RICOH

RICOH Streamline NX

Operating Instructions

Installation Guide

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4. Troubleshooting

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Guides for This Solution

The following guides are available for RICOH Streamline NX:

Installation Guide (PDF)

This guide is for the administrator. It describes how to install, uninstall, and activate the system and how to configure the database. It also describes how to install RICOH Streamline NX PC Client.

Administrator's Guide (PDF/HTML)

This guide is for the administrator. It describes the system workflow and how to operate the Management Console. The following functions are described:

- Device management
- User management
- Print management
- Capture management
- Server management
- Log management

User's Guide (PDF/HTML)

This guide is for general users. It describes how to scan a document using the operation screen of the device. It also describes the Send to Email, Send to Folder, and Send to FTP functions and how to use the mobile app.

RICOH Streamline NX PC Client Operation Guide (PDF/HTML)

This guide is for general users. It describes how to configure RICOH Streamline NX PC Client installed on a client computer and how to perform Client Secure Print and Dynamic Delegation Print.

Reporting and Dashboards Guide (PDF/HTML)

This guide is for administrators and general users. It describes the report settings and report types that can be generated within the Management Console.

Important Information about Device Configuration (PDF)

This guide is for administrators. It describes the management extension function for device settings.

Migration Guide: For Device Manager NX (PDF)

This guide is for the administrators. It describes how to execute the migration of data from the existing product to RICOH Streamline NX.

How to Read This Manual

Symbols

This manual uses the following symbols:

⭐ **Important**

Indicates points to pay attention to when using the machine, and explanations of likely causes of paper misfeeds, damage to originals, or loss of data. Be sure to read these explanations.

🔽 **Note**

Indicates supplementary explanations of the machine's functions, and instructions on resolving user errors.

[ ]
Indicates the names of keys on the machine's display or control panels.

Important

To the maximum extent permitted by applicable laws, in no event will the manufacturer be liable for any damages whatsoever arising out of failures of this product, losses of documents or data, or the use or non-use of this product and operation manuals provided with it.

Make sure that you always copy or have backups of important documents or data. Documents or data might be erased due to your operational errors or malfunctions of the machine. Also, you are responsible for taking protective measures against computer viruses, worms, and other harmful software.

In no event will the manufacturer be responsible for any documents created by you using this product or any results from the data executed by you.

Contents of this manual are subject to change without prior notice.

Revision History

Date	Revision No.	Revision Details
6/26/2017	1.0.0	First release of document
11/6/2017	1.0.1	Document for 3.0.2 software release
12/22/2017	1.1.0	Document for 3.1.0 software release

Terminology

This section describes the terms used in this guide.

Client computer

This is a computer other than a server that uses the RICOH Streamline NX system. It accesses the Management Console using a web browser, manages printing using RICOH Streamline NX PC Client, and manages USB-connected devices using USB Agent.

Core Server

RICOH Streamline NX consists of a Core Server and Delegation Servers. The Core Server is the server at the center of the RICOH Streamline NX system. It manages the Delegation Servers.

Delegation Server

The Delegation Server processes the printing, document delivery, and device management functions. Depending on the size of the system and how the various functions are used, multiple Delegation Servers can be created to distribute the load.

Device

This refers to a printer or MFP on the network. In this guide, printers and MFPs are referred to as "devices".

To use the printing and document delivery functions of RICOH Streamline NX, select a Ricoh MFP or printer. For a list of supported models, see "List of Supported Models and Functions", Administrator's Guide.

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The proper names of the Windows operating systems are as follows:

- The product names of Windows 7 are as follows:

  Microsoft$^®$ Windows$^®$ 7 Home Premium

  Microsoft$^®$ Windows$^®$ 7 Professional

  Microsoft$^®$ Windows$^®$ 7 Ultimate

  Microsoft$^®$ Windows$^®$ 7 Enterprise

- The product names of Windows 8.1 are as follows:

  Microsoft$^®$ Windows$^®$ 8.1

  Microsoft$^®$ Windows$^®$ 8.1 Pro

  Microsoft$^®$ Windows$^®$ 8.1 Enterprise

- The product names of Windows 10 are as follows:

  Microsoft$^®$ Windows$^®$ 10 Home

  Microsoft$^®$ Windows$^®$ 10 Pro

  Microsoft$^®$ Windows$^®$ 10 Mobile

  Microsoft$^®$ Windows$^®$ 10 Enterprise

  Microsoft$^®$ Windows$^®$ 10 Education

Microsoft® Windows® 10 Mobile Enterprise

- The product names of Windows Server 2008 R2 are as follows:

  Microsoft® Windows Server® 2008 R2 Standard

  Microsoft® Windows Server® 2008 R2 Enterprise

  Microsoft® Windows Server® 2008 R2 Datacenter

- The product names of Windows Server 2012 are as follows:

  Microsoft® Windows Server® 2012 Essentials

  Microsoft® Windows Server® 2012 Standard

  Microsoft® Windows Server® 2012 Datacenter

- The product names of Windows Server 2012 R2 are as follows:

  Microsoft® Windows Server® 2012 R2 Essentials

  Microsoft® Windows Server® 2012 R2 Standard

  Microsoft® Windows Server® 2012 R2 Datacenter

- The product names of Windows Server 2016 are as follows:

  Microsoft® Windows Server® 2016 Datacenter

  Microsoft® Windows Server® 2016 Standard

  Microsoft® Windows Server® 2016 Essentials

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Microsoft product screen shots reprinted with permission from Microsoft Corporation.

1. Overview

This chapter describes the functions and uses of the RICOH Streamline NX system after a RICOH Streamline NX environment is created. It also describes the flow required to start operations.

Introduction

Thank you for purchasing RICOH Streamline NX.

RICOH Streamline NX offers a total solution for secure and large-scale, integrated management of devices. In addition to providing remote management of device settings, monitoring of devices, and output of reports, RICOH Streamline NX can also expand the print and scan functionality of devices.

The expanded functionality of the devices can improve user convenience and administrator operation efficiency for management cost savings. The RICOH Streamline NX system also offers the use of cards, PINs, and other personal authentication functions to strengthen the security of devices and reduce the risk of information leaks.

In addition, RICOH Streamline NX can be used to monitor and manage network devices. The system can immediately detect a problem on a connected device located anywhere around the world to help minimize downtime. In addition, the system can apply initial settings collectively and remotely on a large scale to newly installed devices.

Administrators can manage all connected devices centrally through a unified web interface without having to install special software to the client computer.

🔸 Note

- @Remote is a system in which Ricoh manages your devices. Activation of a @Remote license can further reduce internal device management costs.

Installation Workflow Summary

The RICOH Streamline NX system consists of servers, devices, and client computers. This section describes an overview of the system and the workflow for starting operations.
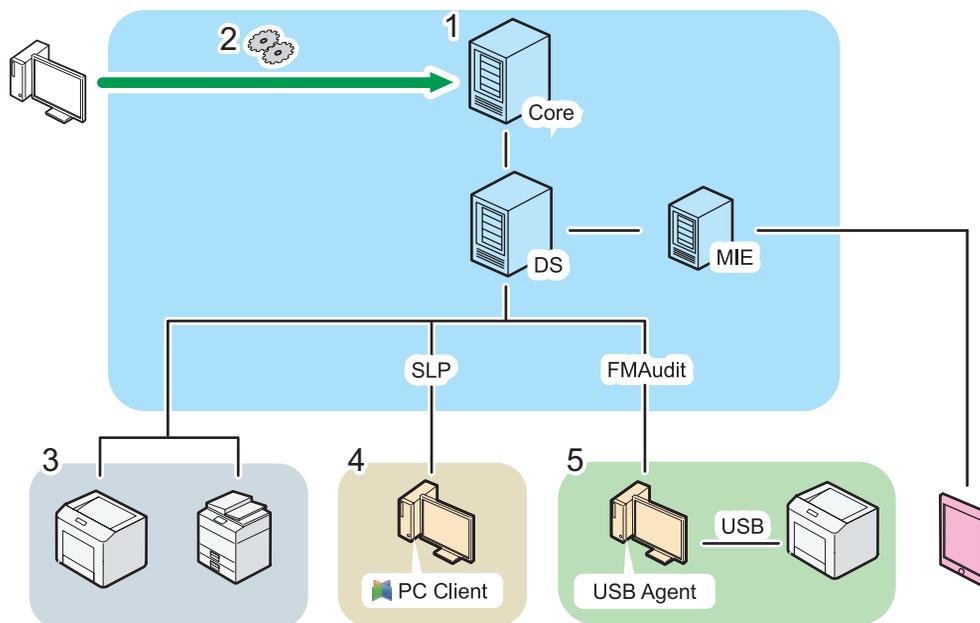
DSW900

1. ▶ page 17 "Installing RICOH Streamline NX"

Install the RICOH Streamline NX server software. There are three types of servers in this system: a Core Server, Delegation Servers, and MIE servers.
Core Server This server is at the center of the RICOH Streamline NX system. The administrator accesses the Core Server from a client computer to manage the entire system.
Delegation Server (DS) These servers are managed by the Core Server. The Delegation Servers are directly responsible for all processing related to the devices, including processing of print jobs, image conversion and delivery of scanned documents, and processing of information obtained from the devices.
You can install a Delegation Server separately so as not to reside with other functions. In addition, SLP enables the RICOH Streamline NX PC Client to detect Delegation Servers.

1

MIE server

This server is required to use a mobile app and submitting a print job from a mobile device. The MIE server connects to a Delegation Server and links with mobile devices.

🔸 **Note**

- The MIE server must be built on the same subnet as the mobile device to be connected. The automatic server discovery function on the mobile devices allows users to use mobile applications without entering server information.

- Only one MIE server should be built on one subnet. If you configure multiple MIE servers on the same subnet, you will not be able to distinguish devices from your iOS device.

2. ▶ **Configuring the Servers**

The administrator uses the web browser on a client computer to access the Management Console and configure the initial settings.

🔸 **Note**

- For details, see "Workflow for Configuring the Initial Settings", Administrator's Guide.

3. ▶ **Installing Embedded Applications**

You can install the Embedded Applications to Ricoh devices only.

To ensure stronger security via user authentication and enable advanced printing and capturing functions, install the Embedded Applications to compatible Ricoh devices.

🔸 **Note**

- For a list of models that support the Embedded Applications, see "List of Supported Models and Functions", Administrator's Guide.

- For details, see "Managing Embedded Applications", Administrator's Guide.

4. ▶ **page 45 "Installing RICOH Streamline NX PC Client"**

Installing the RICOH Streamline NX PC Client on a client computer enables the user to store secure print jobs locally and send accounting information to the server.

5. ▶ **page 73 "Managing USB-connected Devices"**

If you select the FMAudit device monitoring engine option when installing the Delegation Server, you can manage non-RICOH devices. In addition, you can obtain information of a USB device from the client computer which USB Agent installed.

⬇ Note

- Steps 3 to 5 can be performed in any order without affecting the start of operations. Perform the necessary steps according to your preferences.

- The number of devices that can be processed by one Core Server or Delegation Server varies depending on server performance and processing load. The following is a guide. For details, contact your service representative.

  - Core Server: A single Core Server can manage up to approx. 100,000 devices, and up to 250 Delegation Servers.

  - Delegation Server: Each Delegation Server can perform processing for the following number of devices:

    - Polling: approximately 10,000 devices

    - Device management: 5,000 devices

    - Capturing and printing: 1,000 devices

Supported Languages

RICOH Streamline NX supports the languages listed below.

System-supported Languages

RICOH Streamline NX software supports the following languages:

- English
- German
- French
- Italian
- Danish
- Spanish
- Dutch
- Norwegian
- Portuguese
- Brazilian Portuguese
- Russian
- Japanese
- Simplified Chinese
- Traditional Chinese

↓Note

- The USB Agent installer is provided in English only.

Languages Supported in the User Documentation

The languages supported in the user documentation vary depending on the type of guide. For details, see the table below.

