



Operating Instructions

Installation Guide (for On-premises version)

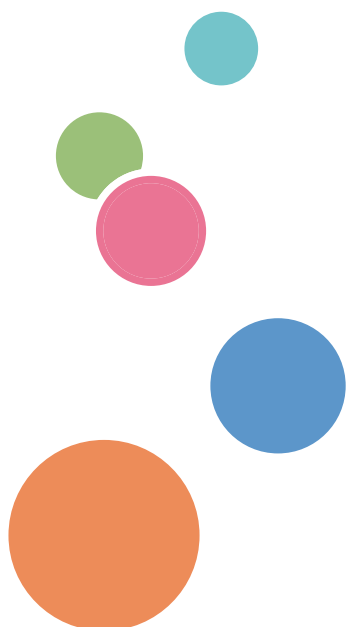


TABLE OF CONTENTS

Guides for This Solution.....	4
How to Read This Manual.....	5
Symbols.....	5
Important.....	5
Revision History.....	5
Terminology.....	6
Trademarks.....	7
1. Overview	
Introduction.....	9
Installation Workflow Summary.....	10
Supported Languages.....	13
System-supported Languages.....	13
Languages Supported in the User Documentation.....	13
2. Installing RICOH Streamline NX	
Server System Requirements.....	17
Installation Workflow.....	22
Configuring Microsoft SQL Server (Optional).....	24
Configuring the Database.....	25
Configuring TCP/IP Connections on SQL Server Configuration Manager.....	26
Installing RICOH Streamline NX.....	28
Installing RICOH Streamline NX Manually.....	29
Installing RICOH Streamline NX Silently.....	40
Installing RICOH Streamline NX Enhanced Scan&Capture.....	51
Installing RICOH Streamline NX Enhanced Scan&Capture Manually.....	51
Installing RICOH Streamline NX Enhanced Scan&Capture Silently.....	51
Uninstalling RICOH Streamline NX Enhanced Scan&Capture.....	52
Activating RICOH Streamline NX.....	53
Deactivating the License.....	54
Backing Up and Restoring RICOH Streamline NX.....	56
Backing Up RICOH Streamline NX.....	56
Restoring RICOH Streamline NX.....	58
Uninstalling RICOH Streamline NX.....	60
Upgrading, Modifying, or Repairing RICOH Streamline NX.....	61

Upgrading RICOH Streamline NX.....	61
Modifying RICOH Streamline NX.....	62
Repairing RICOH Streamline NX.....	62
3. Installing RICOH Streamline NX PC Client	
Operating Environment of RICOH Streamline NX PC Client.....	63
Supported Printer Drivers.....	63
Installing RICOH Streamline NX PC Client.....	65
Installing RICOH Streamline NX PC Client Silently.....	65
Installing RICOH Streamline NX PC Client Manually.....	69
Uninstalling RICOH Streamline NX PC Client.....	74
Uninstalling RICOH Streamline NX PC Client Silently.....	74
Uninstalling RICOH Streamline NX PC Client Manually.....	74
4. Installing RICOH Streamline NX PC Client for Mac	
Operating Environment of RICOH Streamline NX PC Client for Mac.....	77
Supported Printer Drivers.....	77
Installing RICOH Streamline NX PC Client for Mac.....	78
Installing RICOH Streamline NX PC Client for Mac Silently.....	78
Installing RICOH Streamline NX PC Client for Mac Manually.....	79
Uninstalling RICOH Streamline NX PC Client for Mac.....	82
Uninstalling RICOH Streamline NX PC Client for Mac Silently.....	82
Uninstalling RICOH Streamline NX PC Client for Mac Manually.....	82
5. Troubleshooting	
Troubleshooting.....	83
When You Cannot Install the Core Server or Delegation Server.....	83
Problems When Installing RICOH Streamline NX PC Client.....	84
6. Appendix	
Installing in a Cluster Environment (Optional).....	85
Cluster Installation Workflow.....	85
Editing the RICOH Streamline NX Configuration.....	88
Configuring the Cluster Resources of the Core Server.....	90
Configuring the Cluster Resources of the Delegation Server.....	91
Configuring the Cluster Resources of the MIE Server.....	92
Configuring Internet Information Services (IIS) (Optional).....	94

Configuring IIS with IIS Manager.....	94
Configuring IIS with Command Prompt.....	97
Specifying the Maximum File Upload Size.....	98
Configuring SSL.....	99
Upgrading Microsoft SQL Server.....	100
Managing USB-connected Devices.....	101
Operating Environment of USB Agent.....	101
Installing USB Agent.....	102
Retrievable Device Information.....	103
Uninstalling or Repairing USB Agent.....	104
Switching the Type of Streamline NX Embedded Applications to Be Installed.....	105
Installing Type Standard.....	105
Installing Type Hybrid.....	106
Upgrading Type Hybrid or Type Standard to Type Smart.....	108
Specifying the NIC IP Address to Use for Connecting to the Core Server.....	112
Switching from Oracle Java SE8 to Amazon Corretto OpenJDK.....	113
Exporting the Certificate from the MIE Server.....	114
Installing Mac CUPS Filter.....	115
When There Are Not Enough Maintenance and Support Points Remaining.....	116
Service Account Setting.....	117

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.

Note

- For updates to the environmental requirements, limitations, and precautions, refer to the Readme file.

How to Read This Manual

Symbols

This manual uses the following symbols:

Important

Indicates points to pay attention to when using functions. This symbol indicates points that may result in the product or service becoming unusable or result in the loss of data if the instructions are not obeyed. Be sure to read these explanations.

Note

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

[]

Indicates the names of keys or buttons on the product or display.

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
7/5/2018	1.1.1	Document for 3.1.1 software release

Date	Revision No.	Revision Details
12/5/2018	1.2.0	Document for 3.2.0 software release
6/25/2019	1.3.0	Document for 3.3.0 software release
10/1/2019	1.3.1	Document for 3.3.2 software release
9/8/2020	1.4.0	Document for 3.4.0 software release
10/30/2020	1.4.1	Document for 3.4.0 software release
3/19/2021	1.5.0	Document for 3.5.0 software release
6/30/2021	1.5.1	Document for 3.5.0 software release
3/17/2022	1.6.0	Document for 3.6.0 software release
10/19/2022	1.7.0	Document for 3.7.0 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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VMware® is a registered trademark of VMware Inc.

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

- 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 Enterprise

Microsoft® Windows® 10 Education

- The product names of Windows 11 are as follows:

Microsoft® Windows® 11 Home

Microsoft® Windows® 11 Pro

Microsoft® Windows® 11 Enterprise

Microsoft® Windows® 11 Education

- 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 Essentials

Microsoft® Windows Server® 2016 Standard

Microsoft® Windows Server® 2016 Datacenter

- The product names of Windows Server 2019 are as follows:

Microsoft® Windows Server® 2019 Essentials

Microsoft® Windows Server® 2019 Standard

Microsoft® Windows Server® 2019 Datacenter

- The product names of Windows Server 2022 are as follows:

Microsoft® Windows Server® 2022 Datacenter

Microsoft® Windows Server® 2022 Datacenter: Azure Edition

Microsoft® Windows Server® 2022 Standard

Other product names used herein are for identification purposes only and might be trademarks of their respective companies. We disclaim any and all rights to those marks.

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.

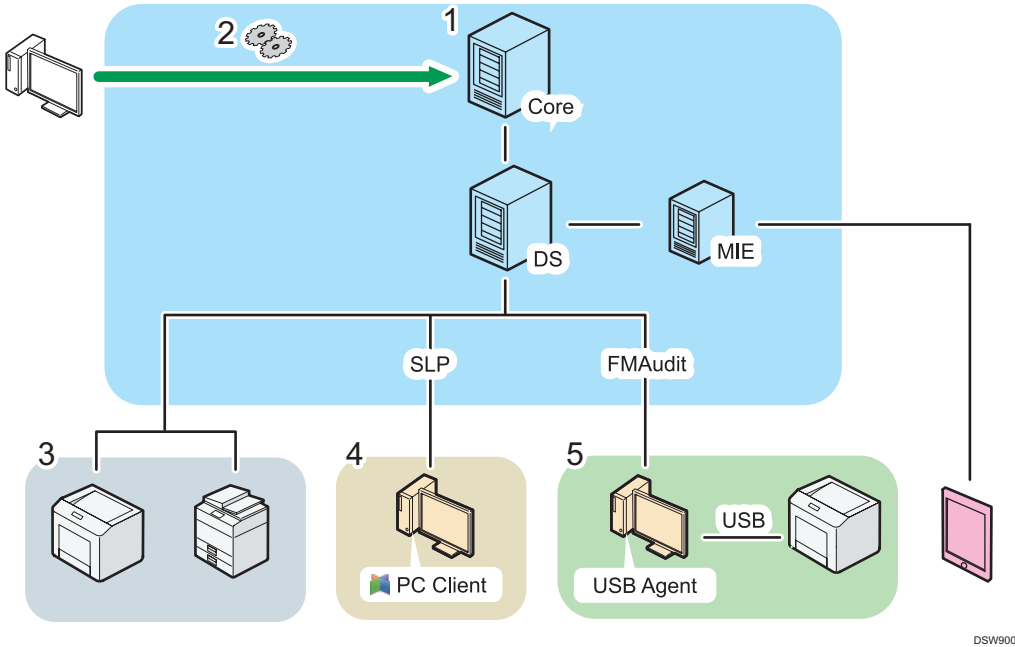
Note

- @Remote is an embedded Delegation Server component that allows RICOH to perform remote device management with reduced operation device management cost. The @Remote (@RCNX) component can be activated by a license.

