – Add Roles and Features Wizard

16. In the Select installation type, select Role-based or feature-based installation. Select Next (Figure 15).

📥 Add Roles and Features Wizard		-		×
Select installation	type	DESTINA	ATION SERV ibed-	'ER
Before You Begin Installation Type Server Selection Server Roles Features Confirmation Results	<ul> <li>Select the installation type. You can install roles and features on a running physimachine, or on an offline virtual hard disk (VHD).</li> <li>Role-based or feature-based installation Configure a single server by adding roles, role services, and features.</li> <li>Remote Desktop Services installation Install required role services for Virtual Desktop Infrastructure (VDI) to create or session-based desktop deployment.</li> </ul>	a virtual ma	er or virtu	ial
	< Previous Next >	nstall	Cance	I

Figure 15 – Installation Type

17. In the Select destination server, select Select a server from the server pool. Verify that the server is correct in the Server Pool box. Select Next (Figure 16).

🔁 Add Roles and Features Wizard				-		×
Select destination	server			DESTINAT	TION SERV ibed-	ER
Before You Begin	Select a server or a virtual h	hard disk on which t	to install roles and features.			
Server Selection	<ul> <li>Select a virtual hard disl</li> </ul>	k				
Server Roles Features Confirmation	Server Pool				1	
	Name	IP Address	Operating System			
	1 Computer(s) found This page shows servers thi and that have been added newly-added servers from v	at are running Wind by using the Add S which data collectic	dows Server 2012 or a newer release ervers command in Server Manager, nn is still incomplete are not shown.	e of Windo	ws Serve rvers an	ır, d
		< Prev	vious Next > Inst	tall	Cance	I

Figure 16 – Server Selection

18. In the Select server roles in the Roles box, expand the Web Server (IIS) heading, the Web Server heading, and the Application Development heading. Select ASP.NET 3.5 and ASP.NET 4.7. Select Next (Figure 17).

🔁 Add Roles and Features Wizard		- 🗆 X
Select server roles	5	DESTINATION SERVER ibed-
Before You Begin Installation Type Server Selection Server Roles Features Confirmation Results	Select one or more roles to install on the selected server.  Roles	<ul> <li>Description</li> <li>ASP.NET provides a server side object oriented programming environment for building Web sites and Web applications using managed code. ASP.NET is not simply a new version of ASP. Having been entirely re-architected to provide a highly productive programming experience based on the .NET framework, ASP.NET provides a robust infrastructure for building web applications.</li> </ul>
	FTP Server     Management Tools (1 of 7 installed)     Windows Deployment Services     Windows Server Update Services	✓ lext > Install Cancel

Figure 17 – Server Roles

19. In the Add features that are required for ASP.NET 3.5, select Add Features (Figure 18).

owing role services or
:)

Figure 18 – Add Features

20. In the Select server roles, select ASP. Select Next (Figure 19).

🚘 Add Roles and Features Wizard				-		×
Select server roles				DESTINA	TION SERV ibed-	'ER
Before You Begin	Select one or more roles to install on the selected server.					
Installation Type	Roles		Description			
Server Selection	Common HTTP Features (4 of 6 installed)	$^{\sim}$	Active Server F	ages (ASP	) provide	sa
Server Roles	Health and Diagnostics (1 of 6 installed) Performance (1 of 2 installed)		server side scri building Web	pting envi sites and V	ronment /eb	for
Features	<ul> <li>Security (1 of 9 installed)</li> </ul>		applications. C	ffering im	proved	
Confirmation	▲ ▲ Application Development ✓ .NFT Extensibility 3.5		performance o provides IIS wi	ver CGI sc th native s	ripts, ASP upport fo	or
Results	INET Extensibility 3.7     NET Extensibility 4.7     Application Initialization     ASP.NET 3.5     ASP.NET 3.5     ASP.NET 4.7     Got     VISAPI Extensions     ISAPI Filters     Server Side Includes     WebSocket Protocol     FIP Server     Management Tools (1 of 7 installed)     Windows Deployment Services     Windows Server Update Services	~	both VBScript you have exist require ASP su development, ASP.NET.	and JScrip ng applica pport. For consider u	: Use ASI tions tha new sing	P if t
	< Previous	Next >	In	stall	Cance	I

Figure 19 – ASP

21. In the **Select features**, select **Next** (Figure 20).

Add Roles and Features Wizard				-		2
Select features			D	ESTINAT	ION SERV	/ER
Before You Begin	Select one or more features to install on the selected serve	er.				
Installation Type	Features		Description			
Server Selection	NET Framework 3.5 Features	$\wedge$	Telnet Client uses t	he Telr	net proto	oco
Server Roles	<ul> <li>INET Framework 4.7 Features (2 of 7 installed)</li> </ul>		to connect to a rem	note Te	elnet sen	ver
Features	Background Intelligent Transfer Service (BITS)     Bitlester Drive Exervicien (Installed)		and run application	ns on ti	nat serve	er.
Web Server Role (IIS)	BitLocker Drive Encryption (Installed)					
Role Services	BranchCache					
Confirmation	Client for NFS					
Results	Data Center Bridging					
	Direct Play					
	Failover Clustering					
	Group Policy Management					
	I/O Quality of Service					
	IIS Hostable Web Core					
	Internet Printing Client					
	iSNS Server service	$\sim$				
	< >>					
	< Previous	Next	> Install		Cance	1

Figure 20 – Features selection

22. In the Confirm installation selections, select Install (Figure 21).

📥 Add Roles and Features Wizard	4	-		×
Confirm installati	on selections	DESTINA	ATION SERV ibed-	/er
Before You Begin	To install the following roles, role services, or features on selected server, click Inst	tall.		
Installation Type	<ul> <li>Restart the destination server automatically if required</li> </ul>			
Server Selection	Optional features (such as administration tools) might be displayed on this page I	because t	hey have	
Server Roles	been selected automatically. If you do not want to install these optional features, their check boxes.	click Prev	ious to cl	ear
Features				_
Confirmation	.NET Framework 4.7 Features			^
Results	ASP.NET 4.7			
	Web Server (IIS)			
	Web Server			
	Application Development			
	ASP			
	ASP.NET 3.5			
	ASP.NET 4.7			
	ISAPI Extensions			
	ISAPI Filters			
	NET FLAC UNITS OF			$\checkmark$
	Export configuration settings			
	Specify an alternate source path			
	< Previous Next > Ins	tall	Cance	el

Figure 21 – Confirm installation

23. When installation is complete, select Close (Figure 22).

DESTINATION SERVER Before You Begin Installation Type Server Selection Server Roles Features Confirmation Results View installation progress Features Confirmation Results View installation progress Features Confirmation Results View installation progress Features Confirmation MET Framework 4.7 Features ASPNET 4.7 Web Server (IIS) Web Server Application Development ASP ASPNET 3.5 ASPNET 4.7 ISAPI Fitters NET Extensions ISAPI Fitters NET Extensions ISAPI Fitters NET Extensioning tasks. View task progress or open this page again by clicking Notifications in the command bar, and then Task Details.	Add Roles and Features Wiza	d	-		×
Before You Begin       Installation Type         Server Selection       Feature installation         Server Roles       Installation succeeded on ibed-2019.         Results       Installation succeeded on ibed-2019.         NET Framework 4.7 Features       ASPNET 4.7         Web Server       Application Development         ASP       ASPNET 4.7         ISAPI Extensions       ISAPI Filters         .NET Extensions       ISAPI Filters         .NET Extensibility 3.5       You can close this wizard without interrupting running tasks. View task progress or open this	Installation prog	ress	DESTINA	ATION SER ibed-	VER
Installation Type Server Selection Server Roles Features Confirmation Results Features ASPNET 4.7 Web Server Application Development ASP ASPNET 3.5 ASPNET 4.7 ISAPI Extensions ISAPI Extensions ISAPI Filters .NET Extensibility 3.5 You can close this wizard without interrupting running tasks. View task progress or open this page again by clicking Notifications in the command bar, and then Task Details.		View installation progress			
Server Selection Server Roles Features Confirmation Results NET Framework 4.7 Features ASP.NET 4.7 Web Server (IIS) Web Server Application Development ASP ASP.NET 3.5 ASP.NET 3.5 ASP.NET 4.7 ISAPI Extensions ISAPI Filters .NET Extensibility 3.5 You can close this wizard without interrupting running tasks. View task progress or open this page again by clicking Notifications in the command bar, and then Task Details.	Installation Type	i Feature installation			
Server Roles       Installation succeeded on ibed-2019.         Features       .NET Framework 4.7 Features         Confirmation       ASP.NET 4.7         Web Server (IIS)       Web Server         Web Server X       Methods and the server         Application Development       ASP         ASP.NET 4.7       ISAPI Extensions         ISAPI Filters       .NET Extensibility 3.5         You can close this wizard without interrupting running tasks. View task progress or open this page again by clicking Notifications in the command bar, and then Task Details.			I		
Features       .NET Framework 4.7 Features         Confirmation       ASP.NET 4.7         Web Server (IIS)       Web Server         Application Development       ASP         ASP.NET 3.5       ASP.NET 3.5         ASP.NET 4.7       ISAPI Extensions         ISAPI Extensions       ISAPI Filters         .NET Extensibility 3.5       You can close this wizard without interrupting running tasks. View task progress or open this page again by clicking Notifications in the command bar, and then Task Details.	Server Roles	Installation succeeded on ibed-2019.			
Confirmation       ASP.NET 4.7         Results       Web Server (IIS)         Web Server       Application Development         ASP       ASP.NET 3.5         ASP.NET 4.7       ISAPI Extensions         ISAPI Extensions       ISAPI Filters         .NET Extensibility 3.5       You can close this wizard without interrupting running tasks. View task progress or open this page again by clicking Notifications in the command bar, and then Task Details.		.NET Framework 4.7 Features			$\sim$
Results       Web Server (IIS)         Web Server       Application Development         ASP       ASP         ASPNET 3.5       ASPNET 4.7         ISAPI Extensions       ISAPI Filters         .NET Extensibility 3.5       You can close this wizard without interrupting running tasks. View task progress or open this page again by clicking Notifications in the command bar, and then Task Details.	Confirmation	ASP.NET 4.7			
You can close this wizard without interrupting running tasks. View task progress or open this page again by clicking Notifications in the command bar, and then Task Details.	Kesuits	Web Server Application Development ASP ASP.NET 3.5 ASP.NET 4.7 ISAPI Extensions ISAPI Filters .NET Extensibility 3.5			~
Export configuration settings		You can close this wizard without interrupting running tasks. View task pr page again by clicking Notifications in the command bar, and then Task E Export configuration settings	ogress or letails.	open this	÷