✓: Supported

—: Not supported

User documentation for the administrator

Language	Migration Guide: For Device Manager NX	Installation Guide	Administrator's Guide	Important Information about Device Configuration
English	✓	✓	✓	✓
German	✓	✓	✓	✓
French	✓	✓	✓	✓
Italian	✓	✓	✓	✓
Danish	—	—	—	—
Spanish	✓	✓	✓	✓
Dutch	✓	✓	✓	✓
Norwegian	—	—	—	—
Portuguese	—	—	—	—
Brazilian Portuguese	✓	✓	✓	✓
Russian	—	—	—	—
Japanese	✓	✓	✓	✓
Simplified Chinese	✓	✓	✓	✓
Traditional Chinese	—	—	—	—

User documentation for general users

Language	User's Guide	Reporting and Dashboards Guide	RICOH Streamline NX PC Client Operation Guide
English	✓	✓	✓
German	✓	✓	✓
French	✓	✓	✓

Language	User's Guide	Reporting and Dashboards Guide	RICOH Streamline NX PC Client Operation Guide
Italian	✓	✓	✓
Danish	✓	✓	✓
Spanish	✓	✓	✓
Dutch	✓	✓	✓
Norwegian	✓	✓	✓
Portuguese	✓	✓	✓
Brazilian Portuguese	✓	✓	✓
Russian	✓	✓	✓
Japanese	✓	✓	✓
Simplified Chinese	✓	✓	✓
Traditional Chinese	✓	✓	✓

1

2. Installing RICOH Streamline NX

This chapter describes how to install and activate the RICOH Streamline NX server software and how to create and back up a database.

Server System Requirements

Before installing RICOH Streamline NX, confirm that the following requirements have been met:

System	Requirements
Core server	**Recommended specifications** • CPU: Intel Xeon E5 V2 Product Family or later, or AMD Opteron 3300/4300/6300 Series or later • RAM: 4 GB • Hard disk space: 3 GB (not including database) **Minimum requirements** • CPU: Intel Core i5-2300 Product Family or later, Intel Xeon E3 Product Family or later, AMD FX 4200 Series or later, or AMD Opteron 3200/4200/6200 Series or later • RAM: 2 GB • Hard disk space: 2 GB (not including database) ⬇ **Note** • When a Delegation Server resides in the Core Server, an additional 1 GB of RAM and 1 GB of available hard disk space are required. • When the MIE Server resides in the Core Server, an additional 1 GB of RAM and 1 GB of available hard disk space are required. • When a Delegation Server or the MIE Server resides in the Core Server and uses the @Remote function, an additional 2 GB of RAM and 8 GB of available hard disk space are required.

System	Requirements
Delegation Server	**Recommended specifications** • CPU: Intel Xeon E5 V2 Product Family or later, or AMD Opteron 3300/4300/6300 Series or later • RAM: 4 GB • Hard disk space: 3 GB (not including database, print spool file, or storage space when scanning) 🔽 **Note** • When a Delegation Server or the MIE Server uses the @Remote function, an additional 1 GB of RAM and 7 GB of available hard disk space are required.
Server operating system	• Windows Server 2008 R2 Standard/Enterprise SP1 (64-bit) or later • Windows Server 2012 Standard/Datacenter (64-bit) • Windows Server 2012 R2 Standard/Datacenter (64-bit) • Windows Server 2016 Standard/Datacenter (64-bit)
Virtual environment	• VMWare ESXi 5.1, 5.5, 6.0, 6.5 • Windows Server 2008 Hyper-V • Windows Server 2012 Hyper-V • Windows Server 2012 R2 Hyper-V • Windows Server 2016 Hyper-V

System	Requirements
Database	**Standard (included)** • Microsoft SQL Server 2016 (Express) **Options** • Microsoft SQL Server 2008 R2 (Workgroup/Standard/Enterprise) • Microsoft SQL Server 2012 (Express/Standard/Business Intelligence/Enterprise) • Microsoft SQL Server 2014 (Express/Standard/Business Intelligence/Enterprise) • Microsoft SQL Server 2016 (Standard/Enterprise) • Microsoft Azure SQL • AWS SQL * When an optional database is used, a Microsoft Cluster Service (MSCS) environment can be created. In addition, the system and database can be installed on separate servers (except Microsoft SQL Server 2012 Express, Microsoft SQL Server 2014 Express, and Microsoft SQL Server 2016 Express).
External web server	IIS 7.5, 8, 8.5, 10
External directory server	• Windows Server 2008 R2 (Active Directory) • Windows Server 2012 (Active Directory) • Windows Server 2012 R2 (Active Directory) • Windows Server 2016 (Active Directory) * RICOH Streamline NX also supports most LDAP servers that conform with RFC. The implementation of RICOH Streamline NX depends on Java. For details about the RFCs with which the LDAP service provider of Java conforms, see: https://docs.oracle.com/javase/8/docs/technotes/guides/jndi/jndi-ldap.html For details about whether the external directory server conforms with your environment, contact a Ricoh service representative.

🔽Note

• RICOH Streamline NX can also be installed on a server with multiple Ethernet interfaces.

- The client computer requires one of the following web browsers to access the Management Console:

  - Internet Explorer 9/10/11

  - Firefox 54 ESR

  - Safari 9/10 (OS X 10.9 or later)

- If you want to manage more than 5,000 machines, modify the product configurations using the following procedure:

  1. Stop the following services:

     - RICOH SLNX Central Manager Service

     - RICOH SLNX Delegation Server Service

     - RICOH SLNX Mobile Intranet Extender Service

  2. Edit the following file to change the memory size:
     C:\Program Files\Ricoh\Streamline NX\configuration\wrapper-settings.conf
     Change the memory size as shown below:

     - set.COREMAXMEMORY=4096

     - set.DMMAXMEMORY=4096

  3. Start the following services:

     - RICOH SLNX Central Manager Service

     - RICOH SLNX Delegation Server Service

     - RICOH SLNX Mobile Intranet Extender Service

- You cannot use workflow-related functions under an IPv6 environment.
  IPv6 device addresses can be discovered and managed in RICOH Streamline NX when the host name is specified as the device address during Discovery. Other forms of IPv6 addresses are not supported in the current version.

- Japanese version of Streamline NX Mobile Application is currently not provided.

Installation Workflow

To install RICOH Streamline NX, use the following procedure to configure a web server and database.

⭐ **Important**

- **To use Internet Information Services (IIS) or a cluster environment, refer to the Microsoft website to configure the required environment before installing RICOH Streamline NX.**

1. ▶ **page 23 "Configuring Microsoft SQL Server (Optional)"**

   If not using the default SQL Express installation included in RICOH Streamline NX, install SQL Server and configure an instance to allow TCP/IP connections.

   ⬇ **Note**

   - For details about downloading and installing SQL Server, see the Microsoft website. https://msdn.microsoft.com/library/ms143219(v=sql.110).aspx
   - SQL Server 2016 Express provided with the product does not support Windows Server 2008 R2. For details about the operating system requirements of SQL Server, see the information released from Microsoft.

2. ▶ **page 26 "Installing RICOH Streamline NX"**

   Install the RICOH Streamline NX server software.

   There are three types of servers in this system: a Core Server, Delegation Servers, and MIE servers.

   ⬇ **Note**

   - If you did not create a database with the installation wizard, configure it with SQL Server Management Studio. For details, see page 35 "Configuring the Database".

3. ▶ **page 57 "Installing in a Cluster Environment (Optional)"**

   When installing RICOH Streamline NX in a cluster environment, perform the installation procedure using the installation wizard on each node according to the steps on page 26 "Installing RICOH Streamline NX", and then configure cluster resources with Failover Cluster Manager.

   ⬇ **Note**

   - For details, see page 57 "Cluster Installation Workflow".
   - For details about configuring the Windows cluster environment, see the Microsoft website.

4. ▶ **page 66 "Configuring Internet Information Services (IIS) (Optional)"**

RICOH Streamline NX comes with the Jetty web server. To use an IIS Microsoft Web server and make it public, install IIS and configure a redirect to Jetty.

⬇ **Note**

- For details about the IIS installation method, see the Microsoft website.
- RICOH Streamline NX does not support the use of IIS in a cluster configuration.

5. ▶ **page 36 "Activating RICOH Streamline NX"**

Use the product key to activate RICOH Streamline NX.

⬇ **Note**

- A 60-day trial license is available. For details, contact a Ricoh service representative.

6. ▶ **page 39 "Backing Up and Restoring RICOH Streamline NX"**

Back up the data files and database in case you need to reconfigure the system.

Configuring Microsoft SQL Server (Optional)

If not using the default SQL Express installation included in RICOH Streamline NX, install SQL Server and configure an instance to allow TCP/IP connections.

For details about downloading and installing SQL Server, see the Microsoft website.

⭐**Important**

- The SQL Server functions and requirements for configuring a RICOH Streamline NX environment are as follows:

Item	Description
SQL Server functions	- Database engine service (required) - Management Tools - Complete (only when executing SQL statements and Management Studio)
Instance requirements	Default and named instances
Database requirements	Specify a name for the database. The default name is "ricoh_slnx". When the system is upgraded from RICOH Device Manager NX, the default name is "ricoh_dmnx".
Connection account requirements	To create the RICOH Streamline NX database, sysadmin privileges are required because the following roles are needed during installation: serveradmin, securityadmin, dbcreator. - serveradmin: This is required to turn on SQL Common Language Runtime (CLR). CLR is used by the report functionality. - securityadmin: This is required for the installer to grant privileges to the account that will be used by the software for connecting to the database. The account used by the software for connecting to the database requires db_owner privileges. - dbcreator: This is required for creation of the database. To connect to the RICOH Streamline NX database, db_owner privileges are required.

⬇**Note**

- To configure the RICOH Streamline NX database, install SQL Server Management Studio on the server.

- Use either Windows authentication mode or combined mode for the SQL Server authentication mode. SQL Server authentication information is required to install RICOH Streamline NX. Do not forget the authentication information.

- If you install SQL Express using the installer bundled with RICOH Streamline NX before you run the RICOH Streamline NX installer, you can skip some installation steps described in this chapter. Refer to the readme file in the SQLServerExpress folder for instructions.

Configuring TCP/IP Connections on SQL Server Configuration Manager

1. **Start SQL Server Configuration Manager.**

2. **From the navigation tree, select [Protocols for <instance name>] (e.g., [Protocols for SQLEXPRESS]).**

3. **Double-click [TCP/IP] in the list on the right side of the window.**
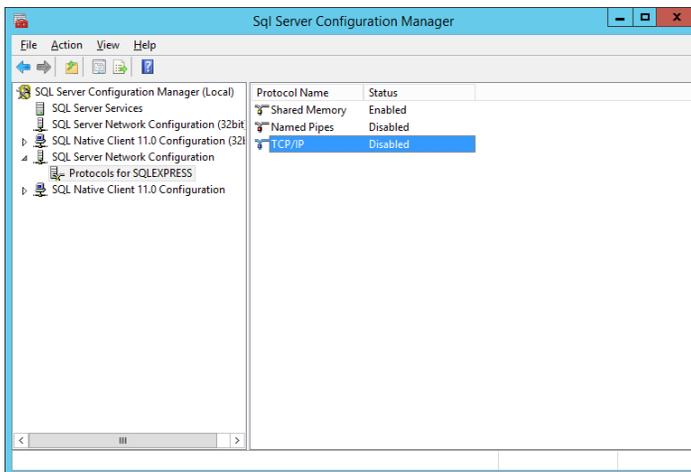
4. **Configure the following settings on the [TCP/IP Properties] window:**

    - [Protocol] tab

      Under [General], set [Enabled] to [Yes].

    - [IP Addresses] tab

      Under [IPALL], specify a port number for [TCP Port].

      Use the port number specified here when installing RICOH Streamline NX. You cannot enter 0 for a port number.

      To configure each IP address separately, under [IPAll], leave [TCP Port] blank, and then specify a port number for each IP address.

5. **Click [OK] to save the settings.**

6. **From the navigation tree, select [SQL Server Service].**

7. **Right-click [SQL Server (Instance Name)] in the list on the right side of the window, and select [Restart] from the menu that appears.**
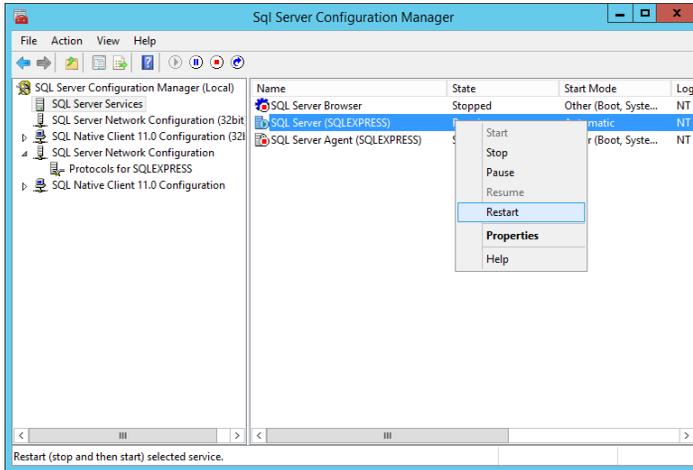
Installing RICOH Streamline NX

RICOH Streamline NX is provided with a 64-bit installer.