Installation Workflow Summary

1

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.



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.

MIE server

This server is required to use a mobile app and submit print jobs 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 the Streamline NX Embedded Settings", Administrator's Guide.
- In order to initialize the Device Secure Print function, Sample, Hold, Stored, and Locked Print jobs stored in the device are deleted automatically when installing or uninstalling Streamline NX Embedded Applications.

4. ▶ page 63 "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 101 "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.

1

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	✓	✓	✓

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

2

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/MIE 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 2012 Standard/Datacenter (64-bit) • Windows Server 2012 R2 Standard/Datacenter (64-bit) • Windows Server 2016 Standard/Datacenter (64-bit) • Windows Server 2019 Standard/Essentials/Datacenter (64-bit) • Windows Server 2022 Standard/Datacenter/Datacenter: Azure (64-bit)
Virtual environment	• VMware ESXi 6.5, 6.7, 7.0 • Windows Server 2012 Hyper-V • Windows Server 2012 R2 Hyper-V • Windows Server 2016 Hyper-V • Windows Server 2019 Hyper-V • Windows Server 2022 Hyper-V
Cloud environment	• Microsoft Azure • Amazon Web Services (AWS)

System	Requirements
Database	Standard (included) • Microsoft SQL Server 2016 (Express) Options • Microsoft SQL Server 2014 (Express/Standard/Business Intelligence/Enterprise) • Microsoft SQL Server 2016 (Standard/Enterprise) • Microsoft SQL Server 2017 (Express/Standard/Enterprise) • Microsoft SQL Server 2019 (Express/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. * If using SQL Express, it is not possible to create a clustered SQL server. However, SQL Express can still be installed on a separate server to Core server if required.
Database	 Note • Be sure to apply the latest cumulative update to SQL Server. • To use the reporting function, the common language runtime (CLR) integration feature must be enabled. If CLR is disabled, enable it using SQL Server Management Studio (SSMS). For details about the procedure, see the Microsoft website. • To use the reporting function, the database owner should have the CREATE ASSEMBLY permission to create an assembly. For details about CREATE ASSEMBLY, see the Microsoft website.
External web server	IIS 8, 8.5, 10

System	Requirements
External directory server	• Windows Server 2012 (Active Directory) • Windows Server 2012 R2 (Active Directory) • Windows Server 2016 (Active Directory) • Windows Server 2019 (Active Directory) • Windows Server 2022 (Active Directory) • Azure Active Directory Domain Service • AWS Directory Service for Microsoft 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 11 (only for Windows Server)
 - Firefox ESR 102
 - Safari 15
 - Microsoft Edge (Chromium) 89.0.774.45 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.
 - IdP provided by AWS and IBM Cloud is not supported. Use Azure AD when using OpenID Connect.
 - Make sure that the same time zone is specified for the Core Server and the SQL server. Otherwise, the modifications to the settings in the Management Console may not be reflected to the Delegation Servers and devices, and the modification time displayed in the Management Console may be different from the actual time.

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 24 "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](https://msdn.microsoft.com/library/ms143219(v=sql.110).aspx)
- For details about the operating system requirements of SQL Server, see the information released from Microsoft.

2. ▶ page 28 "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 25 "Configuring the Database".

3. ▶ page 85 "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 28 "Installing RICOH Streamline NX", and then configure cluster resources with Failover Cluster Manager.

↓ Note

- For details, see page 85 "Cluster Installation Workflow".
- For details about configuring the Windows cluster environment, see the Microsoft website.

4. ▶ page 94 "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 53 "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 56 "Backing Up and Restoring RICOH Streamline NX"

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

↓ Note

- When configuring Azure SQL, see the Microsoft website for information about creating a user in Azure SQL and giving them appropriate database permissions.

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_slrx". 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. ↓ Note • db_owner privileges are required to start the Core Server for the first time after upgrading the system. • You can restrict rights by creating a user with db_datareader and db_datawriter permission.

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.
- When using SQL Server AlwaysOn, it is necessary to turn on SQL Common Language Runtime (CLR) on each SQL node. CLR is used when using the Reports functionality.
- Enable CLR before installing the RICOH Streamline NX database. All SQL Servers in an AlwaysOn environment should be configured in the same way. An example of the procedure is as follows:
 1. Clear the [Run database creation scripts] check box during installation of RICOH Streamline NX.
 2. Upon completion of installation, start SQL Server Management Studio or another tool.
 3. Run "enable_clr_integration.sql" on each SQL node for which CLR is to be enabled.
This script file is stored in the following path.
<install_path>\configuration\core\database
 4. When CLR is enabled on each SQL node, install the RICOH Streamline NX database.
For details, see page 25 "Configuring the Database".

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.

Also, configure the Core database and Print Resilience database separately when installing the RICOH Streamline NX system using silent installation.

To configure the Core database, run "CreateSLNX_DB.sql" in the "DB" folder in the installer storage destination path.

To configure the Print Resilience database, run "CreatePrintRes_DB.sql" in the "DB" folder in the installer storage destination path.

★ 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:

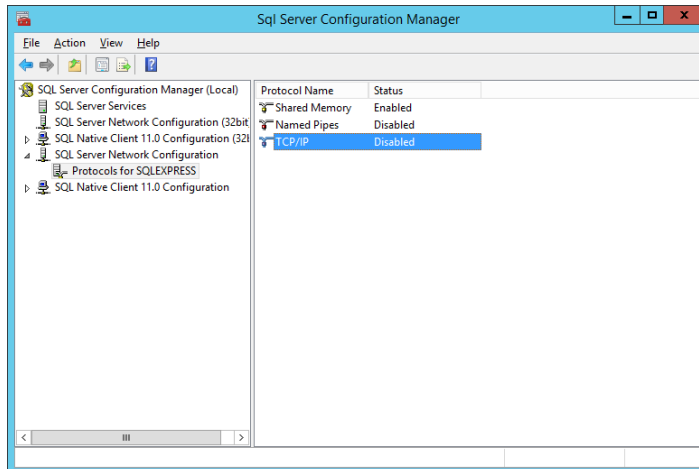
RICOH SLNX Central Manager Service

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.



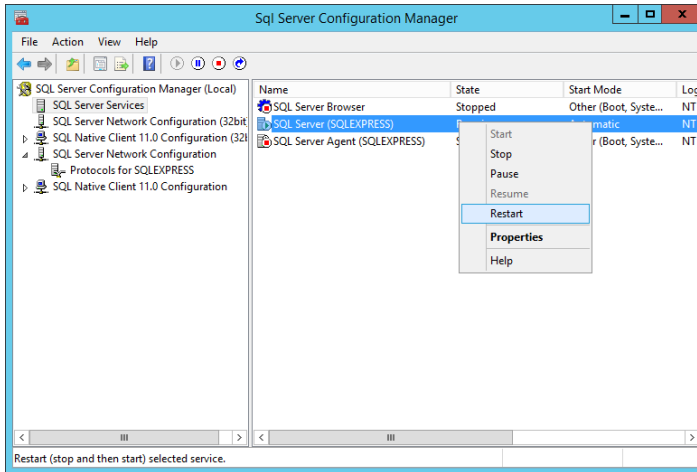
4. Configure the following settings on the [TCP/IP Properties] window:

- [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 Amazon Corretto OpenJDK, 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:
 - Amazon Corretto OpenJDK: Required to operate the RICOH Streamline NX system.
 - Microsoft Visual C++ Runtime Library 2019: Required to operate the Certificate Management Tool.
 - Microsoft Visual C++ Runtime Library 2013: Required to operate the Send to Printer.
 - .NET Framework: Required to operate the FMAudit.
 - If you are already running the RICOH Streamline NX system on Java Runtime Environment (JRE), you can continue using it. However, you should subscribe Oracle Premier Support to receive the update releases of Oracle Java SE 8.
 - To switch from JRE to Amazon Corretto OpenJDK, uninstall JRE first, and then install Amazon Corretto OpenJDK. For details, see page 113 "Switching from Oracle Java SE8 to Amazon Corretto OpenJDK".
- Install Bonjour (version 3 or later) on the MIE server. Install Bonjour before performing a typical installation or a custom installation to a MIE server. For details about installing Bonjour, follow the procedure provided by Apple, including iTunes installation.
- You can create Print Resilience Database to share print jobs among two or more Delegation Servers. To create a Print Resilience Database during installation of RICOH Streamline NX, perform the following beforehand:
 1. Install SQL Server for print resilience.

You cannot install the configuration of Print Release Resilience using the bundled SQL Express installer. A separate SQL installer (full or express) should be used.
 2. Create a folder that will be used as a spool folder.
 3. Add the DS service account user to the created folder's access privileges, and assign "read-write" permissions. A DS service account user is the user account that is specified in the "Service Logon Information" window.