Figure 22 – Installation complete

#### 24. Restart the server.

25. Run Windows Update to look for any important or optional updates. Install the updates. Restart the server if required.

## Stryker iBed Server Application

- 1. Right-click the **5212-502-001 Server Application Setup.exe** file. Select **Run as Administrator** to start the **Stryker iBed Server Application** installation.
- 2. If Microsoft SQL Server 2022 Express is not already installed, the **Install Shield Wizard** requirements window opens. Select **Install** (Figure 23).

Note - If Microsoft SQL Server 2022 Express is installed, go to step 15.



Figure 23 – Microsoft SQL service

3. Select Install to enable Windows feature.

C:\Windows\system32\cmd.exe	– 🗆 X
: L'Users\Administrator\Desktop\IbedServer\ISSetupPrerequisites\{122A86C3-1739-45A3-9F8B ]e-Feature /FeatureHame:1IS-WebServerRole /FeatureHame:IIS-NebServer /FeatureHame:IIS- Pitxtensions /FeatureHame:IIS-ISAPIHter /FeatureHame:IIS-ASPHETS /FeatureHame:IIS-ISAPIHter /FeatureHame:IIS-Hamae:IIS-HAmae:IIS-Hamae:IIS-HAmae:	-C394FBCF411E}>Dism /online /Enab ttpRedirect /FeatureName:IIS-ISA stableWebCore /all
Deployment Image Servicing and Management tool Sversion: 10.0.17763.3406	
Image Version: 10.0.17763.3650	
Enabling feature(s) []97.4%]	
	Stryker iBed Server Application - InstallShield Wizard
3	Stryker Bed Server Application requires the following items to be installed on your computer. Click Install to begin installing these requirements.
9	
	Status Kequirement Installing EnableWindowsFeatures
	Pending .NetCore Web Hosting Bundle 8 Pending Microsoft SOL Express 2022
	Pending SQL Server Management Studio 19.0
Lserv	Installing EnableWindowsFeatures
	Instal



4. Select Yes in the confirmation window to start the .NetCore Web Hosting Bundle installation (Figure 25).



Figure 25 – .NetCore confirmation

5. Select Yes in the confirmation pop-up to start the Microsoft SQL Server installation (Figure 26).



Yes

No

Figure 26 – SQL confirmation

- 6. The Choose Directory For Extracted Files window appears (Figure 27).
  - a. If you are using the recommended location, input C:\temp\sqlserver.
  - b. If you are using a different location, select Browse...

Choose Directory For Extracted Files	×
Choose Directory For Extracted Files	_
c:\temp\SQLSERVER	
Ok Cancel Browse	

Figure 27 – Choose Directory for Extracted Files

7. Select I accept the license terms box. Select Next (Figure 28).

License Terms Global Rules Microsoft Update Product Updates Install Setup Files Install	License Terms To install SQL Server 2022, yo	u must accept the Microsoft Software License Terms.			
SQL Server transmits information about your installation experience as well as other usage and performance data. Azure Arc connection also transmits the configuration data to allow you to manage and protect your SQL Server instance using Azure Portal and zervices. To learn more about data processing and privacy controls, and to turn off the collection of certain information, see the documentation.	License Terms Global Rules Microsoft Update Product Updates Install Setup Files Install Rules Azure Edension for SQL Server Feature Rules Instance Configuration Seaver Configuration Database Engine Configuration Feature Configuration Rules Installation Progress Complete	SQL Server 2022 Express Edition OUT MUST ACCEPT THE SOFTWARE LICENSE TERMS. SE fread the full license terms provided at (aka.ms/useterms) DATA COLLECTION. The software may collect information information to provide services and improve Microsoft fur fur on the software may enable collection of data from applications that access or use the software. If you use these including getting any required user consent, and maintain a policy that accurately informs users about how you use, coll product documentation and the Microsoft Privacy Statement interced to construct the Microsoft Privacy Statement interced to construct the Microsoft Privacy Statement Microsoft the license terms and <u>Privacy Statement</u>	E BELOW. F s). about you a ay use this oducts and s unmentation. users of yoi a papticable la prominent lect, and sha and use in t t at c	Please and you services. Some ur o enable aw, privacy re their he with all ppy F	Ir
		SQL Server transmits information about your installation experience as well as performance data. Azure Arc connection also transmits the configuration data and protect your SQL Server instance using Azure Portal and services. To learn processing and privacy controls, and to turn off the collection of certain inform documentation.	other usage an to allow you to more about da nation, see the	id o manage ita	÷

Figure 28 – SQL license

8. In the Feature Selection, leave the Features selection at the defaults. If the Shared feature directory does not default to C:\Program Files, browse or create the new destination location for the installation. Select Next (Figure 29).

🐮 SQL Server 2022 Setup				-		×
Feature Selection Select the Express features to in	stall.					
License Terms Global Rules Microsoft Update Product Updates Install Setup Files Install Setup Files Install Rules Azure Extension for SQL Server Feature Selection Feature Rules Instance Configuration Server Configuration Database Engine Configuration Feature Configuration Rules Installation Progress Complete	€ Looking for Reporting Servi Features: Database Engine Services: J SQL Serve Replication Shared Features Redistributable Features	ces? <u>Download it fro</u>	m the web Feature description: The configuration and op- instance frature of a SOL3 Server instances can opera- the same computer. Prerequisites for selected fr Already installed: L Windows PowerShell 3 To be installed from medi- Microsoft Visual C++; Disk Space Requirements Drive C: 994 MB required,	station of e ierver insta rver instan ite side-by- atures: a: 2017 Redist 108922 MB	ach ince is icces. SQL -side on r tributable available	
	Select All Unselect All Instance root directory: Shared feature directory Shared feature directory (x86):	C:\Program Files\Mii C:\Program Files\Mii C:\Program Files (x86	crosoft SQL Server\ crosoft SQL Server\ j)\Microsoft SQL Server\ < Back Next	t>	  Cancel	

Figure 29 – SQL features

9. In the Instance Configuration, select Next (Figure 30).

🌋 SQL Server 2022 Setup					- 0	×
Instance Configuration Specify the name and instance	ID for the instance of SC	QL Server, Instance ID	becomes part of the	installation path.		
License Terms Global Rules Microsoft Update	<ul> <li>Default instance</li> <li>Named instance: *</li> </ul>	SQLEXPRESS				
Product Updates Install Setup Files Install Rules	Instance ID:	SQL2022				
Azure Extension for SQL Server Feature Selection Feature Rules Instance Configuration	SQL Server directory: Installed instances:	C:\Program Files\Mi	crosoft SQL Server∖N	ISSQL16.SQL2022		
Server Configuration Database Engine Configuration Feature Configuration Rules Installation Progress Complete	Instance Name	Instance ID	Features	Edition	Version	
			<	Back Next >	Cance	el

Figure 30 – Instance Configuration

10. In the Server Configuration, select Next (Figure 31).

髋 SQL Server 2022 Setup					-		×
Server Configuration							
Specify the service accounts and	l collation configurati	ion.					
License Terms Global Rules Microsoft Update Product Update	Service Accounts Microsoft recom	Collation mends that you	use a separate account for each	SQL Server service	s. Startı	in Time	_
Install Cature Files	SOL Server Data	haco Engino		1 0330010	Auton	ap type	~
Install Pular	SOL Server Data	icer			Auton	natic	~
Ature Extension for SOL Server	SQL Server BIOW		ACTIONITY COCAL		Auton	atic	
Azure Extension for SQL Server Feature Selection Feature Rules Instance Configuration Server Configuration Database Engine Configuration Feature Configuration Rules Installation Progress Complete	Grant Perform This privilege to informatio <u>Click here for</u>	n Volume Mainte enables instant 1 n disclosure by al details	nance Tasks privilege to SQL Se ile initialization by avoiding ser lowing deleted content to be a	rver Database Eng oing of data pagera	ine Serv	ice ay lead	
			< Bac	k Next >		Cance	el

Figure 31 – Server Configuration

11. In the Database Engine Configuration, select Next (Figure 32).

🐮 SQL Server 2022 Setup	- 0	>
Database Engine Confi Specify Database Engine authe parallelism, Memory limits, and	iguration entication security mode, administrators, data directories, TempDB, Max degree of Flietteam settings.	
License Terms Global Rules Microsoft Update Product Updates Install Scup Files Install Rules Azure Extension for SQL Server Feature Roles Instance Configuration Server Configuration Server Configuration	Server Configuration Data Directories TempDB Memory User Instances FILESTREAM Specify the authentication mode and administrators for the Database Engine. Authentication Mode Windows authentication mode Mixed Mode (SQL Server authentication and Windows authentication) Specify the password for the SQL Server system administrator (sa) account. Enter password: Confirm password:	
Festure Configuration Rules Installation Progress Complete	Specify SQL Sever administrators     SQL Sever administrators have unrestricted       BULTIN MAMINISTRATORS     SQL Sever administrators have unrestricted       WIN-MICASUSUNPOALAdministrator (Administrator (Administrator Sever administrators have unrestricted)     SQL Sever administrators have unrestricted       WIN-MICASUSUNPOALAdministrator (Administrator (Administrator Administrator (Administrator Add     Remove	
	< Back Next > Can	el

Figure 32 – Database Engine Configuration

12. When installation is complete, select Close in the Complete window. The SQL Server Management Studio installation (Figure 33) starts.