⭐ **Important**

- Install the software using a user account with administrative privileges. If using LDAP or AD groups, ensure you add the AD user to the local Administrator's Group on the RICOH Streamline NX Core Server.
- If Java Runtime Environment (JRE), Microsoft Visual C++ Runtime Library, and .NET Framework are not installed, you will be prompted to install these first before installing RICOH Streamline NX. JRE, Microsoft Visual C++ Runtime Library, and .NET Framework are required to use the following functions and must be installed to use RICOH Streamline NX:
    - JRE: Required to operate the RICOH Streamline NX system.
    - Microsoft Visual C++ Runtime Library: Required to operate the Certificate Management Tool.
    - .NET Framework: Required to operate the FMAudit.
- You can update the JRE in the same major version. For example, RICOH Streamline NX supports updates from "Java 8 Update 144" to "Java 8 Update 151".
- Install Bonjour on the MIE server. Install Bonjour before performing a typical installation or a custom installation to install a MIE server. For details about Bonjour, see Apple website. https://support.apple.com/kb/dl999
- After creating Print Resilience Database, you can share print jobs among two or more Delegation Servers. For details, see Planning Guide.
- Be sure to install PCL6 Driver for Universal Print on the operating system where the MIE Server is to be installed before starting RICOH Streamline NX installation. If the MIE Server is already installed, install PCL6 Driver for Universal Print, and then specify it as the printer driver for "SLNX Mobile (Internal)" in the printer properties dialog box.

1. **Double-click "Setup.exe" to run the installer.**
2. **Select the language to use for the installation, and click [OK].**

    ⬇ **Note**

    - You cannot change the language settings after the initial installation. To change the display language, you must uninstall and reinstall RICOH Streamline NX, changing the language selection during the installation. This language selection is independent of the regional language setting on the machine, meaning that you can run the software in Japanese even if the machine's regional setting is English. The display language in the Management Console will use the browser's language settings by default if it is a supported language. Otherwise, the language defaults to the system language.

3. **Click [Next].**

4. **Read the entire software license agreement. If you agree, select [I accept the terms in the license agreement], and then click [Next].**

5. **On the "User Information" window, enter your user name and organization name, and click [Next].**

   You can enter any string for the user name and organization name. The user name is stored in the registry. The organization name is sent to the Ricoh server when the software is activated or a usage report is sent.

6. **On the "Destination Folder" window, specify the installation folder.**

   Specify the installation destination of the system and the data save destination.

   The data save destination is used as the file repository. It also stores report templates, dashboard templates, and database information of Delegation Servers.

   The data save destination is not deleted when RICOH Streamline NX is uninstalled, and it can be used again after RICOH Streamline NX is installed. Delete the data manually if it is not required.

7. **Click [Next].**

8. **On the "Setup Type" window, select the installation type, and then click [Next].**

   - [Typical]

     A Typical install will place the Core Server, Delegation Server, MIE Server, SLP, FMAudit device monitoring engine and the supporting documentation all on this machine.

   - [Custom]

     Select and install only the functions you want to use. If you are setting up a distributed environment, ensure that you select Custom and make your selections as needed. Install the following functions as necessary:

2

Type	Function	Description
Servers	Core server	A Core Server is required to configure the RICOH Streamline NX environment.
	Delegation Server	At least one Delegation Server is required to configure the RICOH Streamline NX environment.
	MIE Server	A MIE server is required to use the RICOH Streamline NX functions from the mobile app.
	Documentation in PDF format	Install various manuals (in PDF format) in the following folder on the server: (Install path)\Documentation
Options	SLP	Install this on the Delegation Servers. SLP enables the RICOH Streamline NX PC Client to detect the Delegation Servers.
	External Card Reader: RF Ideas Ethernet 241 External Card Reader: Inepro IP Reader	Install this option when using a 3rd party card reader. You can use a 3rd party card reader when performing printing from the device. For details about the settings required to use a 3rd party card reader with RICOH Streamline NX, see External Ethernet Card Reader Setting Guide.
	FMAudit device monitoring engine	If you select the FMAudit device monitoring engine option when installing the Delegation Server, you can manage 3rd party devices. In addition, you can obtain information of a USB device from the client computer which USB Agent installed. **Note** • FMAudit Engine and USB Agent only support SNMP v1/v2 protocol. If SNMP v3 communication with non-Ricoh devices is required, disable the FMAudit device monitoring engine.

9. **On the "Service Logon Information" window, specify the information to use when logging in to a service.**

   • [Login as System account]

   Select this item to start a service using a Windows system account.

   • [Login as Windows account]

Select this item to start a service using a specific Windows account. Enter the Windows account user name and password.

Note

- If using Windows Authentication Mode with SQL Server, you must use a Windows account.

- The Delegation Server that communicates with the MIE server must use a Windows account.

- The authentication profile must be specified using the same name as NetBIOS domain name. You can confirm the correct NetBIOS domain name by checking the printer driver properties, for example.

- Once the Service Login Information is specified at installation, keep in mind that changing the Service Login Information may cause a problem at service startup if the new login is not provided with proper privileges in the operation system.

10. **Click [Next].**

11. **On the "Web Server" window, specify the port number of the server on which to install the software.**

   To use SSL to communicate with the server, select the [Use SSL/TLS] check box.

   The default port numbers are as follows:

Server	When not using SSL	When using SSL	Main application
Core Server	8080	51443	Connect to the Management Console
Delegation Server	9090	52443	Connect to a device
MIE server	10100	53443	Connect to a mobile device

Note

- To change the port number of the Delegation Server, specify a port number other than "443". The @Remote function uses port number 443.

- When SSL is not used, only the password is encrypted, and all other information is communicated with plaintext.

- If you are using IIS, the Core Server port will also be used when IIS communicates with the Core Server.

- If users configure automatic server detection in the mobile application, the application will attempt connection over HTTPS. This means that the client will need to have the required certificates installed to support that connection.

- When a different port number from the default is specified and the Core server's default browser is other than Internet Explorer, open the Windows Start Menu to launch the Admin

Console to connect to the default port instead of the configured port in the installer. In this case, try to restart the server or log out and in to the server after the installation.

12. Click [Next].

13. On the "Security Connection Keys" screen, click [Generate] as necessary.

A key is generated when the Core Server is installed. Be sure to make notes of the key and store it in a location only visible to the administrator. The stored key has the following applications:

Key type	Application
Delegation Server	This is required to install the Delegation Server on separate hardware.
MIE server	This is required to install the MIE server on separate hardware.
RICOH Streamline NX PC Client (optional)	Specifying of this key is optional. This is required to install RICOH Streamline NX PC Client to a client computer.
Embedded (optional)	Specifying of this key is optional. This is used by the Management Console when installing the Embedded Applications to a device.
User Management (optional)	Specifying of this key is optional. This key is required when you are installing an application that uses the cooperating API provided by RICOH Streamline NX. If you are not using the cooperating application, leave the key entry field blank.

Enter the saved key when performing a custom installation of only a Delegation Server or MIE server.

⬇️**Note**

- A key is generated automatically when you click [Generate].
- You can also specify any text string as the key.
- Leave the key entry field blank if you are not specifying any key.

14. Click [Next].

15. When selecting the [Use SSL/TLS] check box in Step 11, configure SSL on the "SSL Server Options" window. Otherwise, proceed to Step 16.

1. Specify the certificate authority connecting to the server.

• [Self-signed Certificates or Commercial Certificate Authority]

Select this option to have the software automatically create and use self-signed certificates. This option should also be selected if certificates purchased from a commercial certificate authority will be used. Installation of purchased certificates is done though the Management Console.

• [Active Directory Local Certificate Authority]

Use this if you have an Active Directory Certificate Authority. Enter the template name to use when generating an SSL certificate.

↓Note

• For the functional outlines and installation procedure of Active Directory Local Certificate Authority, see the Microsoft website.

• https://technet.microsoft.com/library/cc755071(v=ws.11).aspx

• https://technet.microsoft.com/library/jj717285(v=ws.11).aspx

• To use Active Directory Local Certificate Authority in RICOH Streamline NX, the following conditions must be fulfilled:

• The RICOH Streamline NX is participating in the same domain as the Active Directory Certificate service (AD CA)

• The account specified on the "Service Logon Information" screen is holding enroll/ autoenroll permission in the AD CA template.

• A template configured with the following settings is issued:

• On [Request Handling] - [Allow private key to be exported] is selected

• Select at least one attribute in [Subject Name] - [Build from the Active Directory information].

• DNS Name

• UPN

• SPN

• The appropriate permission (enroll/autoenroll) is specified

2. Click [Next].

3. On the "SSL Client options" window, configure the SSL client. To trust all certificates while operating the system, select the [Trust all Certificates]check box, and then click [Next].

16. **When installing the Core Server while performing a typical or custom installation, proceed to the next step. When skipping installation of the Core Server, proceed to Step 21.**

17. **On the "Core Server" window, specify the SQL Server address and port number.**

• [Address]

Enter the SQL Server address or hostname.

- [Port]

  Enter the SQL Server port number. The default is 1433.

- [Database Name]

  Enter the database name. The default name is "ricoh_slnx".

- [Run database creation scripts]

  Configure the database using the specified database name for SQL Server configured in the address field.

  Do not select this option in the following cases:

  - When installing SQL Server after installing RICOH Streamline NX

  - When running the database creation script without using the installer

  - When reinstalling RICOH Streamline NX

18. **Click [Next].**

19. **Configure the authentication information for connecting to the database.**

   When selecting the [Run database creation scripts] check box in Step 17, first configure the settings on the "Database Creation Logon Information" screen and then on the "Database Logon Information" screen in this order.

   When not selecting the [Run database creation scripts] check box in Step 17, configure only the settings on the "Database Logon Information" screen.

   - [Windows Authentication]

     Select this check box to connect to SQL Server using Windows Authentication.

   - [SQL Server Authentication]

     Enter the user name and password to perform authentication with SQL Server account information.

20. **Click [Next].**

   When the [Run database creation scripts] check box is selected in Step 17, database creation starts.

21. When performing a typical installation, specify SLP on the "SLP Configuration" window. When performing a custom installation, specify the following items according to the function to be installed.

Function	Description
Core Server	On the " Delegation Server" window, specify the address of the Delegation Server connected to the Core Server. • Address 　Enter the IP address or hostname of the Delegation Server. • [Use SSL/TLS] 　To use SSL to communicate with the Delegation Server, select the [Use SSL/TLS] check box. • HTTP port / HTTPS port 　Enter the port number to communicate with the Delegation Server.
Delegation Server	On the "Core Server" window, specify the address of the Core Server connected to the Delegation Server. • Address 　Enter the IP address or hostname of the Core Server. • [Use SSL/TLS] 　To use SSL to communicate with the Core Server, select the [Use SSL/TLS] check box. • HTTP port / HTTPS port 　Enter the port number to communicate with the Core Server.
MIE server	On the [Delegation Server] window, specify the address of the Delegation Server connected to the MIE server. • Address 　Enter the IP address or hostname of the Delegation Server. You can specify multiple servers by separating them using a comma. • [Use SSL/TLS] 　To use SSL to communicate with the Delegation Server, select the [Use SSL/TLS] check box. • HTTP port / HTTPS port 　Enter the port number to communicate with the Delegation Server.

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Function	Description
SLP	On the "SLP Configuration" window, specify the scope of the Delegation Server. • Scope Enter the string to be used by the RICOH Streamline NX PC Client to locate the Delegation Server automatically using the SLP protocol.

22. **Click [Next].**

23. **On the "Ready to Install the Program" window, click [Install].**

    The installation starts.

24. **When installation is completed, click [Finish].**

    On a client computer, navigate from the web browser to the following URL , and check that the login screen of the Management Console is displayed.

    • When not using SSL

      http://(IP-address-or-hostname-of-Core Server):(port-number)/index.html

    • When using SSL

      https://(IP-address-or-hostname-of-Core Server):(port-number)/index.html

↓Note

• When the [Run database creation scripts] check box is not selected in Step 17, the Management Console cannot be accessed until the database is configured. Configure the database using SQL Server Management Studio.

• After installation of the system is completed, the following services are installed according to the installed functions:

Installed function	Service
Core Server	RICOH SLNX Central Manager Service
Delegation Server SLP FMAudit	RICOH SLNX Delegation Server Service
MIE Server	RICOH SLNX Mobile Intranet Extender Service

• The Delegation Server will be started automatically; however, the Core Server is started automatically only if you opted to configure the database within the installation.