- 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. Be sure to install "PCL6 Driver for Universal Print" and not "RICOH PCL6 Universal Driver Vx.xx", with a version description.
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. In this case, you can install either "PCL6 Driver for Universal Print" or "RICOH PCL6 Universal Driver Vx.xx", with a version description.
- In order to use S/MIME with the models only equipped with Standard Operation Panel, be sure to activate S/MIME before installing Streamline NX Embedded Application to devices. RICOH Streamline NX will install Streamline NX Embedded Application for S/MIME when S/MIME is activated. If Streamline NX Embedded Application is already installed, uninstall it first, and then install Streamline NX Embedded Application after activating S/MIME. For details about activating S/MIME, see "Activating S/MIME", Administrator's Guide.
- The print spooler is required for Delegation Server installation even though the server is configured exclusively for device management with RICOH Streamline NX. If the print spooler is disabled, installation of RICOH Streamline NX will fail.
- Use a certificate issued by a trusted third party certificate authority as the certificate for SSL connection from RICOH Streamline NX Core Server or Delegation Server to the linkage server (authentication server, delivery destination server, RICOH Streamline NX PC Client, etc.).
- To use the self-signed certificate of the linkage server, you must import the self-signed certificate into the Windows certificate store of the computer on which RICOH Streamline NX is installed.
- The Azure OIDC Provider allows only HTTPS redirect URI for Management Console and User Console login. To use OpenID Connect for the authentication profile, be sure to enable SSL/TLS when installing the Core Server.

RICOH Streamline NX can be silently or manually installed.

Manual Installation

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

Silent Installation

This installs RICOH Streamline NX without displaying the installer window.

For example, you can use the silent installation when setting up multiple Delegation Servers with the same configuration without user interaction.

Installing RICOH Streamline NX Manually

1. Double-click "Setup_x64.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 locations to save data and log files.

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

Debug log information is saved in the save destination for log files.

The save destinations for data and log files are 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.

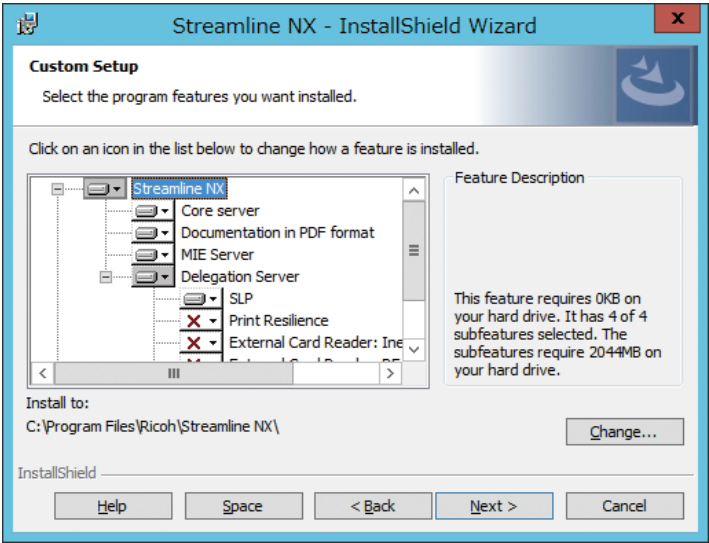
7. Click [Next].**8. On the "Setup Type" window, select the installation type, and then click [Next].**

- [Typical]

A Typical installation will place the Core Server, Delegation Server, MIE Server, SLP, FMAudit device monitoring engine, and the supporting documentation 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

Type	Function	Description
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 third party card reader. You can use a third party card reader when performing printing from the device. For details about the settings required to use a third 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 third party devices. In addition, you can obtain information of a USB device from the client computer with 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.
	Print Release Resilience	This option enables you to share print jobs among two or more Delegation Servers.

Configure the following to create a Print Release Resilience database.

- On the [Print Resilience Database] window, enter the connection information for the SQL Server on which the shared database is to be created, and then click [Next].
 - The default database name is "ricoh_printres". It is possible to specify any name for the database.
 - Select the [Run database creation scripts] check box when installing the Print Resilience Database for the first time. Do not select the [Run database creation scripts] check box if the Print Resilience Database is already created.
- On the [Print Resilience Database Creation Login Information] window, select an authentication method, specify the login credentials to be used to create the database, and then click [Test Connection].

Note

- The "Print Resilience Database Creation Login Information" window is displayed only when the [Run database creation scripts] check box is selected on the [Print Resilience Database] window.
3. Select an authentication method, specify the credentials to be used by Print resilience for connecting to the database during normal operation, and then click [Next].
 4. On the "Print Resilience Data Location" window, specify the UNC path of the folder to be used as a spool folder, and then click [Next].

Example: "\\<computer name>\<shared directory>"

Note

- If the Delegation Server and the server or location hosting the common spool folder belong to the same domain, a domain user account should be used to run the service and be given full permissions to the common spool folder (Share and NTFS permissions).
- If the Delegation Server and the server or location hosting the shared folder belong to different domains, it is recommended to create a user with the same username and password on the Delegation Server ("Server1") and shared folder server ("Server2"). In this case, register "Server1\User" to run the RICOH SLNX Delegation Server Service, and give "Server2\User" full permissions to the common spool folder (Share and NTFS permissions).

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. The Windows account requires the permission of the system or user account that was used to install RICOH Streamline NX.

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.
- If you have selected [Print Release Resilience] in Step 8, be sure to select [Login as Windows account]. Otherwise, the spool folder cannot be accessed and print release resilience does not work.
- 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 from 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, open the Windows Start Menu to launch the Management Console and 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 installation.
- When installing the system, you cannot configure SSL communication using a commercial certificate. To use a commercial certificate, install the system without selecting [Use SSL/TLS], and install the SSL certificate using the Management Console. For details, see "Enabling SSL", Administrator's Guide.

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, to use Mac CUPS Filter, or to use SLNX Server Secure Print Port (HTTP(S)). Do not use # in the Security Connection Key as it is not allowed in the Mac CUPS Filter configuration.
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].
- Do not use # in the Security Connection Key for RICOH Streamline NX PC Client when Mac CUPS Filter is used. In the other cases, you can 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 through 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/cc755071(v=ws.11).aspx)
 - [https://technet.microsoft.com/library/jj717285\(v=ws.11\).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:
 - 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 has 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.

When using SSL for communication with the SQL Server, it is recommended to enter FQDN.

- [Port]
Enter the SQL Server port number. The default is 1433.
- [Database Name]
Enter the database name. The default name is "ricoh_slrx".
- Test database for auto-disconnection on idle
When using Microsoft Azure SQL or AWS SQL, specify whether to execute a connection test to the database before performing each SQL query.
- [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 the [Run database creation scripts] check box is selected 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 the [Run database creation scripts] check box is not selected 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	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.

Function	Description
SLP	On the "SLP Configuration" window, specify the scope of the Delegation Server. Scopes are simple strings that are used to group services. Configure the Delegation Server with the same scope that RICOH Streamline NX PC Clients are configured with. RICOH Streamline NX PC Clients cannot find Delegation Servers configured with a different scope. • 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`

★ Important

- After installing the Core Server or Delegation Server, install RICOH Streamline NX Enhanced Scan&Capture, which is required when using the following process connectors in the Document Delivery function: PDF Converter, Barcode Division/Recognition, OCR, and Zone OCR. RICOH Streamline NX Enhanced Scan&Capture must be installed in the Core Server and all Delegation Servers. For details, see page 51 "Installing RICOH Streamline NX Enhanced Scan&Capture".

↓ 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.
- When the [Run database creation scripts] check box is not selected in Step 17, RICOH SLNX Central Manager Service is not started automatically.
- 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.
- When using the Send to RightFax connector for delivery service, FaxUtil, the RightFax client software, must be installed on the Core Server or Delegation Server specified as the Configuration Validation Server, as well as on the server used for delivery.

Installing RICOH Streamline NX Silently

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

★ Important

- The silent installer does not create the Core database or the Print Resilience database. To configure the database beforehand, use SQL Server Management Studio. For details, see page 25 "Configuring the Database".

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

```
(installer storage destination path)\Setup_x64 /s /v"/qn ADDLOCAL=(features to be installed) PROPERTIES"
```

In "(installer storage destination path)", specify the folder path of Setup_x64.exe. The installer storage folder can be a shared folder or a local folder. 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 "Command and options" table.

3. Save the batch file.

4. Run the batch file on the server to install RICOH Streamline NX.

The silent installation starts.

Command and options

Command/option	Description
/s	Changes to silent installation mode.
/v	Passes all parameters specified in double quotations.
/qn	Specifies not to display any user interface during installation.
ADDLOCAL	Specify the features to be installed. You can specify multiple features by separating them using a comma. When no feature is specified, all features are installed. For details about the features that can be specified, see the "Features" table below. Example: ADDLOCAL=Coreserver,DSserver
PROPERTIES	Specify the 'public' properties to configure the system in the following format: PROPERTY=value When property values have spaces, the values must be quoted with the quotes escaped with a backslash (\) (e.g. PROPERTY=\"value with spaces\"). For details about the properties that can be specified, see the "Properties" table below.