馪 SQL Server 2022 Setup			-		×
Complete Your SQL Server 2022 installati	on completed successfully with produc	t updates.			
License Terms Global Pules Microsoft Update Product Updates Install Setup Files Install Kules Azure Extension for SQL Server Feature Selection Feature Rules Instance Configuration Server Configuration Database Engine Configuration Feature Configuration Rules Installation Progress Complete	Information about the Setup operat Feature Seture Solution Solutio	ion or possible next steps: Status Succeeded Succeed	1\Summar	v WIN-	
				Close	

Figure 33 – SQL server installation complete

13. Select Yes in the confirmation window to start the SQL Server Management Studio installation (Figure 34).



Figure 34 – SQL Server Management Studio confirmation

- 14. The SQL Server Management Studio installation window appears (Figure 35).
  - a. If you are using the default location, select Install.
  - b. If you are using a different location, select Change and then Install to confirm.



Figure 35 – SQL Server Management Studio installation

15. When installation is complete, **SQL Server Management Studio** requires a restart. Select **Restart** to continue (Figure 36).

		-
	RELEASE 19.0 Microsoft SQL Server Management Studio with Azure Data Studio	
Restart	t required in order to complete setup.	
All specifi	ed components have been installed successfully.	
The comp	uter needs to be restarted before setup can continue.	
	Restart Close	

Figure 36 – SQL Server Management Studio restart

16. When the restart is complete, the InstallShield Wizard window appears. Select Next (Figure 37).

Stryker iBed Server Application - InstallShield Wizard



 $\times$ 

#### Figure 37 – InstallShield Wizard

17. In the iBed Server Application window, enter the site information. Select Next (Figure 38).

iBed Server Application - InstallShield Wi	zard	×
Please Enter the IP address for SEWSI:		
Please Enter the SMTP Host Address:		
TO Email address for Error Reporting:		
FROM Email address for Error Reporting:		
InstallShield		
	< Back Next > Cancel	

#### Figure 38 – Application configuration

- 18. The Choose Destination Location window appears (Figure 39).
  - a. If you are using the default location, select Next.
  - b. If you are using a different location, select Change and then Next to confirm.



#### Figure 39 – Choose Destination Location

- 19. The Select Program Folder window appears (Figure 40).
  - a. If you are using the default folder, select Next.
  - b. If you are using a different folder, create a different folder name and select Next.

Stryker iBed Server Application - InstallShield Wizard	ı x
Select Program Folder Please select a program folder.	
Setup will add program icons to the Program Folder li name, or select one from the existing folders list. Cli	isted below. You may type a new folder lick Next to continue.
Program Folder:	
Stryker	
Existing Folders:	
Node.js Notepad++ Octopus Deploy PowerShell	^
PuTTY Robo 3T 1.3.1 SmartBear StartUp	
Stryker	¥
InstallShield	
<	Back Next > Cancel

Figure 40 – Select Program Folder

20. Select Install to start the installation (Figure 41).

Note - To return to the Select Program Folder, select Back.



Figure 41 – Install

21. Select **Finish** to exit the **InstallShield Wizard** (Figure 42).

Stryker iBed Server Application	- InstallShield Wizard
	InstallShield Wizard Complete The InstallShield Wizard has successfully installed Stryker iBed Server Application. Click Finish to exit the wizard.
	< Back Finish Cancel



#### Stryker iBed Server Tools

- 1. Right-click the **5212-502-001 Server Tools Setup.exe** file. Select **Run as Administrator** to start the **Stryker iBed Server Tools** installation.
- 2. In the InstallShield Wizard window, select Next (Figure 43).



Figure 43 - InstallShield Wizard

- 3. The Choose Destination Location screen appears (Figure 44).
  - a. If you use the default location, select Next.
  - b. If you use a different location, select **Change** and then **Next** to confirm.

Stryker iBed	Server Tools - InstallShield Wizard			×
Choose D Select fo	estination Location Ider where setup will install files.			Z
	Install Stryker iBed Server Tools to: C:\Program Files\Stryker\jBed Server A	pplication\		Change
InstallShield -		< Back	Next >	Cancel

Figure 44 – Choose Destination Location

4. Select Finish to exit the InstallShield Wizard (Figure 45).



Figure 45 – Finish

## Stryker iBed Wireless Configuration Tool

- 1. Double-click the **5212-503-001 Stryker iBed Wireless Configuration Tool Setup.exe** file to start the wireless configuration for the source location.
- 2. In the InstallShield Wizard window, select Next (Figure 46).



Figure 46 – InstallShield Wizard

- 3. The Choose Destination Location window appears (Figure 47).
  - a. If you are using the default location, select Next.
  - b. If you are using a different location, select Change and then Next to confirm.



#### Figure 47 – Choose Destination Location

4. Select Finish to exit the InstallShield Wizard (Figure 48).





## Verify Stryker iBed Server Tool installation

To verify that the Stryker iBed Server Tool is installed:

1. Open the Stryker iBed Server Tool. Select Start→All Programs→Stryker→Stryker iBed Server Tool or click the



eb Service URL http://localhost/SEW	SI/SEWSIWebServiceContract.asmx	□ Edt				
and Deviceshi) (A Total Device	ak) [n		Refresh Server Data			
intervention (	ear U					
Device URL List Subscription List	Debug Devices   Device Location List   Client E	Nagnostic Info		_		
5212,500,005, 00000	Location ID     Device IP     192 158 11	Clevice MAC 65 025041000001	Software Hevision V Device Schema D	-		

Figure 49 – Stryker iBed Server Tool

- 2. Select Verification→Server in the task bar.
- 3. In the Stryker iBed Server Verification window, select Verify Server (Figure 50).

Stryker Bed Server Tool - [Bed Server Verification Diagnostic]	ation] Info Subscriptions Integration About Fa	ot		- a >
Server Server Web Service URL http://localhost/SEWSI	SL/SEW SIWeb ServiceContract asmx	⊤ 6a		
Server Verlication	iefy Server ce verfloaten successful. woosjoji Tatal Descelaji = Destalini 0 = Descela Nande Namer	1 During Name		
Device Setal Number     1 00000	5212-600-006	Server	-	
Server Tool Version: 5212-505-001_3.4.0	106.01			iBtd Server Version: 5212-502-001_3.5.007.0

Figure 50 – Verify iBed Server

- a. If the server interface verification is successful, the system returns a green check.
- b. If the server interface verification is unsuccessful, the system returns a red X.

**Note** - Before you continue to install the **Stryker iBed Server Tool**, you must resolve this error. To resolve the error, return to the installation process. Make sure that all steps are executed. For further troubleshooting details, see *Troubleshooting* (page 40).

4. If the installation is successful, continue to Adding devices (clients) to the Master Device List (page 30).

## Setup

## Adding devices (clients) to the Master Device List

To add devices to the Master Device List:

1. Open the Stryker iBed Server Tool. Select Start - All Programs - Stryker - Stryker iBed Server Tool or click the



2. In the Stryker iBed Server Tool window, select Edit→Master Device List (Figure 51).

See the best 92, if y//udu/dd2009/3009/if the fore if the if	Verification Diagnostic Info Subscriptions Integration About Exit	
tile Marc Not UN men UN men UN for Kalan Marc Note UN for Marc Note UN for Kalan ser Okto UN for Teleformer UN Teleformer UN Marc Note UN for Teleformer UN Marc Note UN for Marc Note U	ervice URL [pp://scalhost/SEWSI/SEWSI/WeServiceContext anns ] [68 Gat existing Master Device URL(b) from Server ]	
er Vent I P I Mate Ren VA.	er Device UR,	
■ Mare Roco UR.	xr. 0 VIRLUx	
	T I Meter (Proce 1/P)	
Data Daya)		
Date Stype		
Date Stypin		
		Detect Stripp
Lipbox Maser Owner URL Let to		Liplosed Matter Devices URL Late 5arv

Figure 51 – Edit Master Device List

 In the Add New Device URL box, enter in the URL of the device and then select Add Device URL (example: http:// 10.32.56.101:1639 or http://syk-84253f2356a.stryker.com:1639) (Figure 52).