• The printer driver for the MIE server is installed at the same time as the server. The information of the installed printer driver is as follows:

- Printer Name: SLNX Mobile (Internal)

- Driver Name: Microsoft PCL 6 Class Driver

- Print Processor: winprint

- Port Name: (Not specified)

- When specifying a comma-separated list of Delegation Servers so that the MIE Server can use the failover function, the Delegation Servers must be installed using the same port configuration.

- To upgrade from a previous release of RICOH Streamline NX to the current version, you must upgrade the Core Server prior to upgrading the Delegation Servers. An upgraded Core Server can communicate with the Delegation Server from a previous release, but a new Delegation Server cannot communicate with a Core Server from a previous release. Ensure you upgrade the Core Server first.

Configuring the Database

If the database creation script was not running due to the external configuration of SQL Server or for another reason when the Core Server was installed, use SQL Server Management Studio to configure the database to link the Core Server and SQL database.

To configure the database, run "CreateSLNX_DB.sql" stored in the following path:

`<install_path>\configuration\core\database`

⭐**Important**

- When SQL Server Management Studio is operated from a server other than the Core Server, copy "CreateSLNX_DB.sql" from the Core Server to any location in advance.

1. **Stop the following services using [Services] in [Administrative Tools] on Windows:**

   RICOH SLNX Central Manager Service

2. **Start SQL Server Management Studio, and connect to an instance.**

3. **Select [Open] from the [File] menu and [File] from the submenu.**

4. **Open "CreateSLNX_DB.sql".**

5. **Click [Run] on the toolbar of SQL Server Management Studio.**

   Configuration of the database starts. When configuration is completed, "Query executed successfully." is displayed at the bottom of the window.

6. **Exit SQL Server Management Studio.**

7. **Start the following services using [Services] in [Administrative Tools] on Windows:**

   RICOH SLNX Central Manager Service

Activating RICOH Streamline NX

To use RICOH Streamline NX, activate the license using a product key. Choose from the base license (required) for use of the basic functions or the advanced license (optional) for activation of other functions. Purchase and activate the license to best suit your needs. For details about the license, see "List of Licenses and Functions", Administrator's Guide.

⭐Important

- A 60-day trial license is available. For details, contact a Ricoh service representative.

- When the trial license is within two weeks of expiring, a notification is displayed after you log in to the Management Console. Purchase a basic license before the trial license expires.

1. **Log in to the Management Console.**

   The default login name is "admin" and the password field is blank. Remember to change the password immediately after you login.

2. **When performing online activation in an environment using a proxy server to connect to the Internet, configure the proxy server.**

   1. Click the following items in the navigation tree to open the [Network Settings] tab:

[System] ▶ [Server Settings] ▶ [Network Settings]

   2. Configure the proxy server.

      For details about the setting items, see "Networking", Administrator's Guide.

   3. Click [Save].

3. **Click the following items in the navigation tree to open the [Activation/Usage Report] tab:**

[System] ▶ [Server Settings] ▶ [Activation/Usage Report]

4. **Click [Add].**

5. **Configure the following items to perform activation:**

Item	Description
Activation Type	• [Online]: Perform the activation online. • [Offline]: If the Core Server cannot connect to the Internet, perform the activation offline. From a computer connected to the Internet, navigate to the Ricoh license management website (https://licensemanagement.ricoh.com/aui/), and obtain the license code.

Item	Description
Product Key	Enter the product key.
License Code	When activating the software offline, enter the license code obtained from the Ricoh license management website.
Country	Select the country to use.
Company	Displays the organization name.

6. **Click [OK].**

7. **On the "Activation: Usage Report" window, click [Yes].**

   Activation is performed.

   When activation is successfully completed, a list of active licenses is displayed on the "Activation: Usage Report" window.

⬇ Note

- When configuring the system again, such as for a server migration, deactivate the current license to enable use of the license again in the future. For details, see "Migrating the System to Different Hardware", Administrator's Guide.

Deactivating the License

1. **Log in to the Management Console.**

2. **Click the following items in the navigation tree to open the [Activation/Usage Report] tab:**

   [System] ▶ [Server Settings] ▶ [Activation/Usage Report]

3. **Select the license to deactivate, and click [Delete].**

4. **Select the deactivation method.**

Item	Description
Activation Type	• Online Perform the activation online. • Offline If the Core Server cannot connect to the Internet, perform the deactivation offline.

5. **Click [OK].**

   This completes the online deactivation process. Perform the operations below to continue the offline deactivation process.

6. **Copy the license displayed on the screen, paste it to a text file, and save it.**

7. **While connecting to the Internet, navigate to the Ricoh license management website (https://licensemanagement.ricoh.com/aui/), and click [Deactivation].**

8. **Enter the saved license code in the form, and click [Next].**

9. **Follow the instructions on the screen to continue the deactivation process.**

Backing Up and Restoring RICOH Streamline NX

This section describes how to back up and restore RICOH Streamline NX.

The data storage location contains various files including report templates, dashboard templates, the Delegation Server database, and a file repository.

⭐**Important**

- Back up all servers at the same time.
- The following data is not backed up:
  - Setting values specified in the installer, including SQL Server connection information and service startup account information
  - Print data stored on servers
  - Setting values of the certificate management tools
- Reset the setting values of connection information and accounts while referring to the installation procedure. For details about installing the system, see page 21 "Installation Workflow". For details about the certificate management tools, see "Using the Certificate Management Tool", Administrator's Guide.
- To use the @Remote function, perform a data migration on the @Remote center side. Contact a Ricoh service representative before backing up or restoring the system.

Backing Up RICOH Streamline NX

Use the following procedure to back up the data folder.

1. **Stop the following services using [Services] in [Administrative Tools] on Windows:**
   - RICOH SLNX Central Manager Service
   - RICOH SLNX Delegation Server Service
   - RICOH SLNX Mobile Intranet Extender Service (only when a MIE server is configured)
2. **Back up the database using the backup tool provided with SQL Server.**
3. **Create a backup of the RSA encryption key.**

   The RSA encryption key backup/restore tool (PrivateKeyBackupRestore.exe) is stored in the following folder:

   `(Install path)\tools\SecurityTools\Core\PrivateKeyBackupRestore`

   Start the tool, and select [Backup]. Specify the store destination of the backup file, and then click [Backup/Restore].

Note

- The following account requirements apply when you use the RSA encryption key backup/restore tool:
  - Execute the tool by using a user account that has administrative privileges.
  - Execute the tool under the same user account as the account that is used to start the RICOH Streamline NX service.
  - The tool accesses the Windows registry when executed and requires the permission of the system or user account that was used to install RICOH Streamline NX.
- Specify a password comprising four or more characters while creating the backup file.
  The backup file (keypair.pem) is created in the specified destination when the backup process is successfully completed.

4. **Copy and keep all the data in the data folder.**

   By default, the data folder is located in the following path:

   `\ProgramData\Ricoh\Streamline NX\data`

   If the settings were changed after a backup was created, the following files may need to be backed up depending on the changed settings:

   Core Server

Changed setting	File to back up
SSL cipher suite (@Remote function)	\configuration\sslAtRemoteServer.properties
SSL cipher suite (client)	\configuration\sslClient.properties
SSL cipher suite (server)	\configuration\sslServer.properties

   Delegation Server

Changed setting	File to back up
SSL cipher suite (@Remote function)	\configuration\sslAtRemoteServer.properties
SSL cipher suite (client)	\configuration\sslClient.properties
SSL cipher suite (server)	\configuration\sslServer.properties

5. **Start the following services using [Services] in [Administrative Tools] on Windows:**

   - RICOH SLNX Central Manager Service
   - RICOH SLNX Delegation Server Service
   - RICOH SLNX Mobile Intranet Extender Service (only when configuring a MIE server)

Notes for RSA encryption keys and Security Connection Keys

- RSA Encryption Keys:

  Keys used by Core Server to encrypt/decrypt security connection keys to protect them in the database or on disk.

- Security Connection Keys:

  Keys defined by the administrator for services to exchange. This allows the RICOH Streamline NX services (RICOH SLNX Central Manager Service, RICOH SLNX Delegation Server Service, RICOH SLNX Mobile Intranet Extender Service) and applications to establish trust.

If you do not have a backup of the RSA encryption keys or want to change your RSA and Security Connection keys for security reasons, there are tools provided in RICOH Streamline NX to set new Security Connection Keys and generate new RSA encryption keys, using Core Server.

Change Security Connection Keys on Core Server and update them for all other Streamline NX services and applications. Reinstall MIE server, embedded applications, and RICOH Streamline NX PC Client if their Security Connection keys are changed. However, you can change the Security Connection Key on Delegation Server to the new key without reinstallation. If you do not have a backup of the RSA encryption keys but use the same Security Connection Keys when regenerating them, no action is required for the other Streamline NX services and applications.

Regenerate certificates tools (RegenerateCertificates.exe)

> This tool generates new RSA encryption keys and allows the administrator to set the Security Connection Keys for Delegation Server, MIE server, RICOH Streamline NX PC Client, Streamline NX Embedded application, and SDK User Management. When running on a cluster, this tool must be executed on the node on which the RICOH SLNX Central Manager Service is currently active.

> This tool resides under the following path on the Core Server:

> (Install path)\Tools\SecurityTools\Core\RegenerateCertificates

Set the security connection key on Delegation Server (SetSecurityConnectionKey.exe)

> To update the Security Connection Key on Delegation Server after changing it on Core Server, execute the SetSecurityConnectionKey on each Delegation server. If running on a cluster, this tool must be executed on the node on which the RICOH SLNX Delegation Server Service is currently active.

> This tool resides under the following path on Delegation Server:

> (Install path)\Tools\SecurityTools\DS\SetSecurityConnectionKey

Restoring RICOH Streamline NX

Use the following procedure to restore the database:

1. **Restore the backup data to the database.**

2. Place the data folder that has been backed up in the preferred new location.

When sslAtRemoteServer.properties, sslClient.properties, and sslServer.properties files are backed up, these files are overwritten in the configuration folder.

3. Restore the RSA encryption key.

The RSA encryption key backup/restore tool (PrivateKeyBackupRestore.exe) is stored in the following folder:

`(Install path)\tools\SecurityTools\Core\PrivateKeyBackupRestore`

Start the tool, and select [Restore]. Specify the stored backup file (keypair.pem), and then click [Backup/Restore].

↓Note

- The following account requirements apply when you use the RSA encryption key backup/restore tool:
    - Execute the tool by using a user account that has administrative privileges.
    - Execute the tool under the same user account as the account that is used to start the RICOH Streamline NX service.
    - The tool accesses the Windows registry when executed and requires the permission of the system or user account that was used to install RICOH Streamline NX.
- To restore the key, enter the password that was specified while creating the backup file.

4. Install RICOH Streamline NX.

When installing RICOH Streamline NX, specify the path to the parent folder of the data folder specified in Step 2. Also, do not select the [Run database creation scripts] check box.

For details about how to install the system, see page 26 "Installing RICOH Streamline NX".

Uninstalling RICOH Streamline NX

This section describes how to delete RICOH Streamline NX from the server.

SQL Server and the database are not removed when RICOH Streamline NX is uninstalled. For details about deleting the database and uninstalling SQL server, see the Microsoft website.

⭐ **Important**

- To continue using the current license on other hardware, deactivate the license before uninstalling the software.
- When RICOH Streamline NX is running in a cluster environment, delete cluster resources before deleting from the node.

1. **Close all programs.**
2. **Open Windows [Control Panel], and then click [Programs and Features].**
3. **Double-click [Streamline NX].**

   To uninstall only some functions such as separating the Core and Delegation Servers, click [Change] on the Control Panel menu, and select the functions to uninstall.

4. **Click [Yes].**
5. **If you installed RICOH Streamline NX in a cluster configuration, you can now remove the shared resource folders (Core and Delegation Servers) from the machines where the Core and Delegation servers were installed.**

⬇ **Note**

- RICOH Streamline NX can also be uninstalled using the installer.
- The data save destination is not deleted when RICOH Streamline NX is uninstalled, and it can be used again after RICOH Streamline NX is installed. Delete the data manually if it is not required.

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3. Installing RICOH Streamline NX PC Client

This chapter describes how to install RICOH Streamline NX PC Client on a client computer.

Operating Environment of RICOH Streamline NX PC Client

Before installing RICOH Streamline NX PC Client, confirm that the following requirements have been met.