Features

Feature Name	Description
Coreserver	Installs the Core Server.
DSserver	Installs the Delegation Server.

Feature Name	Description
MieServer	Installs the MIE Server.
ThirdPartyDeviceSupport	Installs third party device support (to be used with the Delegation Server).
SLP	Delegation Server sub-feature that installs SLP service for Delegation Server zero configuration networking.
PrintResilience	Delegation Server sub-feature that installs Print Resilience functionality.
cardreader_inepro	Adds support for the Inepro IP Reader.
cardreader_rfideas	Adds support for the RF IDEas Ethernet 241 card reader.
Documentation	Installs product documentation in PDF.

Properties

Property Name	Affected Features	Description
INSTALLDIR	All	Specify the installation destination directory. The default path is C:\Program Files\Ricoh\Streamline NX.
INSTALLDIR_SP	All	Specify the data storage path. The default path is %PROGRAMDATA%\Ricoh\Streamline NX.
INSTALLDIR_OSGI	All	Specify the location of the OSGi configuration area. If not specified, the data storage path is used. The default path is %PROGRAMDATA%\Ricoh\Streamline NX.
INSTALLDIR_LOG	All	Specify the log storage path. Specify the path where the service logs are stored. The default path is %PROGRAMDATA%\Ricoh\Streamline NX\logs.

Property Name	Affected Features	Description
LOGON_AS_SYSTEM	All	Specify whether users should log in using local system credentials to use the services to be installed. If set to No, SERVICE_PASSWORD and SERVICE_USER must be specified. It is recommended to set to No. For security reasons (allowing services access to network resources, using Windows Authentication for Core database access, etc.), it is recommended to configure the services to run under a domain user account. The default is No.
SERVICE_USER	All	Specify the Windows user account under which the services will run. Required when LOGON_AS_SYSTEM is set to No.
SERVICE_PASSWORD	All	Specify the password for the SERVICE_USER.
ENABLE_SSL	All	Specify whether the services to be installed listens on SSL. Only TRUE is available.
SSL_CERTIFICATE_TYPE	All	Specify the type of certificate to be used. When set to 2, SSL_WINDOWS_CA_TEMPLATE must be set as well. 1: Self-signed certificate or commercial certificate will later be configured. 2: Certificates by Windows Local Certificate Authority are used. The default is 1.
SSL_WINDOWS_CA_TEMPLATE	All	Specify the name of the Windows Certificate Authority Template to be used for enrolling with the CA to obtain a certificate. Required when SSL_CERTIFICATE_TYPE is set to 2.

Property Name	Affected Features	Description
ENABLE_SSL_TRUST_CERT	All	Specify whether all certificates are trusted when connecting to a service. Do not set to use the keystore to establish trust. Only TRUST is available.
CORE_DATABASE_IS_WINDOWS_AUTHENTICATION	Core Server	Specify whether Windows authentication via SERVICE_USER/SERVICE_PASSWORD will be used for the Core Server to connect to the MS SQL database. Must be set to FALSE when LOGON_AS_SYSTEM is set to Yes.
CORE_DATABASE_SQL_SERVER_AUTH_USER	Core Server	Specify the SQL Authentication account used for logging into the MS SQL server when Windows authentication is not used. Required when CORE_DATABASE_IS_WINDOWS_AUTHENTICATION is set to FALSE.
CORE_DATABASE_SQL_SERVER_AUTH_PWD	Core Server	Specify the SQL Authentication account password for logging into the MS SQL Server when Windows Authentication is not used. Required when CORE_DATABASE_IS_WINDOWS_AUTHENTICATION is set to FALSE.
CORE_DATABASE_SERVER	Core Server	Specify the name or IP address of the server where the MS SQL Server is installed. Required when a database instance is used. Input format: hostname\instancename
CORE_DATABASE_PORT	Core Server	Specify the port on which the database is listening. The default is 1433.
CORE_DATABASE_NAME	Core Server	Specify the core database name. This parameter is optional. The default is ricoh_slnx

Property Name	Affected Features	Description
VALIDATION_QUERY	Core Server	Specify whether the specified query is used for testing database auto-disconnect on idle. true:select 1: The specified query is used false: No query is used. The default is false.
EMB_SECURITY_CONNECTION_KEY	Core Server	Specify a security connection key distributed from the Core Server to the Delegation Servers used by Embedded Applications to ensure the validity of the Embedded Applications to the Delegation Servers. The key can be changed using Management Console if it is compromised. This property is optional.
PLATY_SECURITY_CONNECTION_KEY	Core Server	Specify a security connection key distributed from the Core Server to the Delegation Servers. Each PC Client that is installed must also be installed with the same connection key. This key is exchanged between PC Client and Delegation Servers to ensure the validity of the caller. The key can be changed using Management Console if it is compromised. (PC Client must be reinstalled with the new key). This property is optional.
SDKUM_SECURITY_CONNECTION_KEY	Core Server	Specify a security connection key used by the Core Server to validate the trust of the SDK User Management tools that connect to the Core Server. If using the PasswordNotification tool, it must be configured with the same security connection key. The key can be changed using Management Console if it is compromised. (The PasswordNotification tool must be reconfigured with the new key.) This property is optional.

Property Name	Affected Features	Description
DS_SECURITY_CONNECTION_KEY	Core Server, Delegation Server	Specify a security connection key used by the Core Server and Delegation Servers to validate the trust of Delegation Servers to the Core Server. The same key must be used on the Core Server and all Delegation Servers that connect to it. The key can be changed using Management Console if it is compromised and then updated via Management Console on each Delegation Server. This property must be set.
MIE_SECURITY_CONNECTION_KEY	Core Server, MIE Server	Specify a security connection key distributed from the Core Server to the Delegation Servers. This key is used by Delegation Servers and MIE Servers to validate the trust of MIE Servers to Delegation Servers. The key can be changed using Management Console if it is compromised, and then the MIE Server must be reinstalled with the new key. This property must be set.
CORE_PORT	Core Server, Delegation Server	Specify the port on which the Core Server is listening for HTTP connections. The default is 8080.
CORE_PORT_S	Core Server, Delegation Server	Specify the port on which the Core Server is listening for HTTPS connections. The Core Server will listen on this port if ENABLE_SSL is set to TRUE. The default is 51443.
CORE_ADDRESS	Delegation Server	Specify the name or IP address of the Core Server. Required when installing a Delegation Server and the Core Server is installed on a different server. The default is localhost.

Property Name	Affected Features	Description
ENABLE_CORE_SSL	Delegation Server	Specify whether the Core Server is listening on SSL. When set to TRUE, Delegation Servers will attempt to connect to the Core Server via SSL on the port identified in CORE_PORT_S. To disable SSL, do not specify this property. Without SSL, Delegation Servers will attempt to connect to the Core Server via the port identified in CORE_PORT. Only TRUE is available.
DM_ADDRESS	MIE Server	Specify the name or IP address of the Delegation Server. Required when installing the MIE Server and the Delegation Server is installed on a different server.
DM_PORT	Delegation Server, MIE Server	Specify the port on which the Delegation Server is listening for HTTP connections. The default is 9090.
DM_PORT_S	Delegation Server, MIE Server	Specify the port on which the Delegation Server is listening for HTTPS connections. The Delegation Server will listen on this port when ENABLE_SSL is set to TRUE. The default is 52443.
ENABLE_DS_SSL	MIE Server	Specify whether the Delegation Server is listening on SSL. If it is set to TRUE, the MIE Server will attempt to connect to the Delegation Server via SSL on the port identified in DM_PORT_S. To disable SSL, do not specify this property. Without SSL, the MIE Server will attempt to connect to the Delegation Server via the port identified in DM_PORT. Only TRUE is available.
MIE_PORT	MIE Server	Specify the port on which the MIE Server is listening for HTTP connections. The default is 10100.

Property Name	Affected Features	Description
MIE_PORT_S	MIE Server	Specify the port on which the MIE Server is listening for HTTPS connections. The MIE Server will listen on this port if ENABLE_SSL is set to TRUE. The default is 53443.
SLP_SCOPE	Delegation Server (with SLP)	Scopes are simple strings and are used to group services. Clients cannot see services that are in different scopes. The default is SLNX.
PRINTRESILIENCE_UNC_PATH	Delegation Server (with Print Resilience)	Specify the path to the shared print queue directory.
PRINTRESILIENCE_DATA_BASE_SERVER	Delegation Server (with Print Resilience)	Specify the name or IP address of the server where the MS SQL Server is installed for Print Resilience. If a database instance is used, then it should also be specified. Format: hostname\instancename
PRINTRESILIENCE_DATA_BASE_PORT	Delegation Server (with Print Resilience)	Specify the port on which the Print Resilience database is listening. The default is 1433.
PRINTRESILIENCE_DATA_BASE_NAME	Delegation Server (with Print Resilience)	Specify the name to be used for the Print Resilience database The default is ricoh_printres.
PRINTRESILIENCE_DB_IS_WINDOWS_AUTHENTICATION	Delegation Server (with Print Resilience)	Specify whether Windows authentication via SERVICE_USER/SERVICE_PASSWORD will be used for Delegation Servers to connect to the Print Resilience MS SQL database. Must be set to FALSE when LOGON_AS_SYSTEM is set to Yes. The default is TRUE.