**Note** - Make sure that you enter the web extension http:// and the Stryker communication port:1639 to the IP or DNS name for each device (client).

Wie Eds Werkels         Daskortijken         Edscortijken           Biele Werkels         Descortijke         Edscortijken           Wie Eds Werkels         Descortijken         Descortijken	📾 Stryken Bed Server Tool - (Configure Master Device List)	- 0 X
<pre>write laws (k) @ // (keeks (KE)) SKRSHedwoods arm E &amp;</pre>	View Edit Verification Diagnostic Info Subscriptions Integration About Exit	
Image: Section Control Section	Server Web Service URL / http://docahour.SEWSU/SEVSWeb/Service/Contract.asmx    Edit	
We reverse W.       We reverse W.         We reverse W.       Over Weer Kerner W.W.         We reverse W.W.       Weer Kerner W.W.         We reverse W.W.<	Get existing Master Device LPR(a) from Server	
	Add New Master Device URL Master Device URL Fe Name	
Water (R)         Oper fielder One (R)           Bater Dete (R)         Image: Construction (R)           Image: Construction (R)         Image: Construction (R)	URLAP 10.0.100 0WX-4(35ProCeyStreetwest) Pott 143 F Edit Browse	
	Add Device UPL Depley Matter Devices UPL(s)	
betwee NR ME           Image: Description           Image: Description           Image: Description	Master UA Court: 1	
	Mater Device URL List	
	Mater Device URL	
	reprint a reprint for an index of the	
State Fact         Exect State Sta		
Emerging		
Eme Engl		
Dem Enyl         Sere Lit           Uber Flyd         Lit           Uber Flyd         Lit           Sere Teal Venice: 521:595:01,3 400:01         Bed Sereev Venice: 522:595:01,3 400:01		
Dem 5(n)/L         Enre Lint           Ubdet Stray         Lint Lint           Straw Text Vension: S212-565-001_J 406.01         Bed Straw Vension: S212-565-001_J 406.01		
Dem Enyl         Sen Lit           Uber Fryd         Lit           Uber Fryd         Lit           Sene Teal Venice. 521:595-001_J 400:01         Bed Sener Venice. 521:595-001_J 400:01		
Desc Entryle         Serve Lill           Listed Neuro Owen URL (at 5 Grow)         Listed Neuro Owen URL (at 5 Grow)           Server Teel Venion: 521:555:01,3 400.01         Bed Server Venion: 522:555:01,3 400.01		
Desc. Servit.         Servit.           Usear Heads         Usear Heads           Server Teel Vension: \$212.956.01/1.400.01         Beed Serviter Vension: \$212.956.2001.150.07.01		
Server Tool Version: 5212-526-501_3-4.006.01         Bede Server Version: 5212-526-501_3-4.006.01         Bed Server Version: 5212-526-501_3-50.07.01		
Serve Texl Venion: \$212,556,001,3400,01         Bed Server Venion: \$212,556,001,3400,01		
Server Tool Vesion: 5212-595-001_34.006.01         Bed Server Vesion: 5212-595-001_36.007.01		Delete Entry(s) Save List
Iteen Mater Ower (III, Lutris Ever           Server Teel Version: £212-595-01_3 400.01           Bed Server Version: £212-595-01_3 400.01		
Serve Teal Version: \$212-556-501_34.066.01 Bed Serve Version: \$212-552-601_34.006.01		Upload Master Device URL List to Server
	Server Tool Version: 5212-505-001_3-4.008.01	iBed Server Version: 5212-502-001_3.5.007.01

Figure 52 – Add Device URL

4. Repeat step 3 until all new devices have been added.

- 5. Once all new devices are in the list, check the Select All box of the Master Device URL List.
- 6. Select Upload Master Device URL List to the Server (Figure 53).

dit Verification Diagnostic Info Subscriptions Integration About Exit	
eb Service URL   http://scathout/SEWSI/SEWSI/SEWSI/SEVIC/Cuttod:tamx     Ealt	
Nater Deros UR.         Otto: s100mc/urg/tectory         Point         Mater Deros UR. Re New           000 3001         Otto: s100mc/urg/tectory         Point         Edit         Test           Add Device UR.         Depice UR.         Depice UR.         Depice UR.(h)	
Court: 2	
vice URL List	
Kelectore UR:      Kelector	
	Delete Entry(s) Sev

Figure 53 – Master Device URL List

- 7. Select OK in the Alert window to confirm that the Master Device URL List uploaded to the server.
- 8. Verify that the Master Device URL List uploaded. Open the iBed Server Tool window and select View→iBed Server.

Note - Allow time for synchronization before you check the Master Device URL List.

#### Adding locator IDs and hospital locations

To add locator IDs and hospital locations:

- Open the Stryker iBed Server Tool. Select Start→All Programs→Stryker→Stryker iBed Server Tool or click the icon.
- 2. In the iBed Server Tool window, select Edit→Location Association (Figure 54).

Stryker illed Server Taol - [Configure Location Association]		- 0 ×
iew Edit Verification Diagnostic Info Subscriptions Integ	don About Exit	
Extend (Det and Server (Det and Det and D	Storing Locate Instantion for a DA Comp Excluded To Stars	
Location Association Court: 0		
1 Locator ID Reptal Locator		
		_All files
Server Tool Version: \$212-555-501_34-505.01		IBid Server Version: 5212-502-001_3.5.007.01

Figure 54 – Location Association

3. In the Location Association List box, check the Locator ID box and enter the ID from the locator (Figure 55).

er Bed Server Tool - (Configure Location Association) Filt Verification Disasteritic Info Subscriptions Int	ration about fait	- 0
the second adjustment secondaria and		
Debrig Lets on perver	Gesting Location Association List on Dak	
ierver Web Service LFL	Location Association File Name	
Mp://local-ont/SEWSI/SEWSIWebSeniceContract.asms	Bitwoo	
Get Server Data	Depley Location / Association(s)	
Jocefor ID List		
- 0		
Anaphal Location List		
All		
coation Association Count: 2		
scation Association List		
I Locator ID Hospital Locat		
1 F ar04/510000 ITST1011A		
2 C ab05c5160000 1151"102"A		
		Add Row Delete Entrold Save Lat Ubleed Location Association (1) is S
er Tool Version: 5212-505-001_34.005.01		Red Server Version: 5212-562-601_3.5.0

#### Figure 55 – Add Location Association

4. In the Location Association List, check the Hospital Location box and enter the Hospital Location.

Note - The Hospital Location is formatted with the alias name. For example, location HL7.

- 5. To add another association, select Add Row.
- 6. Repeat steps 3 and 4 until all new Locator IDs and Hospital Locations have been entered.
- 7. Once all new location associations have been made, check the upper left **Select All** box of the Location Association List. Select **Upload Location Associations to Server** (Figure 56).

Stryker iBed Server Tool - [Configure Location Association]		_		×
View Edit Verification Diagnostic Info DDM Subscriber	About Exit			
Existing Data on Server Server Web Service URL  Inttp://localhost/SEWSI/SEWSIWebServiceContract.asmx Get Server Data Locator ID List  Add Location Association Count: 2 Location Association List	Existing Location Association List on Disk Location Association File Name Display Location Association(s)			
Locator ID Hospital	Location			
1 ae04e5160000 1TST^101^A				
2 ab05c6160000 1TST^102^A				
Server Tool Version: 5212-505-001	iBed Server Version: 52	2-502-00	1,	

#### Figure 56 – Upload Location Association

- 8. Select **OK** in the **Alert** window to confirm that the Locator ID List, Hospital Location List, and Location Association List are uploaded to the server.
- 9. To verify the lists in the iBed Server Tool window, select View→iBed Server.

Note - Allow time for synchronization before you check the Master Device URL List.

## Adding more Stryker interfaces

#### **Integrating Engage**

Note - Only the Stryker Wireless Implementation Team can install this software.

To integrate Engage, follow the installation steps found in the SD-227 available from the Stryker quality system.

#### Integrating Smart Equipment Management (SEM)

Note - Only the Stryker Wireless Implementation Team can install this software.

To integrate SEM, follow the installation steps found in the SD-227 available from the Stryker quality system.

#### **Integrating Vision**

Note - Only the Stryker Wireless Implementation Team can install this software.

To integrate Vision, follow the installation steps found in the SD-227 and M0000017526 available from the Stryker quality system.

## Adding a third-party interface

#### Integrating Rauland Responder® 5

Note - Only the Stryker Wireless Implementation Team can install this software.

To integrate **Rauland Responder** 5, follow the installation steps found in the SD-180 available from the Stryker quality system.

## Configuring the wireless router (Stryker device configuration)

**Note** - iBed Server 2.0 and higher wireless clients authenticate with AES encryption only. Below is an example of configuring a LINKSYS EA6350 router.

To configure the wireless router for Stryker devices:

- 1. Enter the router's administrative menu to configure the router for use.
- 2. In the Basic tab, edit the 2.4 GHz and 5 GHz Wireless Settings so that they match (Figure 57).