Item	Requirements
Hardware	• CPU: Intel Core i3 or later, or AMD Athlon X2/Phenom or later • RAM: 2 GB • Hard disk space: 2 GB (not including database)
Operating system	• Windows 7 Home Basic/Home Premium/Professional/Enterprise/Ultimate (32/64 bit) • Windows 8.1 /Pro/Enterprise (32/64 bit) • Windows 10 Pro/Enterprise/Education (32/64 bit)
Middleware	• Citrix XenDesktop 7.14/7.5/7.6 (VDI Desktop)

Supported Printer Drivers

The Client Secure Print feature of RICOH Streamline NX PC Client supports the following RICOH printer drivers:

- PCL 6 Driver for Universal Print V4.0 or later
- PCL 6 printer driver
- PCL 5 printer driver
- RPCS printer driver
- PS Driver for Universal Print V4.0 or later
- PostScript 3 printer driver

⬇ Note

- You can download PCL6 Driver for Universal Print and PS Driver for Universal Print from Ricoh's global website:

http://support.ricoh.com/bb/html/dr_ut_e/rc3/model/p_i/p_i.htm

- RICOH Streamline NX PC Client can also be installed on a client computer with multiple Ethernet interfaces.

- To install a printer on the Delegation Server or client computer, it is convenient to use a driver package created in Printer Driver Packager NX/Ridoc Ez Installer NX for installation. Configure the followings when creating a driver package.

  - To install a printer on the Delegation Server

    - Specify the port appropriate for the connection between the server and device.

    - Configure the printer as a shared printer.

  - To install a printer on a client computer

    - Specify Secure Print Port as the port. For how to specify the port name, see the user's guide of Printer Driver Packager NX/Ridoc Ez Installer NX. In addition, RICOH Streamline NX PC Client must be installed to create Secure Print Port.

Installing RICOH Streamline NX PC Client

RICOH Streamline NX PC Client can be silently or manually installed.

Silent Installation

This installs the software without displaying the installer window.

Manual Installation

Run the RICOH Streamline NX PC Client installer and follow the instructions on the installer window.

⭐ **Important**

- Log on using a user account with Administrator privileges.
- Close all running applications, and check that there are no print jobs on the computer.

🔽 **Note**

- The RICOH Streamline NX PC Client installer is stored in the "PC Client" folder on the installation media. Use one of the following installers according to your operating system:
  - The x64_2000.zip is the installer for 64-bit Windows.
  - The x86_2000.zip is the installer for 32-bit Windows.

Installing RICOH Streamline NX PC Client Silently

To perform a silent installation on a client computer, create a batch file with the specified values required for installation.

1. **Store the RICOH Streamline NX PC Client installer on a server.**
2. **Create a batch file that includes the following command:**

```
(installer storage destination path)\Setup.exe /s /l %TEMP%
InstallPath="(installation directory)" DataPath="(data file storage
directory)" DSServer=(IP address) AcceptEula=Yes SSLCertType=(SSL server
option) SSLTemplate=(SSL certificate template name)
TrustAllCertificates=(trust certificate or not) HttpPort=(HTTP port number)
HttpsPort=(HTTPS port number) WindowsAuthentication=(use Windows
Authentication or not) SoftwareUpdate=(software update method)
UsageReport=(send usage report or not) Profile=(location profile)
```

In "(installer storage destination path)", specify a shared folder such as a file server. Run using an account with read and write privileges on the installer storage folder.

Specify the command and options to be run according to the usage environment. For details, see the table below.

Command/option	Description
/s	Changes to silent installation mode.
/l	Creates a folder for saving Setup.log.
InstallPath	Specify the installation destination directory. The default path is C:\Program Files\Ricoh\Streamline NX\PC Client.
DataPath	Specify the data file (job data, etc.) storage directory. The default path is C:\ProgramData\Ricoh\Streamline NX\PC Client.
DSServer	Specify the IP address or hostname of the Delegation Server.
DSServerHttpPort	Specify the HTTP port number of the Delegation Server.
DSServerHttpsPort	Specify the HTTPS port number of the Delegation Server.
AcceptEula	Specify whether or not to accept the license agreement. Read the entire software license agreement. If you agree, select [Yes].
SSLCertType	Specify the SSL server option. • NoSSL: Do not use SSL (default). • SelfSignedCertificates: Use self-signed certificates. • LocalCertificate: Use Windows Authentication authority certificates.
SSLTemplate	Specify this when selecting LocalCertificate for SSLCertType. Specify the template name to use when generating an SSL certificate.
TrustAllCertificates	Specify whether or not to trust all certificates.
HttpPort	Specify the HTTP port number used to obtain the print settings from the Delegation Server. The default is 58008.
HttpsPort	Specify the HTTPS port number used to obtain the print settings from the Delegation Server. The default is 58443.
WindowsAuthentication	Specify whether or not to use the Windows logon user name and password as the authentication information of print jobs. The default is [Yes (use)].

3

Command/option	Description
SoftwareUpdate	Specify the software update method. You can update the software when the installer for the new version is stored on a Delegation Server. • autoInstall: Updates are automatically installed. • autoCheck: Check for updates and specify whether or not to install them. • neverCheck: Updates re not checked (default). To update the software, store the RICOH Streamline NX PC Client installer on the Delegation Server. If the data save destination on the Delegation Server has not been changed, the system checks the version of the installer stored in one of the following paths. When a new version is found, the system updates the software. • C:\ProgramData\Ricoh\Streamline NX\data\repository\software_upgrades\PCCLIENT\X64 • C:\ProgramData\Ricoh\Streamline NX\data\repository\software_upgrades\PCCLIENT\X86
UsageReport	Specify whether or not to send usage report data regularly to Ricoh. Usage report data is used to enhance the functions. Personal information is not included. true: Send (default). false: Do not send.
Profile	Specify the location profile to be applied to RICOH Streamline NX PC Client by the profile name specified in the Management Console.
SlpScope	Specify the scope for SLP.
SecurityConnectionKey	Specify the security connection key to connect to the servers.

3. **Save the batch file.**

4. **Run the batch file on the client computer to install RICOH Streamline NX PC Client.**

   The silent installation starts.

Installing RICOH Streamline NX PC Client Manually

1. **Double-click "Setup.exe".**

   When User Account Control is enabled, the User Account Control window appears. Click [Yes].

2. **Click [Next] on the start installation window.**

3. **Read the entire software license agreement. If you agree, select [I accept the terms in the license agreement], and then click [Next].**

4. **Specify the installation folder, and click [Next].**

   Specify the installation destination of the system and the data save destination.

   The print job data of Client Secure Print is encrypted and stored in the data save destination.

5. **Configure the following settings on the Delegation Server settings window:**

   - [Server Name or IP Address]

     Enter the server name or IP address of the Delegation Server. You can specify multiple servers by separating them using a comma.

   - [HTTP port]

     Enter the HTTP port number of the Delegation Server. The default is 9090.

   - [HTTPS port]

     Enter the HTTPS port number of the Delegation Server. The default is 52443.

6. **Enter the security connection key, and click [Next].**

   The security connection key ensures that only clients that know the connection key can connect to other services in Streamline NX. The security connection key entered during installation of the RICOH Streamline NX PC Client must match the one that was entered during installation of the Core Server.

7. **Enter the Scope, and click [Next].**

   Enter the string to be used by the RICOH Streamline NX PC Client to locate the Delegation Server automatically using the SLP protocol.

8. **Enter the name of the profile, and click [Next].**

   If you do not specify a location profile, the default profile will be applied.

9. **Configure the SSL server option, and click [Next].**

   - [Do not use SSL]

     SSL is not used. When SSL is not used, only the password is encrypted, and communication is performed with plaintext.

   - [Self-signed Certificate]

     Use self-signed certificates.

   - [Windows Local Certificate Authority]

Use Windows Authentication authority certificates. Enter the template name to use when generating an SSL certificate.

For details about the SSL certificate templates, see the Microsoft website.

10. **To trust all certificates, select [Trust all Certificates], and click [Next].**

11. **Specify the HTTP or HTTPS port number used to obtain the print settings from the Delegation Server, and click [Next].**

    The default HTTP port number is 58008, and the default HTTPS port number is 58443.

12. **When using the Windows logon user name and password as the authentication information of print jobs, select the [Use Windows authentication] check box, and click [Next].**

13. **Select the software update method, and click [Next].**

    You can update the software when the installer for the new version is stored on a Delegation Server.

    - [Install updates automatically]

      Updates are automatically installed.

    - [Check for updates automatically but choose whether to install or not]

      Check for updates and specify whether or not to install them.

    - [Disable auto update]

      Updates are not checked.

    To update the software, store the RICOH Streamline NX PC Client installer in .zip format on the Delegation Server. If the data save destination on the Delegation Server has not been changed, the system checks the version of the installer stored in one of the following paths. When a new version is found, the system updates the software at startup of the software.

    - C:\ProgramData\Ricoh\Streamline NX\data\repository\software_upgrades\PCCLIENT\X64

    - C:\ProgramData\Ricoh\Streamline NX\data\repository\software_upgrades\PCCLIENT\X86

14. **Specify whether or not to send a usage report to Ricoh, and click [Next].**

    Click [Details] to display the information sent to Ricoh.

    The following information is sent. Personal information is not included.

    - Locale information and type of the operating system of the client computer with RICOH Streamline NX PC Client installed

    - ID information of RICOH Streamline NX PC Client (GUID)

    - Operation information of RICOH Streamline NX PC Client

15. **Click [Install] on the start installation window.**

16. **When the installation is completed, click [Complete].**

3

Uninstalling RICOH Streamline NX PC Client

You can uninstall, change, or repair RICOH Streamline NX PC Client as necessary.

Also, you can uninstall RICOH Streamline NX PC Client silently or manually.

Silent Uninstallation

This uninstalls the software by running a command in Command Prompt or running a batch file. No installer window is displayed.

Manual Uninstallation

Run the installer and follow the instructions on the installer window.

⭐ **Important**

- Log on using a user account with Administrator privileges.
- Close all running applications, and confirm that there are no print jobs on the computer.

Uninstalling RICOH Streamline NX PC Client Silently

⭐ **Important**

- A silent uninstallation does not delete the data in the data folder.

1. **Use Command Prompt to run the following command, or run the batch file in the following command:**

   `<installer_storaged_path>\Setup.exe /s /x`

⬇ **Note**

- In "<installer_storaged_path>", specify the following path:
    - Installer storage folder path of Setup.exe in C:\ProgramData\Package Cache
    - Shared folder path such as a file server
- When specifying the Setup.exe file of the shared folder, run a batch file using an account with data read and write privileges of the shared folder. However, when specifying the save destination of the log file to a folder with the write privilege, run commands with read privileges.

Uninstalling RICOH Streamline NX PC Client Manually

This section describes how to uninstall the software from the Windows Control Panel. You can also change the installation without uninstalling the software.

1. **Open Windows [Control Panel]** ▶ **[Programs]** ▶ **[Programs and Features].**
2. **In the list of programs, right-click [RICOH Streamline NX PC Client].**

3. **Select the operation to perform.**

   Uninstall

   > This uninstalls the software. Click [Next], and continue with the wizard while following the instructions on the screen.

   > When [Delete the Data Folder] is checked, spooled print jobs are deleted.

   Change

   > This changes or repairs the software settings. To change the connected Delegation Server or when an error occurs and RICOH Streamline NX PC Client is not operating properly, click [Change] or [Repair], and follow the wizard.

   > For details about the setting items for changing the settings, see page 50 "Installing RICOH Streamline NX PC Client Manually".

4. **When the installation is completed, click [Finish] to close the wizard.**

Note

- RICOH Streamline NX PC Client can also be uninstalled, changed, or repaired by running the installer.

- If operations do not improve after the installation is repaired, uninstall the software and install it again. Even if you uninstall the software with the [Delete the Data Folder] check box selected, the setting values of the previous installation are automatically applied.

3

4. Troubleshooting

This chapter describes the cause and solutions to resolve problems that can occur when the software is installed.

Troubleshooting

When You Cannot Install the Core Server or Delegation Server

Cause	Solutions
The system on which the software is installed does not meet the installation requirements of RICOH Streamline NX.	Check the system on which the software is installed, and configure the system again so that it meets the installation requirements of RICOH Streamline NX. ⬇ Note • For details, see page 17 "Server System Requirements".
You are trying to install the software using a user account that does not have Administrator privileges.	Install the software using a user account with Administrator privileges.
Ricoh software that is not compatible with RICOH Streamline NX is installed.	Check for other Ricoh software programs, and uninstall them.
The latest version of RICOH Streamline NX has already been installed.	When the installation starts, the software checks for the latest version automatically. If the latest version of RICOH Streamline NX has already been installed, cancel installation.
The port number entered in the installer conflicts with the one used by the system.	Specify a port number not used by the system.
The security connection key is incorrect.	• Specify the correct key. • If you lost the key, generate the key again, and configure the servers and applications that require the key to use the regenerated key. For details, see page 41 "Notes for RSA encryption keys and Security Connection Keys".