Property Name	Affected Features	Description
PRINTRESILIENCE_DB_SQL_SERVER_AUTH_USER	Delegation Server (with Print Resilience)	Specify the SQL Authentication account used for logging into the MS SQL server when Windows Authentication is not used. Must be specified when PRINTRESILIENCE_DB_IS_WINDOWS_AUTHENTICATION is set to FALSE.
PRINTRESILIENCE_DB_SQL_SERVER_AUTH_PWD	Delegation Server (with Print Resilience)	Specify the SQL Authentication account password for logging into the MS SQL Server when Windows Authentication is not used. Must be specified when PRINTRESILIENCE_DB_IS_WINDOWS_AUTHENTICATION is set to FALSE.
PRINTRESILIENCE_VALIDATION_QUERY	Delegation Server (with Print Resilience)	Specify whether the specified query is used for testing database auto-disconnect on idle. true:select 1: The specified query is used false: No query is used. The default is false.
OPERATION_MODE	All	Select the operation mode of RICOH Streamline NX from cloud-based or on-premises. When installing the RICOH Streamline NX system on VPN-less Cloud, select "Cloud" even for on-premises servers. 0: On-Premises 1: Cloud

Sample script 1 - Installing only Core server

Using the following sample, a Core server that uses a self-signed SSL certificate is installed with the provided SQL Express.

```
(installer storage destination path)\Setup_64.exe /s /v"/qn
ADDLOCAL=Coreserver LOGON_AS_SYSTEM=no SERVICE_USER=(domain)\(user name)
SERVICE_PASSWORD=\"(password)\" CORE_PORT=(port on which the Core Server
listens for HTTP connections) CORE_PORT_S=(port on which the Core Server
listens for HTTPS connections) ENABLE_SSL=TRUE SSL_CERTIFICATE_TYPE=1
CORE_DATABASE_IS_WINDOWS_AUTHENTICATION=TRUE CORE_DATABASE_SERVER=(name or IP
address of the server
where the MS SQL Server is installed)\SQLEXPRESS CORE_DATABASE_NAME=slnx_test
CORE_DATABASE_PORT=(port on which the Core database is listening)
DS_SECURITY_CONNECTION_KEY=(Delegation Server's security connection key)
MIE_SECURITY_CONNECTION_KEY=(MIE Server's security connection key)"
```

Sample script 2 - Installing only Delegation Server with SLP Service and ThirdPartyDeviceSupport

A Delegation Server that uses a self-signed SSL certificate is installed using the following sample.

```
(installer storage destination path)\Setup_64.exe /s /v"/qn
ADDLOCAL=DSserver,SLP,ThirdPartyDeviceSupport LOGON_AS_SYSTEM=no
SERVICE_USER=(domain)\(user name) SERVICE_PASSWORD=\"(password)\"
DM_PORT=(port on which the Delegation Server listens for HTTP connections)
DM_PORT_S=(port on which the Delegation Server listens for HTTPS connections)
ENABLE_SSL=TRUE SSL_CERTIFICATE_TYPE=1 DS_SECURITY_CONNECTION_KEY=(Delegation
Server's security connection key) CORE_ADDRESS=(Core server's IP address)
ENABLE_CORE_SSL=TRUE CORE_PORT=(port on which the Core Server listens for
HTTP connections) CORE_PORT_S=(port on which the Core Server listens for
HTTPS connections) ENABLE_SSL_TRUST_CERT=TRUE"
```

Note

- When performing upgrade installation, only LOGON_AS_SYSTEM, SERVICE_USER and SERVICE_PASSWORD should be specified. The following is an example:

```
(installer storage destination path)\Setup_x64 /s /v"/qn LOGON_AS_SYSTEM=no
SERVICE_USER=(domain)\(user name) SERVICE_PASSWORD=\"(password)\""
```

Installing RICOH Streamline NX Enhanced Scan&Capture

After installing the Core Server or Delegation Server, install RICOH Streamline NX Enhanced Scan&Capture, which is required when using the following process connectors in the Document Delivery function: PDF Converter, Barcode Division/Recognition, OCR, and Zone OCR.

Installing RICOH Streamline NX Enhanced Scan&Capture Manually

1. Double-click "(installer storage destination path)\RICOH Streamline NX Enhanced Scan_Capture\Setup.exe" to run the installer.
2. Select the language to use for the installation, and click [OK].
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 "Ready to Install the Program" window, click [Install]. The installation starts.
6. When installation is completed, click [Finish].

Installing RICOH Streamline NX Enhanced Scan&Capture Silently

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

1. Store the RICOH Streamline NX Enhanced Scan&Capture installer on a server.
2. Create a batch file that includes the following command: (installer storage destination path)\Setup.exe /s /v"/qn".

In "(installer storage destination path)", specify the folder path of Setup.exe. The installer storage folder can be a shared folder or a local folder. 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 "Command and options" table below.

3. Save the batch file.
4. Run the batch file on the server to install RICOH Streamline NX Enhanced Scan&Capture.
The silent installation starts.

Command and Options

Command/option	Description
/s	Changes to silent installation mode.
/v	Passes all parameters specified in double quotations.
/qn	Specifies not to display any user interface during installation.

Uninstalling RICOH Streamline NX Enhanced Scan&Capture

This section describes how to delete RICOH Streamline NX Enhanced Scan&Capture from the server.

1. Close all programs.
2. Open Windows [Control Panel], and then click [Programs and Features].
3. Double-click [RICOH Streamline NX Enhanced Scan&Capture].
4. Click [Yes].

Note

- RICOH Streamline NX Enhanced Scan&Capture can also be uninstalled using the installer.

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/avi/), 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/au/>), 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 22 "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. Back up the database using the backup tool provided with SQL Server.
2. 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.

3. 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

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 data exchange services. 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. Stop the following services:

- RICOH SLNX Central Manager Service
- RICOH SLNX Delegation Server Service

2. Restore the backup data to the database.

3. 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.

4. 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.

5. Install RICOH Streamline NX.

To start installation, click [Next] after starting the installer, and then click [Modify].

For details about how to install the system, see page 28 "Installing RICOH Streamline NX".

6. Start the following services:

- RICOH SLNX Central Manager Service
- RICOH SLNX Delegation Server Service

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.

Upgrading, Modifying, or Repairing RICOH Streamline NX

You can upgrade, change, or repair the RICOH Streamline NX system.

Upgrade

You can upgrade from an older version of RICOH Streamline NX version 3.x to a newer one just by running upgrade installer.

Modify (Change)

You can change the installed RICOH Streamline NX server components.

Repair

You can reinstall or repair all installed components. This will fix installation errors in the system such as missing or corrupt files, shortcuts, and registry entries.

2

Upgrading RICOH Streamline NX

You can upgrade RICOH Streamline NX simply by running an upgraded version of the installer.

Be sure to upgrade the Core Server before upgrading the Delegation Servers.

After upgrading the Delegation Server, also upgrade RICOH Streamline NX PC Client and the MIE Server.

The procedure for the upgrade installation of each component is the same as that for new installation.

★ Important

- You can upgrade from up to three previous versions. In the other cases, you should upgrade via any version between the existing version and the upgraded version.
- An upgraded Core Server can communicate with the Delegation Server of a previous version, but a new Delegation Server cannot communicate with a Core Server of a previous version. Make sure to upgrade the Core Server first.
- If the Core Server is not installed together with the Delegation Server or MIE Server, start the RICOH SLNX Delegation Server Service or RICOH SLNX Mobile Intranet Extender Service manually after upgrading the server.
- Amazon Corretto is not upgraded automatically by upgrading RICOH Streamline NX, so upgrade it manually. For details, see page 62 "Upgrading Amazon Corretto".

↓ Note

- The database is automatically migrated according to the installed version during the first start-up of the Core Server Service after the upgrade installation.

Upgrading Amazon Corretto

1. Stop RICOH SLNX Central Manager Service and RICOH SLNX Delegation Server Service.
2. Run the installer in the "Java" folder on the installation media.
3. Start RICOH SLNX Central Manager Service and RICOH SLNX Delegation Server Service.

Modifying RICOH Streamline NX

You can change the installed RICOH Streamline NX server components.

1. Click [Start] ▶ [Settings] ▶ [Apps & Features].
2. Click RICOH Streamline NX ▶ [Modify].

The procedure for modifying the installation of each component is the same as that for new installation.

Note

- The administrator must run a task to reinitialize Streamline NX Embedded Application when the port number of the Delegation Server is changed after performing the "Change" installation of RICOH Streamline NX system. For details, see "Reinitializing Streamline NX Embedded Application", Administrator's Guide.

Repairing RICOH Streamline NX

You can reinstall or repair all installed RICOH Streamline NX components.

1. Click [Start] ▶ [Settings] ▶ [Apps & Features].
2. Click RICOH Streamline NX ▶ [Repair].

The procedure for repairing the installation of each component is the same as that for new installation.