LIN	<b>(SYS</b> <sup>™</sup> Smart Wi-Fi				Help	Linksys05305	<ul> <li>Sign Ot</li> </ul>	ut 👻
<								
<b>_</b> h	Connectivity View and change router setting	s						X
	Basic Internet Setting	s Local Network	Advanced Routing	VLAN Adr	ministration			
	Network Name and Pass	word   Edit		Router Firmwar	e Update			
BJ	2.4 GHz network name:	syk_med_install		Automatic		(Current Vers	ion: 3.1.9.182357)	
$\odot$	Network password:	Stryk3r1#TfWxP		Check for Upda	ites			
	5 GHz network name:	SYKMedInstall						_
	Network password:	Stryk3r1#TfWxP		Manual: No file chosen		Choose File	Start	
* <b>o</b> •	Router Password   Edi	t		Time Zone				-
<b>©</b>	Router password:	******		(GMT-08:00) Pa	acific Time (US/	A & Canada)	~	
(internet)	Router password hint:	No password hint		Automatically	y adjust for Daylig	ht Savings Time		
6				Activity Lights	Enable/disabl will remain or	e activity lights. Pov I.	ver light	
				OF		Cancel	Apply	

Figure 57 – Basic tab

3. In the Local Network tab, verify that the router is set for DHCP (Figure 58).

LIN	<b>(SYS</b> <sup>®</sup> Smart Wi-Fi	Help	)	Linksys0	5305 👻	- Sign Out 👻
<						
	Connectivity View and change router settings					2
	Basic Internet Settings Local Network Ad	dvanced Routing VLAN Administration	n			
	Router Details   Edit	DHCP Server Zenable	d			
BD	Host name: Linksys05305	Start IP address:	192.168	.1	. 100	
$\odot$	IP address: 192.168.1.1	Maximum number of users:	100	1 to	155	
	Subnet mask: 255.255.255.0	IP address range:	192 .16 to 192 .16	8 .1 .10( 8 .1 .199	)	
		Client lease time:	1440	Min	ites	
* <b>¢</b> •		Static DNS 1:	0 0	0	0	-
Ō		Static DNS 2:	0 0	0	0	
		Static DNS 3:	0 0	0	0	
6		WINS:	0 0	0	0	
		DHCP Reservations				
		Ok	Ci	ancel		Apply

Figure 58 – Local Network tab

4. Select Apply.

## Configuring the wireless network connection settings

Applies to any Stryker product with the wireless option.

Note - You must have a laptop and a router configured for Stryker defaults.

- 1. Plug in the router configured for Stryker defaults (*Configuring the wireless router (Stryker device configuration)* (page 34)).
- 2. Plug the power cord of the product into the wall outlet. Make sure that the wireless option is turned on.
- 3. Connect the laptop to the syk\_med\_install SSID that the configured router is broadcasting.
- 4. Open the iBed Wireless Configuration Tool.
- 5. On the product, enter the **Connectivity Info** menu by accessing the service menu on the footboard. See the appropriate product maintenance manual.
- 6. Scroll down to the IP address that the router provided for the product.
- 7. Enter the product IP address in the Wireless Device URL/IP box (Figure 59).

uto Scan 0 Clear Screen View Device Log IPAddress Device Type Serial Number Status Device Log Get Device Config Load Profile Save Profile Save Profile Impor Save As Save As Save As Default Profile Device Configuration Mode UPCP IP Address	import Export
IPAddress Device Type Serial Number Status Device Log Get Device Config W Device Configuration Profile  W Device Configuration  W Device Configuration  G Save Profile  Configuration  Configuration  Default Profile  Default Profile  Default Profile  Default Profile  IP Address	mport Export
W Device Configuration dio Settings adio Mode	Export
W Device Configuration did Settings adio Mode	Export
W Device Configuration did Sattings did Mode UPCP IP Address	Export
w Device Configuration did Settings adio Mode UPCP IP Address	
vi Device Configuration did Settings adio Mode V DHCP IP Address	
adio Mode Connection Status DHCP IP Address	
adio Mode	
IP Address	
SID Settings Subnet Mask	
SID Default Gateway	
User Authentication	
uthentication Vuser Name	
acryption v	
Password O	
etwork Key O Password O	

Figure 59 – Wireless Device URL

- 8. Select **Get Current Config**. The product's wireless default settings are retrieved and connect to the device. The information is shown in the left column of the tool.
- 9. Select OK to confirm the retrieval.
- 10. Enter the facility network information. Make sure that you fill in the appropriate blanks in the right column of the tool.
- 11. Select the Radio Mode for the facility requirements.
- 12. Select Upload Configuration to Device.

**Note** - If the radio does not connect, check the settings entered into the column on the right. If they are incorrect, reset the radio defaults. Repeat the configuration process.

## Resetting the wireless module to factory default settings (Med-Surg bed)

Tools required:

• Large paper clip

#### Procedure:

- 1. Raise the product to the highest height position.
- 2. Insert the large paperclip into the reset hole (A) on the bottom side of the wireless module (B) (Figure 60).
- 3. Hold the large paper clip inside the reset hole for five seconds.



Figure 60 – Wireless module

## Resetting the wireless module to factory default settings (Model FL27 InTouch)

- For InTouch 2.1-4.0, complete steps 1–5.
- For InTouch 5.0 or higher, complete step 1 to reset the Wi-Fi.

#### Tools required:

Appropriate FL27 InTouch Maintenance Manual

#### Procedure:

- 1. See the appropriate FL27 InTouch Maintenance Manual for steps to access the **Configuration** menu. For InTouch 2.1-4.0, see Figure 61. For InTouch 5.0 or higher, see Figure 63.
- 2. Select Wi-Fi Configuration (A) (Figure 61).
- 3. Select the Advanced tab (B) (Figure 62).
- 4. Select Reset (C) (Figure 62).
- 5. Select Save.



## Resetting the wireless module to factory default settings (Model 3009 ProCuity)

#### Procedure:

1. Enter the service menu and select **Connectivity** (A).

Note - See the Model 3009 ProCuity Maintenance Manual for steps to access the service menu.



Figure 64 – ProCuity service menu

- 2. Select Wi-Fi.
- 3. Select Reset Wi-Fi.

## Troubleshooting

## Basic

Problem	Possible cause	Solution				
	The Web Service URL is incorrect.	<ul> <li>Make sure that the URL in the Web Service URL box is correct.</li> <li>1. If the URL is incorrect, enter the following URL into the Web Service URL box (Verify Stryker iBed Server Tool installation (page 28)):http://localhost/SEWSI/ SEWSIWebServiceContract. asmx.</li> <li>2. Select Verify Server.</li> </ul>				
Cannot verify the iBed Server Tool	The Heartbeat service is not active.	<ol> <li>Make sure that the Heartbeat service is running.</li> <li>If the Heartbeat service has not started, start the service, restart the server, and then reverify the iBed Server Application.</li> </ol>				
	The IIS Manager does not have the required Default Web Sites.	<ol> <li>Make sure that the IIS Manager has the required Default Web Sites.</li> <li>Navigate to Internet Information Services (IIS) Manager.</li> <li>Navigate to Web Sites &gt; Default Web Site to verify that the three web sites are listed: CHAP / SERVERSCHEMA / SEWSI.</li> <li>If the Default Web Site is not listed, reinstall the iBed Server Application.</li> </ol>				

Problem	Possible cause	Solution
Cannot see the product in the iBed Server Application	The MAC address does not have the IP address or DNS name of the product.	<ol> <li>If the troubleshooting steps in the appropriate product maintenance manual were followed:</li> <li>1.1. Use the MAC address from the product and verify the wireless module's IP address or DNS name with IT.</li> <li>Ping the wireless module from the server machine using the Command Prompt (ping IP address or DNS name).</li> <li>Press Enter.</li> <li>I.3.1. If you receive four responses, then the product is on the wireless network.</li> <li>I.3.2. If you receive no response, make sure that the wireless module on the product.</li> </ol>
Problem	Possible cause	Solution
Cannot see a product in the Server Tools under the Device Location List, but the product shows under the connected device URL List	The device was not added to the device list.	<ol> <li>Using the server tool, select Verify Device Directly.</li> <li>Select Get Existing Devices, and then select the device in question.</li> <li>Add the device to the Device List.</li> <li>Select the device from Device List then select Verify Devices.</li> <li>Check the Connection Status once it responds.</li> <li>If there is a response, the device is communicating on the wireless network.</li> </ol>

Problem	Possible cause	Solution			
		<ol> <li>Identify the product serial number that is stored in the CPU. Match the serial number label on the product.</li> </ol>			
	The serial number in the CPU and the serial number on the product	serial numbers in the device list, the server recognizes the first device that logs on to the server.			
	specification label do not match.	2. To find the product's serial number, put the product into the product configuration mode. Navigate to the <b>Serial Number &gt; Current SN</b> to verify the serial number.			
		3. If the serial number does not match, go to the Edit SN menu to edit the serial number, and then save.			
Problem	Possible cause	Solution			
		<ol> <li>Using the iBed Locator Association Tool, select View Current Location Associations.</li> </ol>			
		2. Select <b>Get Location Associations</b> from the server.			
		3. Look through the <b>Hospital</b> <b>Location</b> and verify the Locator ID.			
Cannot see a location	The Locator ID was entered incorrectly.	<b>Note</b> - The Locator ID is alphanumeric and case-sensitive. Use lower case to enter the Locator ID letters, or the server will not recognize the locator.			
		3.1. If the Locator ID is incorrect, use the <b>Update</b> function to update the error.			
		3.2. If the Locator ID is missing, see Adding locator IDs and hospital locations (page 31).			