Problems When Installing RICOH Streamline NX PC Client

Cause	Solutions
The system on which the software is installed does not meet the installation requirements of RICOH Streamline NX PC Client.	Check the system on which the software is installed, and configure the system again so that it meets the installation requirements of RICOH Streamline NX PC Client. **↓Note** • For details, see page 45 "Operating Environment of RICOH Streamline NX PC Client".
The proper installer is not used.	RICOH Streamline NX PC Client is provided with 32-bit and 64-bit installers. Use the installer that matches the operating system on which the software is installed.
You are trying to install the software using a user account that does not have Administrator privileges.	Install the software using a user account with Administrator privileges.
An application other than the installer is running.	Close all running applications.
The computer on which the software is installed is printing a job.	Wait for the job to complete or cancel the job.

5. Appendix

This chapter describes how to implement the system in a cluster environment, configure IIS, and install USB Agent.

Installing in a Cluster Environment (Optional)

This section describes how to install RICOH Streamline NX in a cluster environment. This section describes the workflow when a Windows cluster environment is properly configured in advance. For details about configuring the Windows cluster environment, see the Microsoft website.

✦ Note

- Before installing the software in a cluster environment, assign each installation target server a server name, IP address, and shared disk.

- This documentation assumes that SQL Server is already installed and configured. For details about installing SQL Server in the cluster environment, see the Microsoft website.

- You can use the following procedure for clustering the Delegation Server if you are using it for scan and/or device management functions. If you are using a cluster for high availability printing, the Delegation Server must be installed on the virtualized print server. For details on high availability printing in a cluster, see the Microsoft website.
  https://technet.microsoft.com/en-us/library/jj556313.aspx

- When using RICOH Streamline NX in a cluster environment, do not use the SSL option to use a Windows Certificate Authority (or Active Directory Local Certificate Authority).

Cluster Installation Workflow

For details about installing the software in a RICOH Streamline NX cluster environment, see the following workflows according to the server configuration.

1. ▶ **Installing the Core Server, Delegation Server, or MIE server on each node**

   Install the Core Server, Delegation Server, or MIE server on all nodes used as failover destinations.

   Installing only the Core Server in the cluster

   > When installing the Core Server, specify only one node to run the database creation script. During installation of the Core Server, specify the data storage path as a location on the Core shared disk. Make sure to specify the same path when installing on each node. This shared disk must be available to the node at the time of installation.
   >
   > **✦ Note**
   >
   > - For details about installing the Core Server, see page 26 "Installing RICOH Streamline NX".

Installing only the Delegation Server in the cluster

During installation of the Delegation Server, specify the data storage path as a location on the DS shared disk. Make sure to specify the same path when installing on each node. This shared disk must be available to the node at the time of installation.

⬇Note

- For details about installing the Delegation Server, see page 26 "Installing RICOH Streamline NX".

Installing only the MIE server in the cluster

During installation of the MIE Server, specify the data storage path as a location on the MIE shared disk. Make sure to specify the same path when installing on each node. This shared disk must be available to the node at the time of installation.

⬇Note

- For details about installing the MIE server, see page 26 "Installing RICOH Streamline NX".

Installing the Core Server with the Delegation Server and/or MIE server in the same cluster

When installing the Core Server, specify only one node to run the database creation script. During installation of the Core Server, specify the data storage path as a location on the Core shared disk. Make sure to specify the same path when installing on each node. This shared disk must be available to the node at the time of installation.

⬇Note

- For details about installing the servers, see page 26 "Installing RICOH Streamline NX".

When installing with a Delegation Server:

Only when the installing servers to the first node, the following data must be moved from the Core shared disk to the DS shared disk:

1. Move the dm folder.

   From: <core_shared_disk_datastoragepath>\data\configuration\dm

   To: <ds_shared_disk_datastoragepath>\data\configuration\dm

2. Move the DS folder.

   From: <core_shared_disk_datastoragepath>\data\DS

   To: <ds_shared_disk_datastoragepath>\data\DS

When installing with an MIE Server:

Only when the installing servers to the first node, the following data must be moved from the Core shared disk to the MIE shared disk:

1. Move the mie folder.

   From: <core_shared_disk_datastoragepath>\data\configuration\mie

   To: <mie_shared_disk_datastoragepath>\data\configuration\mie

2. Move the DS folder.

   From: <core_shared_disk_datastoragepath>\data\MIE

   To: <mie_shared_disk_datastoragepath>\data\MIE

Installing the Delegation Server with the MIE server in the same cluster

Only when the installing servers to the first node, the following data must be moved from the DS shared disk to the MIE shared disk:

1. Move the mie folder.

   From: <ds_shared_disk_datastoragepath>\data\configuration\mie

   To: <mie_shared_disk_datastoragepath>\data\configuration\mie

2. Move the MIE folder.

   From: <ds_shared_disk_datastoragepath>\data\MIE

   To: <mie_shared_disk_datastoragepath>\data\MIE

🔽**Note**

- For details about installing the Core Server, see page 26 "Installing RICOH Streamline NX".

2. ▶ **page 60 "Editing the RICOH Streamline NX Configuration"**

To edit the configuration of RICOH Streamline NX, perform the following operation:

- Change the startup type of the RICOH Streamline NX service from [Automatic] to [Manual].

- Use the Management Console to delete the Delegation Server.

- Register the port number specified with the installer as an exception to the firewall.

🔽**Note**

- When installing the Core Server, Delegation Server, and MIE server in the same cluster, edit the properties file on the Delegation Server and the MIE server.

3. ▶ **Configure the cluster resources**

Run the Failover Cluster Manager, and configure the cluster resources of the each server.

- Core Server

  page 62 "Configuring the Cluster Resources of the Core Server"

- Delegation Server

  page 63 "Configuring the Cluster Resources of the Delegation Server"

- MIE server

  page 64 "Configuring the Cluster Resources of the MIE Server"

4. ▶ **page 36 "Activating RICOH Streamline NX"**

Use the product key to activate RICOH Streamline NX.

⬇ **Note**

- A 60-day trial license is available. For details, contact a Ricoh service representative.

Editing the RICOH Streamline NX Configuration

You can edit the configuration of the Core Server, Delegation Servers, and MIE servers.

Before editing, install the Core Server, Delegation Servers, and MIE servers on each node. For details, see Step 1 of the workflow described in page 57 "Cluster Installation Workflow".

Changing the service startup method

1. **Open [Services] in [Administrative Tools] on Windows.**

2. **Change [Startup Type] from [Automatic] to [Manual] for the following services:**

   - When editing the Core Server configuration

     RICOH SLNX Central Manager Service

   - When editing the Delegation Server configuration

     RICOH SLNX Delegation Server Service

   - When editing the MIE server configuration

     RICOH SLNX Mobile Intranet Extender Service

   After this is performed, Administrative Tools in Windows cannot be used to stop or start these services.

Deleting the Delegation Server

When the Delegation Server is installed on a node, the service of the Delegation Server starts automatically and it is registered to the Core Server. When clustering a node, use the Management Console to delete the registration of the Delegation Server.

1. **Use a web browser to navigate to the following URL and access the Management Console.**

   - When not using SSL

     http://(IP-address-or-hostname-of-Core Server):(port-number)/index.html

   - When using SSL

     https://(IP-address-or-hostname-of-Core Server):(port-number)/index.html

2. **Log in with a user name and password.**

3. **Use the navigation tree to open the [Server Group] node under [Server Management].**

4. **In the server list, search for the hostname or IP address of any cluster nodes that may have been registered as Delegation Servers. Any cluster nodes that have been registered as Delegation Servers must be deleted.**

5. **Select the Delegation Server to be deleted, and click ⊖ (Delete).**

6. **Confirm that the Delegation Server has been deleted from the list.**

7. **You can delete other Delegation Servers to be clustered using the same procedure.**

Editing the properties file

1. **Use Windows Explorer to open the following folder:**

   - When editing the Delegation Server configuration

     `<ds_shareddisk_location>\data\configuration\dm\`

   - When editing the MIE server configuration

     `<mie_shareddisk_location>\data\configuration\mie\`

2. **Open the following properties file in a text editor.**

   - When editing the Delegation Server configuration

     dm.properties

   - When editing the MIE server configuration

     mie.properties

3. **Edit the following line.**

   When editing the Delegation Server configuration

   ```
   core.address=(IP-address-or-hostname-of-Core-Server)
   ```

5

When editing the MIE server configuration

```
ds.server.address=(IP-address-or-hostname-of-Delegation-Server)
```

In "(IP-address-or-hostname)", specify the IP address of the cluster resources or server operated by the Core Server.

Configuring a port

Register the port number specified when installing the Core Server, Delegation Servers, and MIE servers as an exception to the firewall. For details, see the user's guide or technical information of the firewall system being used.

Configuring the Cluster Resources of the Core Server

Use the Failover Cluster Manager of Windows to configure the cluster resources of the Core Server.

1. **Start the server manager, and from the [Tool] menu, run [Failover Cluster Manager].**

2. **From the navigation tree on the left side of the window, select [Roles].**

3. **In the [Actions] list on the right side of the window, click [Configure Role].**

4. **On the [Before You Begin] window, click [Next].**

5. **On the [Select Role] window, select [Generic Service], and click [Next].**

6. **On the [Select Service] window, select [RICOH SLNX Central Manager Service], and click [Next].**

7. **On the [Client Access Point] window, enter the name that the client computer will use to access the cluster, and click [Next].**

8. **On the [Select Storage] window, select the shared disk that was selected as the "data storage path" during installation.**

   This storage area must always be accessible even when a failover is performed by the cluster and the RICOH SLNX Central Manager Service is run by another node.

9. **On the [Replicate Registry Settings] window, register the key "SOFTWARE\RICOH\MDM \Keys\Core", and click [Next].**

10. **Check the settings, and click [Next].**

11. **Use a web browser to connect to the server to check that the configuration is correct.**

12. **Fail over the cluster role at each node to check that you can log in to the Management Console of RICOH Streamline NX.**

Configuring the Cluster Resources of the Delegation Server

Use the Failover Cluster Manager of Windows to configure the cluster resources of the Delegation Server.

1. **Start the server manager, and from the [Tool] menu, run [Failover Cluster Manager].**
2. **From the navigation tree on the left side of the window, select [Roles].**
3. **In the [Actions] list on the right side of the window, click [Configure Role].**
4. **On the [Before You Begin] window, click [Next].**
5. **On the [Select Role] window, select [Select Role], and click [Next].**
6. **On the [Select Service] window, select the following services, and click [Next].**

   RICOH SLNX Delegation Server Service
7. **On the [Client Access Point] window, enter the name that will be used to access the cluster, and click [Next].**
8. **On the [Select Storage] window, select the storage area that will become the repository of the Delegation Server.**

   This storage area must always be accessible even when a failover is performed by the cluster and the services are run on another node.
9. **On the [Replicate Registry Settings] window, register the key "SOFTWARE\RICOH\MDM\Keys\DS", and click [Next].**
10. **Check the settings, and click [Next].**
11. **If the service starts automatically, use the Failover Cluster Manager to take it offline.**
12. **When installing the Delegation Server in a different cluster than that of the Core Server, proceed to Step 16.**
13. **Use Windows Explorer to open the following folder in each node:**

    `<install_path>\configuration\dm`
14. **Open the wrapper.conf file in a text editor.**
15. **Replace "%DATASTORAGEPATH%" to be the full path to the data storage path on the Delegation Server shared disk.**

    Original example:

    ```
    wrapper.java.additional.4=-Dconf.datastoragepath="%DATASTORAGEPATH%"
    wrapper.app.parameter.4="%DATASTORAGEPATH%/data/configuration/dm"
    wrapper.app.parameter.6="%DATASTORAGEPATH%/data/workspace"
    ```

    To be:

```
wrapper.java.additional.4=-Dconf.datastoragepath="F:\DS"
wrapper.app.parameter.4="F:/DS/data/configuration/dm"
wrapper.app.parameter.6="F:/DS/data/workspace"
```

Where "F" is the drive letter of the "data storage path" selected during installation if the Core Server was not installed, or the <ds_shared_disk_datastoragepath> where the data was moved when the Core Server is installed.