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

3

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 10 Pro/Enterprise/Education (32/64 bit) • Windows 11 Home/Pro/Enterprise/Education (64 bit)
Middleware	• Citrix Virtual Apps and Desktops 7 2206, 2209

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.
- When using non-Java-VM bundle RICOH Streamline PC Client, Java Runtime Environment (JRE) needs to be installed using an MSI installer provided by a third party, since RICOH Streamline PC Client Installer relies on the Windows System environment variable.
- RICOH Streamline PC Client installer does not prompt you to install JRE even if no JRE is found in user environment. In this case, RICOH Streamline PC Client will not run after installation.

↓ 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)
MonitoringTCP=(monitor standard TCP/IP port or not) MonitoringUSB=(monitor
USB port or not) MonitoringShared=(monitor shared printer jobs or not)
JreInstall=(install JRE or not)
```

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].

Command/option	Description
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)].
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 are 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

Command/option	Description
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.
MonitoringTCP	Specify whether to monitor PC Client Direct Print jobs via standard TCP/IP ports. true: Monitor. false: Do not monitor.
MonitoringUSB	Specify whether to monitor PC Client Direct Print jobs via USB ports. true: Monitor. false: Do not monitor.
MonitoringShared	Specify whether to monitor print jobs to shared printers. true: Monitor. false: Do not monitor.

Command/option	Description
JreInstall	Specify whether to install a specific version of Java or use Java Runtime Environment installed on the system. Yes: Java Runtime Environment (JRE) is installed, and RICOH Streamline NX PC Client uses only the installed JRE. No: JRE is not installed, and RICOH Streamline NX PC Client uses the JRE installed on the system.  Note - When you select "No", confirm the following: - RICOH Streamline NX PC Client uses Java 8, so Java 8 must be installed in the system. - A single version of Java must be installed on the system. Multiple JREs on a computer are not supported. - Only Oracle and Correto JREs are supported currently as the system JRE used by RICOH Streamline NX PC Client.
ProxyType	Specify whether to use a proxy when connecting to the network. specific: Input server and port. none: Do not use a proxy.
ProxyServer	Specify the proxy server host name or IP address.
ProxyPort	Specify the port number of the proxy server.
ProxyExclude	Specify the IP addresses or domain names of servers to be accessed without a proxy. You can specify multiple addresses by separating them with ";" (semi-colon). "*" can be used as a wild card.
ProxyUser	Specify the user name used to connect to the proxy server.
ProxyPassword	Specify the password used to connect to the proxy server.

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 whether to install a specific version of Java or use Java Runtime Environment installed on the system, and then click [Next].

- [Install Java Runtime for Streamline NX]

Java Runtime Environment (JRE) is installed, and RICOH Streamline NX PC Client uses only the installed JRE.

- [Use System Java Runtime]

JRE is not installed, and RICOH Streamline NX PC Client uses the JRE installed on the system.

Note

- When you select [Use System Java Runtime], confirm the following:
 - RICOH Streamline NX PC Client uses Java 8, so Java 8 must be installed in the system.
 - A single version of Java must be installed on the system. Multiple JREs on a computer are not supported.
 - Only Oracle and Correto JREs are supported currently as the system JRE used by RICOH Streamline NX PC Client.

5. 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.

6. Configure the following settings on the Delegation Server settings window, and then click [Next].

- [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.

7. 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.

8. 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.

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

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

10. 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.

11. To trust all certificates, select [Trust all Certificates], and click [Next].**12. 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.

13. Select the authentication method for the print jobs in the Authentication Method window, and click [Next].

Depending on the settings configured by the administrator, this setting will be ignored.

- [Use User Name and Password Authentication]

The User Name and Password specified by the user are used for authentication.

- [Use Windows Authentication]

Windows logon user name and password are used for authentication.

- [Use OpenID Connect Authentication]

The OpenID Connect authentication information specified by the user on the Web browser is used for authentication. This is set by the administrator, and the user cannot change the setting on the installer.

14. 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

15. 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

16. Specify whether to monitor print jobs to Standard TCP/IP ports, USB ports, and shared printers, and then click [Next].

17. Specify the proxy settings, and then click [Next].

- [Proxy]

Specify whether to use a proxy when connecting to the network.

- [Use Specific proxy]: Input server and port.
- [Do not use]: Do not use a proxy.

- [Server]

Specify the proxy server host name or IP address.

- [Port]

Specify the port number of the proxy server.

- [User Name]

Specify the user name used to connect to the proxy server.

- [Password]

Specify the password used to connect to the proxy server.

- [Exclude Hosts]

Specify the IP addresses or domain names of servers to be accessed without a proxy. You can specify multiple addresses by separating them with ";" (semi-colon). "*" can be used as a wild card.

- 18. Click [Install] on the start installation window.**
- 19. When the installation is completed, click [Complete].**

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 69 "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.
- A message prompting you to restart the computer may be displayed after completing uninstallation of RICOH Streamline NX PC Client. In this case, restart the computer. If you do not restart at this point and install RICOH Streamline NX PC Client again, RICOH Streamline NX PC Client may not start after restarting the computer at a later time. You can fix the problem by performing Modify installation.

4. Installing RICOH Streamline NX PC Client for Mac

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

Operating Environment of RICOH Streamline NX PC Client for Mac

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

Item	Requirements
Hardware	• CPU: Intel Core i3 or later • RAM: 2 GB • Hard disk space: 2 GB (not including database)
Operating system	macOS 10.15, 11.2, 12.0

Supported Printer Drivers

To perform Client Secure Print using RICOH Streamline NX PC Client for Mac, the Printer driver that supports the function is required.

Installing RICOH Streamline NX PC Client for Mac

RICOH Streamline NX PC Client for Mac 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.

Installing RICOH Streamline NX PC Client for Mac Silently

1. Unzip "MacClientSilentInstaller.zip", and then open the configuration file "slnx.conf" using a text editor.
2. Configure the settings such as the IP address of Delegation server, SSL, etc., and then save the configuration file "slnx.conf".

Examples of items you can configure in "slnx.conf" are:

- URLs to the Delegation Servers
- Whether or not to check SSL certificates
- Connection timeout and connection retries
- Database location
- Job store directory
- SLNX daemon http(s) server port and SLNX daemon protocol
- Location name to use when calling getConfig on the Delegation Server
- Whether to delete jobs after printing
- Whether to allow Blowfish encryption for application login
- How many days/hours to retain jobs
- Whether to exclude weekends when calculating storage period
- Job storage period
- Job deletion interval
- How many days to cache user login (used when Delegation Server is not available)

- How many days to cache license (used when Delegation Server is not available)
- Whether to use network proxy
- Proxy URL, Proxy User Name, and Proxy Password
- Whether to use OpenID Connect Authentication
- Settings related to OIDC server

3. Open Terminal.

4. Enter "`sudo sh install.sh -b slnxb -cb slnxb.conf -d slnxd -pl com.ricoh.slnx.client.plist -k connection_key -cd slnx.conf`" without quotes and replacing "connection_key" with the key configured for RICOH Streamline NX PC Client on the "Security Connection Keys" screen during RICOH Streamline NX system installation.
5. When using a proxy, enter "`sudo sh install.sh -b slnxb -cb slnxb.conf -d slnxd -pl com.ricoh.slnx.client.plist -k connection_key -pp proxy_password -cd slnx.conf`" without quotes, replacing "connection_key" with the key configured for RICOH Streamline NX PC Client on the "Security Connection Keys" screen during RICOH Streamline NX system installation and "proxy_password" with the HTTP proxy password.
6. When using OpenIDConnect Authentication, enter "`sudo sh install.sh -b slnxb -cb slnxb.conf -d slnxd -pl com.ricoh.slnx.client.plist -k connection_key -cs client_secret -cd slnx.conf`" without quotes, replacing "connection_key" with the key configured for RICOH Streamline NX PC Client on the "Security Connection Keys" screen during RICOH Streamline NX system installation and "client_secret" with the OIDC Client Secret.

Installing RICOH Streamline NX PC Client for Mac Manually

1. Double click the ClientInstaller.pkg file.
2. Click [Continue].
3. Read the Read Me First screen, and then click [Continue].
4. Read the SOFTWARE LICENSE AGREEMENT screen, and then click [Continue].
5. Click [Agree], and then click [Continue].
6. Confirm that [Mac-Client] is selected, and then click [Continue].
7. Click [Install].
8. Enter [Username] and [Password], and click [Install Software].
9. Configure the following settings on the Settings window:
 - [Delegation server url]
Enter the full URL of the Delegation Server.
 - [Connection key]
Enter the RICOH Streamline NX PC Client connection key.

- [Location name]
Enter the PC Client Location Profile name. When you do not specify the PC Client Location Profile name, the "default" location profile is applied.
- [Enforce valid certificate]
Specify whether to enforce the valid certificates or allow self-signed certificates when connecting to the Delegation Server.
- [Listening port]
Specify the HTTP or HTTPS port number used to obtain the print settings from the Delegation Server.
The default HTTP port number is 11100, and the default HTTPS port number is 58443.
- [Listening protocol]
Select [http] or [https].
When selecting [http], the self-signed certificate and private key will be created.
- [Proxy]
Select whether to use a network proxy.
When selecting this option, specify [Proxy URL], [Proxy User], and [Proxy Password].

10. Click [Continue].

11. Configure the following settings on the OIDC Settings window:

- [Use OpenIDConnect Authentication]
Select whether to use OpenID Connect Authentication.
When selecting this option, specify [Authentication Endpoint], [Authentication Token Endpoint], [Client Id], [Client Secret], [Redirect Port], and [User Attribute].
- [Authentication Endpoint]
Specify the Authentication Endpoint of the OIDC server.
- [Authentication Token Endpoint]
Specify the Authentication Token Endpoint of the OIDC server.
- [Client Id]
Specify the Client ID used for accessing the OIDC server.
- [Client Secret]
Specify the Client Secret used for accessing the OIDC server.
- [Redirect Port]
Specify the port to which the SLNX Daemon should listen.
The default is 58008.
- [User Attribute]

Specify the attribute from the OIDC authentication response to use as the user name. This user name will be sent to the RICOH Streamline NX system to identify the user.

The default is "preferred_username".

Uninstalling RICOH Streamline NX PC Client for Mac

You can uninstall RICOH Streamline NX PC Client for Mac silently or manually.

Silent Uninstallation

This uninstalls the software by running a command in Terminal. 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 for Mac Silently

1. Open Terminal.
2. Execute the "uninstall_script.sh" script.

Uninstalling RICOH Streamline NX PC Client for Mac Manually

1. Double click the ClientInstaller.pkg file.
2. Click [Continue].
3. Read the Read Me First screen, and then click [Continue].
4. Read the SOFTWARE LICENSE AGREEMENT screen, and then click [Continue].
5. Click [Agree], and then click [Continue].
6. Clear the check box for [Mac-Client], and then select [Uninstall].
7. Click [Continue].
8. Click [Install].
9. Enter [Username] and [Password], and click [Install Software].

5. 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 57 "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 63 "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.

6. Appendix

This chapter describes additional information and limitations related to installation of the RICOH Streamline NX system.

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).

6

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 28 "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 28 "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 28 "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 28 "Installing RICOH Streamline NX".

When installing with a Delegation Server:

Only when 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 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 MIE 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 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 28 "Installing RICOH Streamline NX".

2. ▶ page 88 "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 90 "Configuring the Cluster Resources of the Core Server"
- Delegation Server
page 91 "Configuring the Cluster Resources of the Delegation Server"
- MIE server
page 92 "Configuring the Cluster Resources of the MIE Server"

4. ► page 53 "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 85 "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.

6

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)
```