Problem	Possible cause	Solution	
		<ol> <li>Make sure that the SEWSI web. config file has the correct URL.</li> </ol>	
			<ol> <li>1.1. Navigate to the directory where the iBed server tool is installed.</li> </ol>
			1.1.1. Navigate to the SEWSI folder and open the <b>web.config</b> file.
		1.1.2. Find the line that contains <b>ServerURL=</b> .	
Third party does not receive product	Incorrect URL entered for the SEWSI	1.1.3. Make sure that the local host was replaced with the IP of the server.	
status information	or Port 80 is blocked.	<b>Note</b> - Do not use a DNS name.	
		<ol> <li>Make sure that Port 80 is not blocked.</li> </ol>	
		2.1. <b>Port 80</b> needs to be open between the Stryker server and products (bidirectional) and the Stryker server and any third-party servers (bidirectional).	
		2.2. If <b>Port 80</b> is blocked, work with IT to open the port.	
		3. Search SEWSI logs to make sure that there are no communication failures. Find messages generated for the third party.	

## Advanced

#### **Connectivity issues**

View total device counts to identify drops.

Note - Navigate to the directory where the iBed Server Tool is installed and open the LOGS folder.

- 1. Find StrykerMainenanceService\_logfile.txt.
- 2. Highlight several of the StrykerMainenanceService\_logfile.txt files. The log files can occur if there was an outage.
  - a. Right-click and select Edit with Notepad++.
- 3. In Notepad++, press Ctrl+F to open a Find Window.
  - a. Enter the string "[Total Connected Devices Count excluding server = xx]" and select **Find in All Opened Documents** to search.
  - b. The Find Result pane in Notepad++ populates with the log lines as a result of your search (Figure 65).

_														_		
¢.	Search "[	Tota	1 Connected	Devices C	ount ex	xcludi	ng serv	er ="	(43107 hits	s in 4 f	iles)					
¢	D:\iBed	Ser	ver Tool\LO	GS\Stryker	Mainter	nances	ervice_	logFile	e.txt.3 (1	2060 hit:	s)					
	Line	15:	[2018-07-13	23:10:11,	857] []	INFO]	[5504]	[Total	Connected	Devices	Count	excluding	server	-	327]	[]
	Line	40:	[2018-07-13	23:10:16,	861] []	INFO]	[3756]	(Total	Connected	Devices	Count	excluding	server	-	327]	0
	Line	54:	[2018-07-13	23:10:21,	865] []	INF0]	[3128]	(Total	Connected	Devices	Count	excluding	server	-	327]	0
	Line	76:	[2018-07-13	23:10:26,	874] []	INFO]	[1276]	[Total	Connected	Devices	Count	excluding	server	-	327]	0
	Line	77:	[2018-07-13	23:10:31,	886] []	INF0]	[1800]	[Total	Connected	Devices	Count	excluding	server	-	327]	[]
	Line	78:	[2018-07-13	23:10:36,	902] []	INF0]	[4992]	(Total	Connected	Devices	Count	excluding	server	-	327]	[]
	Line	79:	[2018-07-13	23:10:41,	906] []	INFO]	[5688]	(Total	Connected	Devices	Count	excluding	server	-	327]	0
	Line	80:	[2018-07-13	23:10:46,	9141 []	INF01	[2804]	(Total	Connected	Devices	Count	excluding	server		3271	11

Figure 65 – Total device counts

c. Review the list to locate the drop in the number of connected devices and the duration of time the devices were offline.

Note - Work with the local IT department to investigate.

#### Third-party communication issues

Search SEWSI log files for third-party messages.

- 1. Open the iBed Server Tool.
- 2. Navigate to the subscription list tab.

Note - When you search for messages from a product, make sure that you use the correct Device ID.

- 3. Copy the subscription ID for a device that is going to the correct third party.
  - a. Verify the subscriber URL to find messages to a specific third party.
- 4. Navigate to the directory where iBed Server Tool is installed.
  - a. Open the LOGS folder.
  - b. Find SEWSI\_logfile.txt.
- 5. For a specific timeframe, search for the modified date in Windows Explorer. Highlight many SEWSI\_logfile.txt files.
- 6. Right-click the highlighted files and select Edit with Notepad++.
- 7. Press Ctrl+F to open a Find window.
  - a. Paste the subscription ID copied in step 3 into the Find window.
  - b. Select Find in all opened documents.
  - c. The Find result pane opens in Notepadd ++ with all messages that contain the Subscriber ID.
- 8. Start the XML message from the Find pane to open the file to that line.
  - a. The XML messages start with <?xml version="1.0" encoding=utf-8"?>.

Note - Example message with the payload XML data highlighted: <?xml version="1.0" encoding="utf-8"?><soap: Envelope xmlns:soap="http://schemas.xmlsoap.org/soap/envelope/" xmlns:xsi="http://www.w3.org/2001/XMLSchemainstance" xmlns:xsd="http://www.w3.org/2001/XMLSchema"><soap:Body><ReceiveSubscriptionRequest xmlns= "http://SEWSI.ServiceContracts/2008/09"><SubscriberID>C3000-000\_180415201155204742</ SubscriberID><PayloadXML>&lt;device id="3000-000\_000\_180415201"&gt;&lt;BedHeightIn&gt;27&lt;/ BedHeightIn><LastLoggedWeightLb&gt;102.900009&lt;/LastLoggedWeightLb&gt;&lt; BedExitAlarming>false</BedExitAlarming&gt;&lt;/device&gt;</PayloadXML><TimeStamp>2018-07-16T11:59:14.3410647-04:00</TimeStamp></ReceiveSubscriptionRequest></soap:Body></soap:Envelope>][]

#### Device not connecting to server

Search for duplicate serial numbers (devices newer than GW1).

- 1. Open the iBed Server Tool.
- 2. Navigate to the Client Diagnostic Info tab.

- 3. Select the far left blank cell of the header to highlight the entire table.
  - a. Copy and paste the data into a Microsoft Excel spreadsheet.
- 4. Highlight the Client ID column.
- 5. In the Home tab of the ribbon, select Conditional Formatting.
  - a. Select Highlight Cell Rules→Duplicate Values.
  - b. Select OK to highlight duplicates in red.
  - c. Highlight the row above where the data was pasted, select the Data tab, and select Filter.

Note - Any cells highlighted (except Network Exception/Timeouts) are duplicate serial numbers that you need to resolve.

#### Connectivity issues of one or more devices

Not receiving a specific product status over port 80.

Verify communication from devices to the server with SOAP UI.

Note - To complete this procedure, a Stryker supplied project file is required.

- 1. Open SOAP UI.
- 2. In the Projects pane, expand the SEWSI folder.
- 3. Select ConnectivityMock to open the ConnectivityMock window (Figure 66).

⊊ ConnectvityMock d <sup>K</sup> Ø <sup>™</sup> ⊠
• ■ ≈ •
Operations
\$
🗇 Get
C GetDeviceList
GetDeviceSchema
GetReservedDeviceSchema
C ReceiveSubscription
C RenewSubscription
🗘 Set
SubscribeOnChange
SubscribeOnLimit
🗘 UnSubscribe
Descri Prop Start Stop OnReques AfterReques
🗹 Enable 👲 🕸
Message Log

Figure 66 – Connectivity Mock

- 4. Select the gear icon to edit settings for Mock Third-party.
  - a. Modify the host URL to the IP address of the server where SOAP UI is running (Figure 67).

\$	SOAP MockService Options
SOAP MockSer	vice Options this SOAP mock service
Path:	/connectivity
Port:	8092
Host:	10.185.137.18
Host Only:	Only binds to specified host
Docroot:	Browse
Fault Operation:	- none - 💌
0	OK Cancel

Figure 67 – SOAP UI

- b. Select **OK** to save.
- 5. Select the green Play icon to start the Mock Third-party Service.
- 6. Select the green arrows to open the service webpage to verify connection.
  - a. Copy the URL of the webpage to the clipboard.
- 7. In the Projects pane, expand SEWSIWebServiceContract.
  - a. Expand the SubscribeOnChange.
  - b. Double-click VTF Sub 3 (72 hour).
  - c. Modify the Subscriber URL with the URL from step 3 (Figure 68).

VTF - Sub 3 (72 hour)
😻 🗈 🖬 🛔 🗉 🖉 http://localhost/SEWSI/SEWSI/WebServiceContract.asmx
<pre><soapenv:envelope xmlns:ns="http://SEMSI.ServiceContracts/2008/05" xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"></soapenv:envelope></pre>
<ns:deviceid><aod-000-000_180415545< ns:deviceid=""><ns:subscriberurl><abr></abr>http://10.185.137.18:8092/connectivity?#SDD</ns:subscriberurl><abr></abr><abr></abr>subscriptionTimeOut&gt;PT10M</aod-000-000_180415545<></ns:deviceid>
<pre>star:CriteriaX0fl&gt;<!--(CDATA(<device id="1000-000_100418841"-->&gt;</pre>
<lovbedneight>false</lovbedneight> <nrsiderailup>false</nrsiderailup>
<hlsiderailup>false</hlsiderailup> <frsiderailup>false</frsiderailup>
<flsiderailup>false</flsiderailup> <brakeon>false</brakeon>
<currentweightlb>0</currentweightlb>
]]>
<pre>%ns:PayloadOCL&gt;<!--(CDATA(<device id="5000-000_100015863"--></pre>

Figure 68 – VTF - Sub 3 (72 hour)

- d. Change the Device ID to the Device ID being searched for (Figure 68).
- e. Select the Play icon in the VTF Sub 3 (72 hour) window.
- 8. In the **ConnectivityMock** window, messages appear if the ports are open and the server is able to communicate with the device (Figure 69).