16. **Make the cluster resource available online.**

17. **Use a web browser to navigate to the following URL and access the Management Console.**

    • When not using SSL

      http://(IP-address-or-hostname-of-Core Server):(port-number)/index.html

    • When using SSL

      https://(IP-address-or-hostname-of-Core Server):(port-number)/index.html

18. **Log in with a user name and password.**

19. **Use the navigation tree to open the [Server Group] node under [Server Management].**

20. **Check that the server with the name specified on the [Client Access Point] window in Step 7 is displayed in the server list.**

21. **Fail over the cluster role at each node to check that operations are normal.**

    Log in to the Management Console of RICOH Streamline NX, and check that a polling task or device configuration task is successfully performed on the device monitored by a clustered Delegation Server.

Configuring the Cluster Resources of the MIE Server

Use the Failover Cluster Manager of Windows to configure the cluster resources of the MIE server.

1. **Start the server manager, and from the [Tool] menu, run [Failover Cluster Manager].**

2. **From the navigation tree on the left side of the window, select [Roles].**

3. **In the [Actions] list on the right side of the window, click [Configure Role].**

4. **On the [Before You Begin] window, click [Next].**

5. **On the [Select Role] window, select [Select Role], and click [Next].**

6. **On the [Select Service] window, select the following services, and click [Next].**

    RICOH SLNX Mobile Intranet Extender Service

7. **On the [Client Access Point] window, enter the name that will be used to access the cluster, and click [Next].**

8. **On the [Select Storage] window, select the storage area that will become the repository of the MIE server.**

   This storage area must always be accessible even when a failover is performed by the cluster and the services are run on another node.

9. **On the [Replicate Registry Settings] window, register the key "SOFTWARE\RICOH\MDM \Keys\MIE", and click [Next].**

10. **Check the settings, and click [Next].**

11. **If the service starts automatically, use the Failover Cluster Manager to take it offline.**

12. **When installing the MIE server in a different cluster than that of the Core Server or Delegation Server, proceed to Step 16. If Core and MIE are installed on the same cluster, you should also proceed to Step 13.**

13. **Use Windows Explorer to open the following folder in each node:**

    `<install_path>\configuration\mie`

14. **Open the wrapper.conf file in a text editor.**

15. **Replace "%DATASTORAGEPATH%" to be the full path to the data storage path on the MIE server shared disk.**

    Original example:

    ```
    wrapper.java.additional.2=-Dconf.datastoragepath="%DATASTORAGEPATH%"
    wrapper.app.parameter.4="%DATASTORAGEPATH%/data/configuration/mie"
    wrapper.app.parameter.6="%DATASTORAGEPATH%/data/workspace"
    ```

    To be:

    ```
    wrapper.java.additional.2=-Dconf.datastoragepath="H:\MIE"
    wrapper.app.parameter.4="H:/MIE/data/configuration/mie"
    wrapper.app.parameter.6="H:/MIE/data/workspace"
    ```

    Where "H" is the drive letter of the "data storage path" selected during installation if the MIE server was installed by itself on the cluster, or the <mie_shared_disk_datastoragepath> where the data was moved when the Core Server or Delegation Server is installed.

16. **Make the cluster resource available online.**

17. **Fail over the cluster role at each node to check that operations are normal.**

    Log in to RICOH Streamline NX from a mobile device, and check that the spooled print jobs and capture workflows are displayed.

5

Configuring Internet Information Services (IIS) (Optional)

RICOH Streamline NX comes with the Jetty web server. To use Microsoft web server's Internet Information Services (IIS) to make a server public, install IIS and configure a redirect to Jetty.

⭐ **Important**

- Check that the version of IIS is 7.0 or later.
- Check that IIS Application Request Routing Version 3.0 (ARR) has been installed using Web Platform Installer (http://www.iis.net/downloads/microsoft/application-request-routing) or that the following ARR components have been separately installed:
    - URL Rewrite 2.0
    - Web Farm Framework 1.1
    - Application Request Routing 3.0
    - External Cache 1.0

↩ **Note**

- To conform with IIS standards, use IIS Manager and specify 0 for the following setting:
- [Application Request Routing Cache] ▶ [Server Proxy Settings] ▶ [Application Request Routing] ▶ [Buffer Setting] ▶ [Response Buffer threshold (KB)]
- If IIS is not configured properly, the client will not receive a message from the server, and the data displayed on the device list and task log list may not be automatically updated.
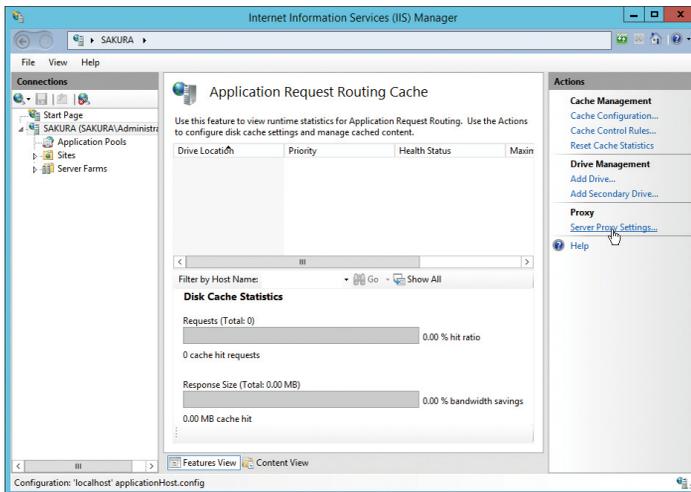
Configuring IIS with IIS Manager

1. **Install IIS on the server with RICOH Streamline NX installed.**

    For the IIS installation method, see the Microsoft website.

2. **Start IIS Manager.**

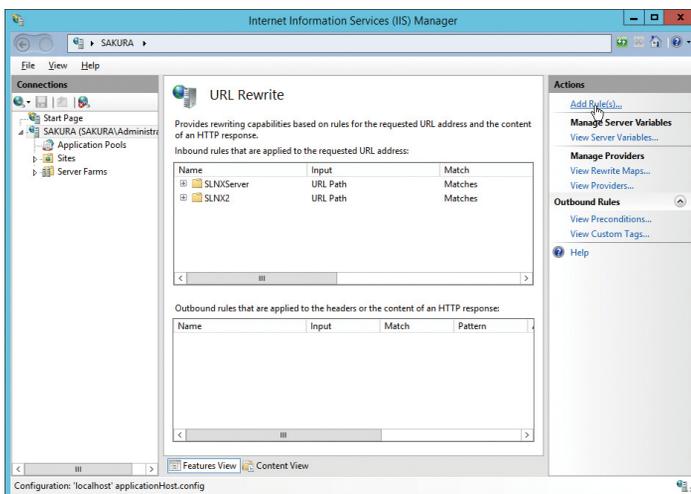3. **Double-click [Application Request Routing Cache] in IIS Manager.**

4. Click [Server Proxy Settings] in the [Actions] pane.

5. Select [Enable proxy], and click [Apply] in the [Actions] pane.

6. Click [URL Rewrite] in IIS Manager.

7. Click [Add Rule(s)] in the [Actions] pane.

8. From [Inbound rules] on the [Add Rules(s)] window, select [Blank rule] and click [OK].
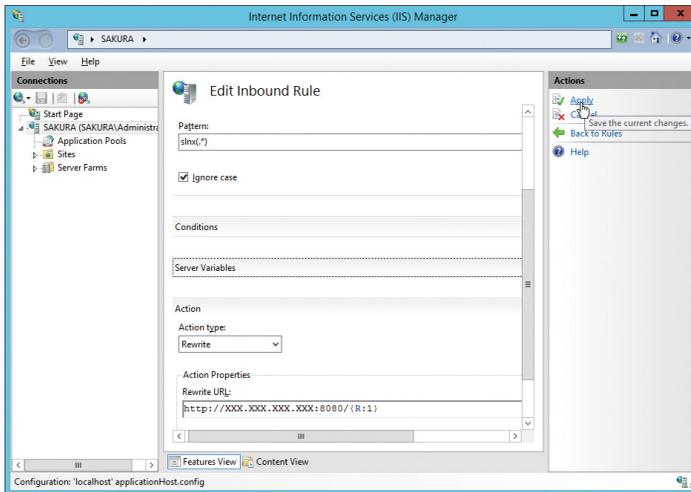
9. On the [Edit Inbound Rule] window, change the URL redirect rule from [IIS] to [RICOH Streamline NX].

   Use this redirect rule when accessing the Management Console from a client computer.

Item	Description
Name	Enter the name of the receiving rule.

5

Item	Description
Requested URL	Select [Matches the Pattern].
Using	Select [Regular Expressions].
Pattern	**Format** [alias]/(.*) **Description** Specify "alias/(.*)" of the IIS URL following a wildcard pattern. Example: slnx/(.*)
Action Type	Select [Rewrite].
Rewrite URL	**Format** http://[RICOH_Streamline_NX_IP_address_or_host name]:{port_number}/{R:1} **Description** Specify the URL to the server using the port specified when installing RICOH Streamline NX. For the format {R:1}, the URL is used to perform back reference to the rule pattern, and all IIS URLs following the pattern are rewritten and passed to the rule. **Example** http://100.110.120.130:8080/{R:1}

10. **On the [Edit Inbound Rule] window, click [Apply] in the [Actions] pane.**

11. **To create a second rule, click [Add Rule(s)] in the [Actions] pane.**

12. **From [Inbound rules] on the [Add Rules(s)] window, select [Blank rule] and click [OK].**

13. **On the [Edit Inbound Rule] window, change the second URL redirect rule from [IIS] to [RICOH Streamline NX].**

    Use this redirect rule for internal processing of the Management Console.

Item	Description
Name	Enter the name of the receiving rule.
Requested URL	Select [Matches the Pattern].
Using	Select [Regular Expressions].
Pattern	Enter Admintool/(.*).
Action Type	Select [Rewrite].
Rewrite URL	**Format** http://[Streamline_NX_IP_address_or_host name]: {port_number}/{R:0} **Description** Specify the URL to the server using the port specified when installing RICOH Streamline NX. For the format {R:0}, the URL is used to perform back reference to the rule pattern, and all IIS URLs following the pattern are rewritten and passed to the rule. **Example** http://100.110.120.130:8080/{R:0}

14. **On the [Edit Inbound Rule] window, click [Apply] in the [Actions] pane.**

Configuring IIS with Command Prompt

1. **Install IIS on the server with RICOH Streamline NX installed.**

   For details about the IIS installation method, see the Microsoft website.

2. **Start Command Prompt with Administrator privileges, and navigate to the following directory:**

```
%windir%\system32\inetsrv
```

3. **Run the command to enable the IIS proxy server.**

```
appcmd.exe set config -section:system.webServer/proxy /enabled:"True" /
commit:apphost
```

4. **Run the command to specify the URL redirect rule.**

The following command is an example when "SLNXServer" is used as the name of the receiving rule. Replace "%1" with the alias and "%2" with the URL to be rewritten.

```
appcmd.exe set config -section:system.webServer/rewrite/
globalRules /+"[name='SLNXServer',stopProcessing='True']" /
commit:apphost
appcmd.exe set config -section:system.webServer/rewrite/
globalRules /
[name='SLNXServer',stopProcessing='True'].match.url:"%1/(.*)"/
commit:apphost
appcmd.exe set config -section:system.webServer/rewrite/
globalRules /
[name='SLNXServer',stopProcessing='True'].action.type:"Rewrite"
/[name='SLNXServer',stopProcessing='True'].action.url:"%2/{R:1}"
/commit:apphost
```

5. **Close the Command Prompt window.**

Specifying the Maximum File Upload Size

Change the maximum file upload size.

1. **Start IIS Manager.**
2. **Right-click [Default Web Site] in the [Connections] pane, and select [Detail Settings] under [Website Management].**
3. **Check [Physical Path] on the [Detail Settings] window.**
4. **Use a text editor to create the "web.config" file on the physical path, and copy and save the information below.**

   The file must be saved without Byte Order Mark (BOM). You cannot use Windows Notepad and WordPad as they always save with BOM. Install another text editor separately, to edit and save the created file without BOM.

```
<configuration>
<system.webServer>
<security>
<requestFiltering>
<requestLimits maxAllowedContentLength="2147483648" />
</requestFiltering>
</security>
</system.webServer>
</configuration>
```

↓Note

- Specify the file size limit in the format "maxAllowedContentLength="(limit value in KB). In the example above, the limit is 2 TB.

Configuring SSL

This procedure describes the settings when SSL is enabled using IIS.

1. **Access the Management Console with a web browser, and enable SSL.**

   For details, see "Enabling SSL", Administrator's Guide.

2. **Use IIS Manager to import to IIS the SSL certificate of the server with RICOH Streamline NX installed.**

3. **Use the port configured for SSL (e.g., 51433) to update the redirect URL to the SSL URL of the Core Server.**

Upgrading Microsoft SQL Server

⭐**Important**

- Ricoh recommends creating a new database instance whenever possible, rather than attempting to upgrade SQL Server in place. This will decrease down time and make it easier to revert in the event of an error.