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.

6

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

Change to:

```
wrapper.java.additional.1.2=-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.

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 8.0 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

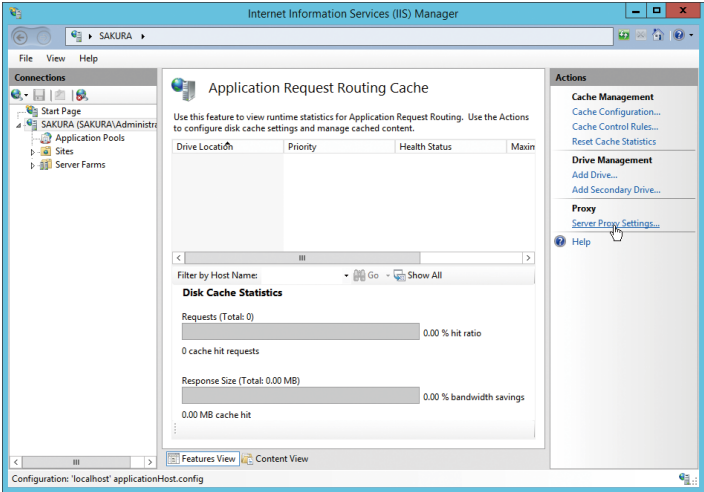
1. Install IIS on the server with RICOH Streamline NX installed.

For the IIS installation method, see the Microsoft website.

2. Start IIS Manager.

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

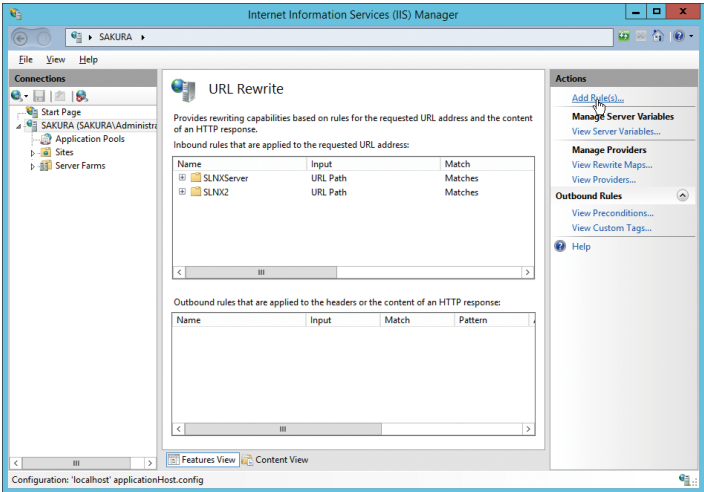
4. Click [Server Proxy Settings] in the [Actions] pane.



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].

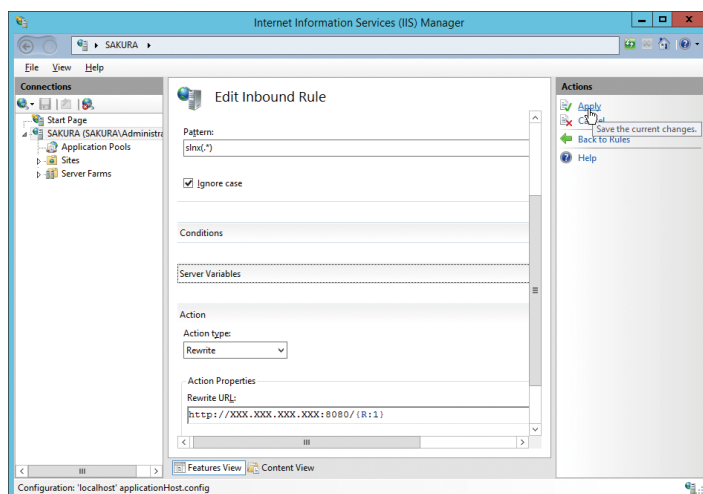
9. On the [Edit Inbound Rule] window, change the URL redirect rule from [IIS] to [RICOH Streamline NX].

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

Item	Description
Name	Enter the name of the receiving rule.

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

6

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 56 "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.
- Some device information might not be collected due to the specification of devices and/or the FMAudit Agent even if they are indicated as supported on the "Retrievable Device Information" table.
- It is strongly recommended to conduct a controlled test deployment of the FMAudit Agent to workstations with USB-connected devices.

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 10 Pro/Enterprise/Education/Home (32/64 bit) • Windows 11 Home/Pro/Enterprise/Education (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

6

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
• 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	✓		

Item	Device type		Description
	Ricoh device	Non-Ricoh device	
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

6

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.

Switching the Type of Streamline NX Embedded Applications to Be Installed

There are three types of Streamline NX Embedded Applications:

- Streamline NX Embedded Applications for devices with the Smart Operation Panel that operates only in Smart Operation mode (hereafter referred to as Type Smart)
- Streamline NX Embedded Applications for Standard Operation mode (hereafter referred to as Type Standard)
- Streamline NX Embedded Applications for devices with the Smart Operation Panel that operates in both Standard and Smart Operation mode (hereafter referred to as Type Hybrid)

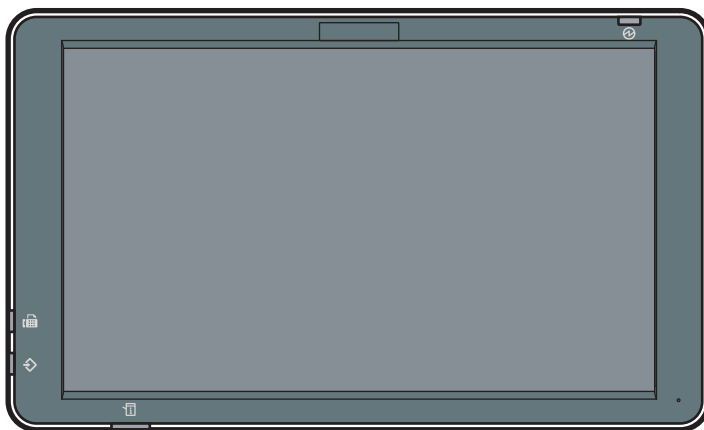
You can switch the type of Streamline NX Embedded Applications to be installed as necessary.

Installing Type Standard

You can install Type Standard 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.

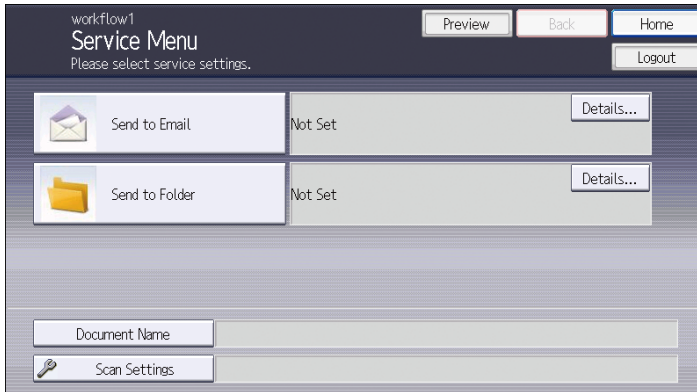
See below for the exterior view of the Smart Operation Panel and an example screen of Standard Operation mode supported in this feature.

Smart Operation Panel



DSW163

Standard Operation mode (Service Menu)



1. Log in to the Management Console using a user account that has SysConfigRead, SysConfigWrite, and @RemoteCE privileges.
2. Click [System] ► [Server Settings] ► [Advanced System Settings Editor].
3. Click [View] ► [Delegation Server Settings].
4. To apply this change to all Delegation Servers, select [Global Settings]. To apply this change to a specific Delegation Server, select the target Delegation Server.
5. Select the key "slnx.embedded.install.standard.enabled".
6. Set [Type] to "Boolean", and [Value] to "True".
The default is "false". If the value is set to "false", Type Hybrid or Type Smart will be installed.
7. Click (Save).

Note

- If you want to change the interface type of a Streamline NX Embedded 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 Embedded Applications", Administrator's Guide.

Installing Type Hybrid

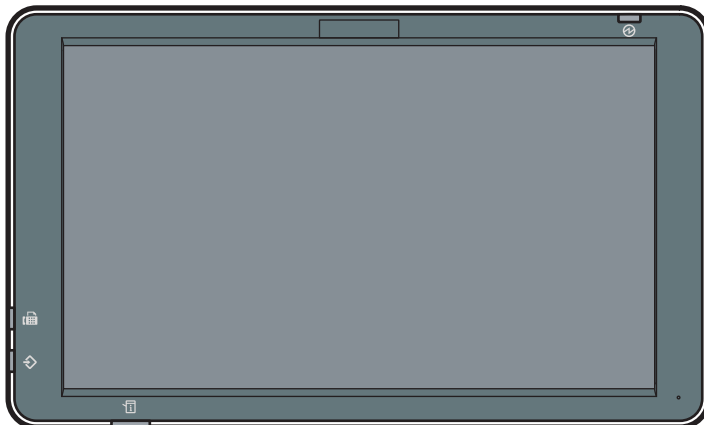
In version 3.4 or later, RICOH Streamline NX does not install Type Hybrid but Type Smart when newly installing Streamline NX Embedded Applications on some models equipped with Smart Operation Panel*.

If you are using RICOH Streamline NX version 3.4 or later and need to newly install Type Hybrid on these devices for reasons such as the card reader is unable to be connected to the operation panel, configure as described below.

* For details about the corresponding models, contact your service representative.

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

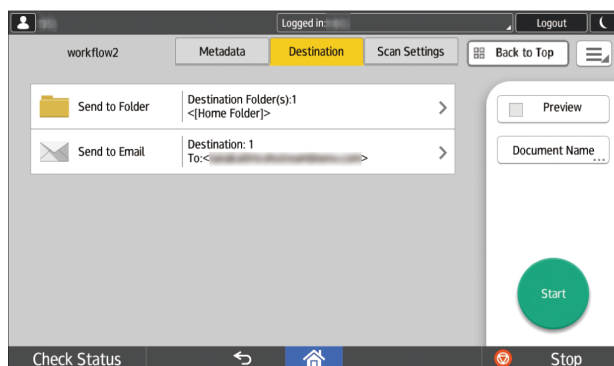
Smart Operation Panel



DSW163

6

Standard Operation mode (Service Menu)



★ Important

- Regardless of the configuration below, Type Hybrid is installed when upgrading from Type Hybrid.
 - When connecting a card reader to a device with Type Smart, connect it to the USB port on the operation panel. When connecting to a device with Type Hybrid, connect it to the USB port on the device.
 - When using the configuration below, the upgrade installation from Type Smart will be aborted with a warning.
1. Log in to the Management Console using a user account that has SysConfigRead, SysConfigWrite, and @RemoteCE privileges.
 2. Click [System] ► [Server Settings] ► [Advanced System Settings Editor].

3. Click [View] ► [Delegation Server Settings].