Note - If messages do not appear, port 80 may be closed or the WebServiceURL in the SEWSI web.config file may be incorrect.



Figure 69 – Message Log

9. Double-click the message to view the XML generated (Figure 70).

Message View	rer d" 🛛						
MessageExchange Results See the request/response message below							
Request Mes	sage Response Message Properties						
Reef. 2000	version*"1.0" encoding="utf-8"?> <scap:envelope th="" xmlns:sca<=""></scap:envelope>						
Headers (7)	Attachments (0) WSS (0) JMS (7)						

Figure 70 – Message Viewer

#### Cannot communicate with device

Verify communication with the device over the port using TELNET are open.

- 1. Open a command prompt.
- 2. Enter the command **telnet <IPAddress> <Port>**, where the **IP Address** is the address of the device and the **Port** is the port number for verification (Figure 71).



#### Figure 71 – Command prompt

- A blank box with a blinking cursor indicates that the port is open.
- Connecting to indicates that the port is closed or the device is offline (Figure 72).





Note - Only use TELNET for a device that is online and pingable.

#### Cannot communicate with device (DNS only)

Verify the Hostname with NSLOOKUP.

- 1. Open a command prompt.
- 2. Enter the command **nslookup <IPAddress>** where the **IP Address** is the address of the device for **DNS entry** verification.
  - A reply with the hostname and IP address indicates success (Figure 73).

Note - The first line is the DNS server name and IP address. The second line is the device hostname/IP.

C:\Users\svc_ca_stryker>nslookup 10.159.159.91 Server: int-gtm-cdc.nyumc.org Address: 10.185.98.100
Name: syk-84253f3ef34e.wireless.nyumc.org Address: 10.159.159.91
C:\Users\svc_ca_stryker>_

#### Figure 73 – DNS success

A reply that states <DNSServerName> can't find <IPAddress> indicates failure (Figure 74).



Figure 74 – DNS failure

3. To verify a reverse lookup, enter the command **nslookup <hostname>** where the **hostname** is the device you are verifying the DNS entry for.

Note - The reply from the server must match the reply from step 2.

## Smart Equipment Management option - troubleshooting

- 1. To verify the Device Data Manager Utility:
  - Select Start from Windows.
  - Enter StrykerDeviceDataManagerRegistration in the search box.
  - Make sure that the StrykerDeviceDataManagerRegistration utility displays in the search results.
- 2. To verify the iBed Server Tool:
  - Locate the machine where the Stryker iBed Server Application is installed. Open the iBed Server Tool.
  - Select the Subscription List tab. Make sure that the Device ID and Subscription ID columns are populated.
  - Make sure that the server has a general subscription and each device has both a general and alarm subscription (Figure 75).



Figure 75 – General subscription

 Make sure that the Subscriber URL column displays the same URL shown in the Web.config file of the Device Data Manager (Figure 76 and Figure 77).

View Edit Verification Diagnost	tic Info About Exit				
Server Web Service URL http://localhost/SEWS	SI/SEWSIWebServiceContract.asmx				
Connected Device(s) 0 Total Device	(0) 3	Refres	h Server Data		
Connected Device URL List Subscription List	Debug Devices Device Location List Client Diagnostic Info				
I Device ID	Subscription ID	Create Time	Last Renew Time	Subscriber URL	<ul> <li>Criteria XML</li> <li>Payle</li> </ul>
▶ 1 <b>5212-500-005_00000</b>	5212-500-005_00000_d16a3ad5-b5d2-4b60-9151-2da5dcfdaff6	11/01/2019 04:58:48	11/01/2019 13:23:49	http://localhost/DeviceDataManager/DataManager.s/c	<pre><device id="5212-500-005_00000"><d< pre=""> &lt;device id='52&lt;/td&gt;</d<></device></pre>
					•
					UnSubscribe
Server Tool Version:5212-505-001_2.5.001.01					iBed Server Version:5212-502-001_2.5.001.01

#### Figure 76 – Subscription List

<pre>#ppSettings&gt;</pre>						
	<add< td=""><td><pre>key="SEWSI_URL" value="http://10.117.40.238/SEWSI/SEWSIWebServiceContract.asmx"&gt;</pre></td></add<>	<pre>key="SEWSI_URL" value="http://10.117.40.238/SEWSI/SEWSIWebServiceContract.asmx"&gt;</pre>				
	<add< td=""><td><pre>key="CHAP URL" value="http://10.117.40.238/CHAP/CHAPWebServiceContract.asmx"&gt;</pre></td></add<>	<pre>key="CHAP URL" value="http://10.117.40.238/CHAP/CHAPWebServiceContract.asmx"&gt;</pre>				
	<add< td=""><td><pre>key="SUBSCRIBERURL" value="http://10.117.40.238/DeviceDataManager/DataManager.svc"&gt;</pre></td></add<>	<pre>key="SUBSCRIBERURL" value="http://10.117.40.238/DeviceDataManager/DataManager.svc"&gt;</pre>				
1	<add< td=""><td>key="IserverIP" value="10.117.40.238"&gt;</td></add<>	key="IserverIP" value="10.117.40.238">				
	<add< td=""><td>key="IsLifenet" value="true"&gt;</td></add<>	key="IsLifenet" value="true">				
	<add< td=""><td><pre>key="LifenetRegistrationUrl" value="https://api-ng-dev.physio-labs.com/bedagents/?api-version=1.0"&gt;</pre></td></add<>	<pre>key="LifenetRegistrationUrl" value="https://api-ng-dev.physio-labs.com/bedagents/?api-version=1.0"&gt;</pre>				
	<add< td=""><td><pre>key="LifenetAgentUrl" value="/bedagents/{0}?api-version=1.0"&gt;</pre></td></add<>	<pre>key="LifenetAgentUrl" value="/bedagents/{0}?api-version=1.0"&gt;</pre>				
	<add< td=""><td><pre>key="LifenetBedUrl" value="/beds/{0}?api-version=1.0"&gt;</pre></td></add<>	<pre>key="LifenetBedUrl" value="/beds/{0}?api-version=1.0"&gt;</pre>				
	<add< td=""><td>key="LifeNetUserName" value="Test"&gt;</td></add<>	key="LifeNetUserName" value="Test">				

#### Figure 77 – Web.config file

- 3. To verify the server data in the Device Data Manager log file:
  - Search for a string "DeviceID=<SerialNumber> JsonContent=" in the log file (Figure 78)

Note - Replace <SerialNumber> with a serial number in the Web.config file.

[2017-11-23 11:51:07.355] [DEBUG] [19364] [Entering function LifenetDataManager::UploadDataToCloud] []
[2017-11-23 11:51:07,394] [INFO] [19364] [In LifenetDataManager DeviceID = 1234567890 JsonContent=
("GatewaySerial":"1234567890","GatewayModel":"5212-500-005 00000","IPAddress":"10.50.113.78","SoftwareVersion":"1.0.0.2","Description":"TestHospital","TotalDevices":6}]
[2017-11-23 11:51:07,470] [DEBUG] [19364] [Leaving function IServerManager::ParseSubscripedDataStream] []

#### Figure 78 – Example: DeviceID = 1234567890 JsonContent=

• Search for a string "Data Uploaded for Server successfully!" in the log file (Figure 79)

1	[2017-05-22	13:33:07,487]	[INFO]	[3624] [No change detected in server data returning] []
2	[2017-05-22	13:33:07,503]	[INFO]	[15340] [Data Upload Response for deviceID = :3000-000-000_DeviceS11Pal43 content = ] []
3	[2017-05-22	13:33:07,503]	[INFO]	[15340] [Data Uploaded successfully for DeviceID = 3000-000-000_DeviceS11Pal43] []
4	[2017-05-22	13:33:07,518]	[INFO]	[16072] [Data Upload Response for deviceID = :247703F4B422 content = ] []
5	[2017-05-22	13:33:07,518]	[INFO]	[16072] [Data Uploaded for Server successfully!] [
6	[2017-05-22	13:33:07,612]	[INFO]	[16072] [Control of the second s
7	[2017-05-22	13:33:07,737]	[INFO]	[15340] [Data Upload Response for deviceID = :3000-000-000_DeviceS11Pal138 content = ] []
8	[2017-05-22	13:33:07,737]	[INFO]	[15340] [Data Uploaded successfully for DeviceID = 3000-000-000_DeviceS11Pal138] []
9	[2017-05-22	13:33:07,737]	[INFO]	[16072] [Time taken for <u>descrilization</u> (ms) = 0] []
0	[2017-05-22	13:33:07,752]	[INFO]	[6156] [DeviceID = 3000-000-000_DeviceS11Pal78 JsonContent=

#### Figure 79 – Data uploaded in log file

- 4. To verify the connected devices in the log file:
  - Search for a string "DeviceID = <deviceID> JsonContent=" in the log file (Figure 80)

Note - Replace <deviceID> with the device ID of the connected device.