1. **Create a backup of the database before upgrading.**

   For details on creating a backup of the database, see page 39 "Backing Up RICOH Streamline NX".

2. **Stop the RICOH Streamline NX service (RICOH SLNX Central Manager Service).**

3. **Use the Microsoft migration tool to migrate the database instance to a different version.**

4. **Start SQL Server Management Studio, and run "enable_clr_integration.sql".**

   Store enable_clr_integration.sql in the following path:

   `<install_path>\configuration\core\database`

5. **If the database connection information has changed, open [Control Panel] from the [Start] menu, and then click [Programs and Features].**

6. **Select [RICOH Streamline NX], and then click [Change] on the Control Panel menu.**

7. **Follow the instructions and configure any values such as Server Name, Instance Name, and Port.**

8. **After installation wizard finished, start the RICOH SLNX Central Manager Service.**

Managing USB-connected Devices

If you select the FMAudit device monitoring engine option when installing the Delegation Server, you can manage non-RICOH devices. In addition, you can obtain information of a USB device from the client computer which USB Agent installed.

⭐ **Important**

- Non-Ricoh USB devices connected to a client computer operating Windows 8.1 cannot be detected.
- Non-Ricoh USB printer drivers must be enabled bidirectional communication.
- Non-PJL compliant devices cannot be managed when connected via USB.

⬇ **Note**

- Configure the SNMP community name to enable the Delegation Server to obtain information from the devices. For details, see "Managing Devices", Administrator's Guide.

Operating Environment of USB Agent

Before installing USB Agent, check that the following requirements have been met:

Item	Description
Hardware	• CPU: Intel Core i3 or later, or AMD Athlon X2/ Phenom or later • RAM: 2 GB • Hard disk space: 2 GB (not including database)
Operating System	• Windows 7 Home Basic/Home Premium/ Professional/Enterprise/Ultimate (32/64 bit) • Windows 8.1 Pro/Enterprise (32/64 bit)

Installing USB Agent

USB Agent can be installed manually by following the instructions on the screen or silently by using a silent install command.

From the following folder, download the USB Agent installer to the server with RICOH Streamline NX installed.

`<install_path>\Ricoh\Streamline NX\USB Agent`

- FMAAgent_Setup_x64.exe

Use this when installing on a 64-bit version of Windows.

- FMAAgent_Setup_x86.exe

   Use this when installing on a 32-bit version of Windows.

Installing USB Agent while following the instructions on the screen

1. **Double-click the installer on the client computer to which the USB device is connected.**

   Run "FMAAgent_Setup_x64" or "FMAAgent_Setup_x86" depending on the operating system of the client computer on which to install USB Agent.

2. **Click [Browse...] and specify the installation destination of USB Agent.**

3. **Select the account(s) that are allowed to use USB Agent.**

   To allow all users of the client computer to use USB Agent, select the [Everyone] check box. To allow only the logged-in user to use USB Agent, select the [Just me] check box.

4. **Click [Next].**

5. **Install the software while following the instructions on the screen.**

6. **Click [Close] to exit the installer.**

Installing USB Agent silently

1. **To install USB Agent, run the following command on the client computer.**

```
msiexec /i %folder_path%\(fmasetup).msi /qn
```

%folder_path% is the folder path where the USB Agent installer is stored.

(fmasetup) is the file name of the installer. Specify "FMAAgent_Setup_x64" or "FMAAgent_Setup_x86" depending on the operating system of the client computer on which to install USB Agent.

Retrievable Device Information

Item	Device type		Description
	Ricoh device	Non-Ricoh device	
Device information			
• IP Address	✓	✓	IP address of client computer

Item	Device type		Description
	Ricoh device	Non-Ricoh device	
• Host Name	✓	✓	Host name of client computer
• MAC Address	✓	✓	MAC address of client computer
• Vendor Name	✓	✓	
• Model Name	✓	✓	
• Serial Number	✓	✓	
• Comment	-	✓	
• Location	-	✓	
• Total Memory	✓	✓	
• System Version	✓	✓	
Device status			
• Printer Status	✓	✓	
• Printer Status (details)	✓	✓	
Toner/Ink			
• Name	(*1)	✓	(*1) The name and status of Toner/Ink cannot be obtained. When a toner remaining warning appears, use Printer Status to check the status.
• Status (remaining)	(*1)	✓	
Counter			
• Total Counter	✓	✓	
• Monochrome Counter	✓		
• Color Counter	✓		

⬇ **Note**

- For certain devices, some commands issued by the Agent to a device which is in Energy Save Mode will wake the device.

- USB Agent is not responsive when the client computer is in screen saver mode.

- USB Agent cannot be used when another SNMP service (e.g., Windows SNMP Service) is installed on the client computer.

Uninstalling or Repairing USB Agent

This section describes how to uninstall and repair USB Agent.

Use the Windows Control Panel to uninstall or repair the software.

You can also use a command to uninstall USB Agent silently.

1. **Open Windows [Control Panel] ▶ [Programs] ▶ [Programs and Features].**

2. **In the list of programs, click [USB Agent].**

3. **Click [Uninstall] or [Repair] on the Control Panel menu.**

4. **Follow the instructions on the screen.**

Uninstalling USB Agent Silently

1. **Run the following command on the client computer on which to install USB Agent.**

```
msiexec /x %folder_path%\(fmasetup).msi /qn
```

%folder_path% is the folder path where the USB Agent installer is stored.

(fmasetup) is the file name of the installer. Specify "FMAAgent_Setup_x64" or "FMAAgent_Setup_x86" depending on the operating system of the client computer on which to install USB Agent.

Using Streamline NX Device Applications in Standard Operation Mode

You can install a Streamline NX Device Application in Standard Operation mode on a device that is equipped with Smart Operation Panel. This feature allows you to use the same interface in an environment where there are devices with or without Smart Operation Panel.

See below for the exterior view of the Smart Operation Panel and an example screen of Standard Operation mode that are supported in this feature.
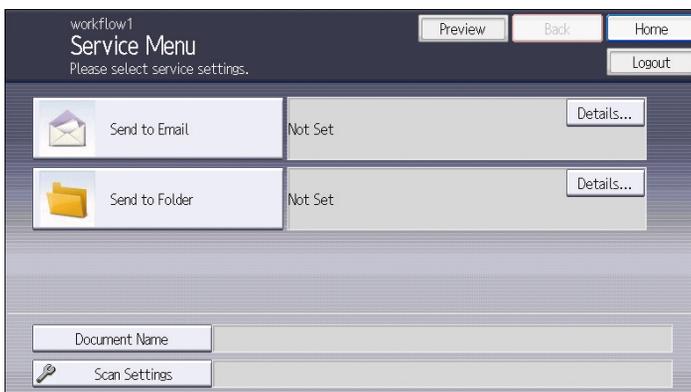
Smart Operation Panel
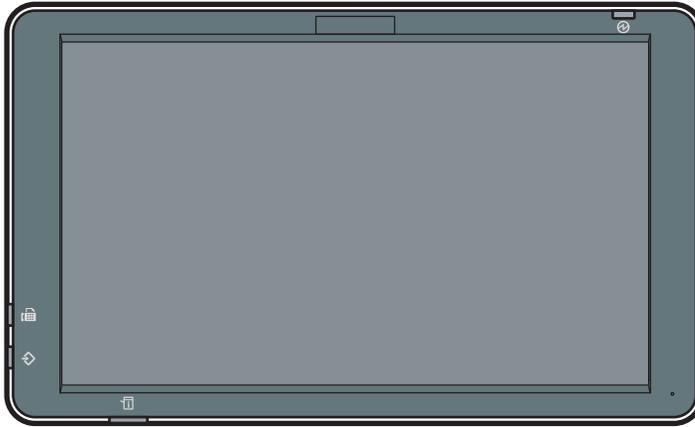
DSW163

Standard Operation mode (Service Menu)

5

Installing Streamline NX Device Application in Standard Operation Mode

⭐ **Important**

- Log in to the system using a user account that has the Customer Engineer permission.

1. **Click the following items in the navigation tree to open the [Advanced System Settings Editor] tab.**

   [System] ▶ [Server Settings] ▶ [Advanced System Settings Editor]

2. **Click [View] and select [Delegation Server Settings].**

3. **From the [Delegation Server:] drop-down menu, select [Global Settings].**

4. **Select the key "slnx.embedded.install.standard.enabled" and change the value to "true".**

   The default is "false". If the value is set to "false", the device application will be installed in the interface for Smart Operation Panel (Smart Operation mode).

5. **Click 💾 (Save).**

⬇ **Note**

- If you want to change the interface type of a Streamline NX device application that is already installed on the device, uninstall the application, change the key "slnx.embedded.install.standard.enabled", and then install the application again.

- For details about installing the device applications, see "Managing Device Applications", Administrator's Guide.

Specifying the NIC Port to Use for Connecting to the Core Server

If you install the Delegation Server on a computer that has more than one NIC port, you can specify the NIC port to be used for connecting to the Core Server. By specifying the NIC port to be used, you can prevent unintended communication through other NIC ports.

⭐**Important**

- Perform this procedure after the system is installed and while the Core Server and Delegation Server are operating.

1. **Stop the following service in [Services] under [Administrative Tools] of Windows.**

   RICOH SLNX Delegation Server Service

2. **Use Windows Explorer to open the following folder:**

   `<data_path>\data\configuration\dm`

3. **Open the following file in a text editor:**

   dm.properties

4. **Add the following line:**

   ```
   dm.serverAddress=(the IP address of the NIC port to be used for connecting to
   the Core Server)
   ```

   It is recommended to add the line under the "DM Server Information" section.

5. **Start the following service:**

   RICOH SLNX Delegation Server Service

6. **Log in to the Management Console in RICOH Streamline NX.**

7. **Click [Server Group] under [Server Management] in the navigation tree and select the [Unassigned] group from the server groups.**

8. **Select the server that you specified in Step 4 and click ⊖ (Delete).**

9. **Select a Delegation Server that is registered under the IP address of another NIC port, and then click 📁 (Move).**

10. **In the [Move] screen, enter the IP address specified in Step 4 and click [OK].**

5

Exporting the Certificates from the MIE Server

You can use the RICOH Streamline NX functions easily on a mobile device.

Connect an iOS device to the MIE server via SSL to use the RICOH Streamline NX mobile app. To connect the mobile device to the server via SSL, export the certificate from the MIE server, deliver the exported file to the mobile device, and then install the delivered file on the mobile device.

Use a web browser to export the certificate from the MIE server. Firefox is used as an example in the following procedure:

⭐ **Important**

- For improved security, we recommend using a commercial public key certificate or a certificate from an internal Certification Authority.

- To connect to the MIE server from the RICOH Streamline NX mobile app, use the domain name (FQDN) of the MIE server, instead of its IP address.

- When setting up the MIE server with self-signed certificates, the MIE server must be configured on a domain. If the MIE server configured on a workgroup, cannot connect from an iOS device to the MIE server.

1. **Access the MIE server from a web browser.**

   For example, if the domain name of the MIE server is "domainname.com" and the port number is "53443", enter as follows:

   `https://domainname.com:53443`

   The message notifying "The Connection is Untrusted" appears in the web browser.

2. **Click [Add Exception...].**

3. **In the "Add Security Exception" dialog box, click [View...].**

4. **Click the [Details] tab in the certificate viewer.**

   "Ricoh Streamline NX CA" and "Domain name of MIE server" are displayed in [Certificate Hierarchy].

5. **Select "Ricoh Streamline NX CA" displayed in [Certificate Hierarchy], and then click [Export...] to export the certificate to a file.**

   When installing the certificate to a Windows Phone, save it in the pem format.

6. **Select the domain name of the MIE server that is displayed in [Certificate Hierarchy], and then click [Export...] to export the certificate to a file.**

7. **Deliver the two files exported to the mobile device in Step 5 and 6.**

   When installing the certificate to a Windows Phone, save it in the pem format.

8. **Install the delivered file on the mobile device.**

   For details, see "Installing the Certificate on a Mobile Device", User's Guide.

↓Note

- When you cannot connect to the MIE server from the RICOH Streamline NX mobile app, use the following procedure to check if the certificate is installed on the MIE server:

  1. In the Firefox browser app on the mobile device, enter the same URL as the one entered in Step 1.

  2. Check that no warning message is displayed in the Firefox browser while opening the screen for entering the user name and password.
     When a warning message is displayed, check if the certificate is correctly installed on the MIE server.

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