[2017-12-05 14:13:26,222] [INFO] [10152] [In LifenetDataManager DeviceID = 3000-000\_DeviceS1 JsonContent= {"ActiveDeviceError":true,"ActiveDeviceErrorInformation":"load cell error", "DeviceErrorLog1":"FR LoadCell Error", "DeviceErrorLog2":"FRSR Switch Error", "DeviceErrorLog3":"HRSR Switch Error", "DeviceErrorLog4":"FLSR Switch Error", "DeviceErrorLog6":"FLSR Switch Error", "DeviceErrorLog7":"FRSR Switch Error", "DeviceErrorLog6":"FLSR Switch Error", "DeviceErrorLog6":"FLSR SoftwareVersion":"1.0", "PatientPresent":false, "RSS1":"20", "LowBedHeight":false, "HRSiderailDp":true, "HLSiderailDp":true, "RSiderailDp":true, "FLSiderailDp":true, "BrakeOn":true, "BedExitArmed ":false, "LBSArmed":false, "BedExitAlarming":false, "LBSAlarming":false, "Coline":true, "ConnectionDptime":1564.4642602, "SerialNumber":"3000-000-000\_DeviceS1", "Model":"MedSuitArmed

#### Figure 80 - Example: DeviceID = 3000-000-000\_DeviceS1 JsonContent=

• Search for a string "Data Uploaded successfully for DeviceID = <deviceID>" in the log file (Figure 81)

Note - Replace <deviceID> with the device ID of the connected device.

```
[2017-12-05 13:47:50,425] [INFO] [12000] [connection to Eitenet established successfully. Data optoaded successfully for a
[2017-12-05 13:47:56,425] [DEBUG] [12688] [Leaving function LifenetDataManager::UploadDataToCloud] []
[2017-12-05 13:47:56,425] [INFO] [12688] [Device data successfully uploaded for 3000-000-000_DeviceS1 in Lifenet] []
[2017-12-05 13:47:56,425] [DEBUG] [12688] [Leaving function LifenetDeviceStatusManager::UploadDeviceData] []
[2017-12-05 13:47:56,425] [DEBUG] [12688] [Leaving function LifenetDeviceStatusManager::ProcessData] []
[2017-12-05 13:47:56,425] [DEBUG] [12688] [Leaving function LifenetDeviceStatusManager::ProcessData] []
```

#### Figure 81 – Example: Data Uploaded successfully for 3000-000\_DeviceS1 in LIFENET

#### **Email alerts**

The iBed Server Application generates emails for the following scenarios:

Email information	Scenario
Email Subject: Stryker iBed Server Alert Email Body: 2015-04-20 00:24:59,298 [2964] ERROR Stryker.IServer.	Low Battery Status is true for the BBID mapped with a
EMailToAdminForLowBatteryStatus - SEND EMAIL: Stryker room locator f5d5b2130000 in room 205 has a low battery. Currently connected to device ID 3000-000-000_ 130316141.	location
Email Subject: Stryker iBed Server Alert	
Email Body: 2015-04-20 00:35:51,784 [2328] ERROR Stryker.IServer. BusinessLogic.SEWSI.RuleManager. EMailToAdminForLowBatteryStatus - SEND EMAIL: Stryker room locator f5d5b2130000 is not in the location list and has a low battery, update the location and association lists as required. Currently connected to device ID 3000- 000-000_130316141.	Low Battery Status is true for a BBID which is not mapped to any room or the BBID is missing
Email Subject: Stryker iBed Server Alert	
Email Body: 2015-04-20 00:45:22,254 [2328] ERROR Stryker.IServer. BusinessLogic.SEWSI.RuleManager. EmailToAdminForMissingBBID - SEND EMAIL: Stryker room locator f5d5b2130000 is not in the location list and does not have an association to a room, update or create the location association as required. Currently connected to device ID 3000-000-000_130316141.	BBID is sent in the subscription payload but it is not present in the "BBIDList.xml" file

Email information	Scenario	
Email Subject: Stryker iBed Server Alert		
Email Body: 2015-04-20 00:48:02,395 [2328] ERROR Stryker.IServer. BusinessLogic.SEWSI.RuleManager. EmailToAdminForMissingBBID - SEND EMAIL: Stryker room locator f5d5b2130000 is in the location list but is not associated to a room, update the location association as required. Currently connected to device ID 3000-000-000_ 130316141.	BBID is sent in payload and it is present in "BBIDList.xml" file but is not present in "DeviceBBIdLocationAssciation. xml" file	
Email Subject: Stryker iBed Server Alert		
Email Body: 2015-04-20 00:50:52,536 [2328] ERROR Stryker.IServer. BusinessLogic.SEWSI.RuleManager. EmailToAdminForMissingBBID - SEND EMAIL: Stryker room locator f5d5b2130000 is in the location list but is associated to an undefined room, update the location association as required. Currently connected to device ID 3000-000-000_130316141.	BBID is sent in payload and it is present in "BBIDList.xml" file and in "DeviceBBIdLocationAssciation.xml" file but the location for that BBID is missing in "DeviceBBIdLocationAssciation.xml" file	
Email Subject: Stryker iBed Server Urgent Alert		
Email Body: Application Health Check Failed at Step 1 -> iBedServer is unable to access the database. Please restart the MS-SQL database. After restart, if the message continues, please contact Stryker support.	When DB is down	
Email Subject: Stryker iBed Server Urgent Alert		
Email Body: Application Health Check Failed at Step 2 -> The MS-SQL database is corrupt. Following Tables are missing in Database ->DeviceConnectionInfoList. Please contact Stryker support to rebuild. Application Health Check Failed at Step 3 -> iBedServer is unable to access SEWSI. Please restart the World Wide Web Publishing Service and StrykerSEWSIHeartbeatservice. After restart, if the message continues, please contact Stryker support.	DeviceConnectionInfoList table does not exist	
Email Subject: Stryker iBed Server Urgent Alert		
Email Body: Application Health Check Failed at Step 2 -> The MS-SQL database is corrupt. Following Tables are missing in Database ->MasterSubscriptionInfo. Please contact Stryker support to rebuild.	MasterSubscriptionInfo table does not exist	

Email information	Scenario	
Email Subject: Stryker iBed Server Urgent Alert		
Email Body: Application Health Check Failed at Step 2 -> The MS-SQL database is corrupt. Following Logins are missing in Database ->NT AUTHORITY\LOCAL SERVICE. Please contact Stryker support to rebuild.	LOCAL SERVICE does not exist	
Email Subject: Stryker iBed Server Urgent Alert		
Email Body: Application Health Check Failed at Step 2 -> The MS-SQL database is corrupt. Following Logins are missing in Database ->NT AUTHORITY\NETWORK SERVICE. Please contact Stryker support to rebuild. Application Health Check Failed at Step 3 -> iBedServer is unable to access SEWSI. Please restart the World Wide Web Publishing Service and StrykerSEWSIHeartbeatservice. After restart, if the message continues, please contact Stryker support.	NETWORK SERVICE does not exist	
Email Subject: Stryker iBed Server Urgent Alert		
Email Body: Application Health Check Failed at Step 3 -> iBedServer is unable to access SEWSI. Please restart the World Wide Web Publishing Service and StrykerSEWSIHeartbeatservice. After restart, if the message continues, please contact Stryker support. Application Health Check Failed at Step 4 -> StrykerSEWSIHeartbeatservice is not running. Please restart StrykerSEWSIHeartbeatservice. After restart, if the message continues, please contact Stryker support.	Both SEWSI and HB services are down	
Email Subject: Stryker iBed Server Urgent Alert		
Email Body: Application Health Check Failed at Step 2 -> The MS-SQL database is corrupt. Following Tables are missing in Database ->MasterSubscriptionInfo. Please contact Stryker support to rebuild. Application Health Check Failed at Step 3 -> iBedServer is unable to access SEWSI. Please restart the World Wide Web Publishing Service and StrykerSEWSIHeartbeatservice. After restart, if the message continues, please contact Stryker support. Application Health Check Failed at Step 4 -> StrykerSEWSIHeartbeatservice is not running. Please restart StrykerSEWSIHeartbeatservice. After restart, if the message continues, please contact Stryker support.	Both SEWSI and HB services are down and the MasterSubscriptionInfo table does not exist	

Email information	Scenario	
Email Subject: Stryker iBed Server Urgent Alert		
Email Body: Application Health Check Failed at Step 3 -> iBedServer is unable to access SEWSI. Please restart the World Wide Web Publishing Service and StrykerSEWSIHeartbeatservice. After restart, if the message continues, please contact Stryker support. Application Health Check Failed at Step 4 -> StrykerSEWSIHeartbeatservice is not running. Please restart StrykerSEWSIHeartbeatservice. After restart, if the message continues, please contact Stryker support.	HB is down	
Email Subject: Stryker iBed Server Urgent Alert		
<b>Email Body:</b> iBed Server is unable to communicate with Stryker clients. Please check the server/network configuration. If the message continues, please contact Stryker Technical Support.	No devices are detected	
Email Subject: Stryker iBed Server Urgent Alert		
Email Body: Total number of clients connected to iBed Server has gone below <configured threshold="">. Please check the server/ network configuration. If the message continues, please contact Stryker Technical Support.</configured>	Number of connected devices drops below the configured threshold value	
Email Subject: Stryker iBed Server Urgent Alert		
Email Body: The following errors with Third-party Communication has been recorded in last 1 hour. <error></error>	Error with the Third-party Communications	

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