4. To apply this change to all Delegation Servers, select [Global Settings]. To apply this change to a specific Delegation Server, select the target Delegation Server.
5. Click  (Add) and enter "slnx.embedded.install.hybrid.enabled" for [Key].
6. Set [Type] to "Boolean", and [Value] to "True".
7. Click  (Save).

Upgrading Type Hybrid or Type Standard to Type Smart

When upgrading Type Hybrid or Type Standard to Type Smart, you must first uninstall the current type of Streamline NX Embedded Applications and [SLNX Management Extension]. In addition, the card reader must be re-connected from the controller to the panel.

* For details about the models for which Type Hybrid/Standard can be upgraded to Type Smart, contact your service representative.

1. Uninstall Type Hybrid or Type Standard and SLNX Management Extension (if installed) from the target devices.

1. Create a configuration template to uninstall [SLNX Management Extension]. On the template, select [Local File] for [Application Source]. Then, check [Uninstall] and select [SLNX Management Extension] from the list of [Application Name].

Note

- Application Names are listed based on the names collected from devices via [Other Polling]. If [SLNX Management Extension] is not listed, it means no devices have it in the system.
2. Create a configuration task to apply the default "Uninstall SLNX Embedded" template and the "Uninstall SLNX Management Extension" template to the target devices.
 3. Execute the configuration task.
 4. Confirm the result on Task Log.

2. Disable SDK/J Platform on the target devices.

First, check the list of installed Streamline NX Embedded Applications of the target devices. On the Management Console, click [Device List] ► [Device Properties] ► [Optional Properties] ► [Installed Applications]. If there is a Type Standard or Type Hybrid application, it will not work after disabling SDK/J Platform. Contact the provider for the availability of Type Smart application.

For on-board SDK/J Platform models

1. When the Extended Item Setting license is activated, disable [Enable SDK/J Platform installed in the devices] in [System] ► [System Information and Settings] ► [Server Settings].
2. Create a new configuration template in [Standard Device Preferences].

3. Select [Create Blank Template].
4. Select [Off] in [Device Functions] ► [SDK/J Platform] ► [Enable SDK/J Platform].
5. Save the template.
6. Create a configuration task to apply the template on the listed devices.
7. Execute the configuration task.
8. Confirm the result on Task Log.
9. Execute [Other Polling] on all devices. Confirm that "Device: SDK/J Platform Version" column is blank on the target devices.

For VM Card SDK/J Platform models

1. Turn off the devices, and then remove VM Card from them physically.
2. Restart the devices.
3. Execute [Other Polling] on all devices. Confirm that "Device: SDK/J Platform Version" column is blank on the target devices.

3. Re-connect card readers on each device's control panel.

For details, contact your RICOH service representative.

4. Disable installation of Type Standard in the system.

If installation of Type Standard is enabled in the system, disable it. Otherwise, Type Standard is installed to all devices whose SDK/J Platform is enabled.

1. Log-in to the Management Console using a user account that has SysConfigRead, SysConfigWrite, and @RemoteCE privileges.
2. Click [System] ► [Server Settings] ► [Advanced System Settings Editor].
3. Click [View] ► [Delegation Server Settings].
4. To apply this change to all Delegation Servers, select [Global Settings]. To apply this change to a specific Delegation Server, select the target Delegation Server.
5. Find the "slnx.embedded.install.standard.enabled" key.
6. Set [Type] to "Boolean", and [Value] to "False".
7. Click  (Save).

5. Confirm that installation of Type Hybrid is disabled in the system.

This is optional. When using Type Hybrid on existing devices, confirm that installation of Type Hybrid is disabled in the system. Otherwise, Hybrid Type Apps will be installed to certain models.

1. Log-in to the Management Console using a user account that has SysConfigRead, SysConfigWrite, and @RemoteCE privileges.
2. Click [System] ► [Server Settings] ► [Advanced System Settings Editor].
3. Click [View] ► [Delegation Server Settings].

4. To apply this change to all Delegation Servers, select [Global Settings]. To apply this change to a specific Delegation Server, select the target Delegation Server.
5. Find the "slnx.embedded.install.hybrid.enabled" key.
6. Set [Type] to "Boolean", and [Value] to "False".
7. Click  (Save).

6. Install Streamline NX Embedded Applications.

1. Create a configuration task to apply the default "Install SLNX Embedded" template.
2. Execute the configuration task.
3. Confirm the result on Task Log.

Note

- When [Keyboard-emulation Reader] is selected in [Configuration] ► [Streamline NX Embedded Settings] ► [Embedded Authentication] ► [Card Reader], card reader connection will be checked during the task. When the card reader is connected to the controller after the installation succeeded, "Error Code 79: Card Reader is not set correctly." is logged in the Task Log details. In such case, turn-off the device and re-connect the card reader to the panel. Then start the device.

7. Confirm the installation result.

There are two ways to confirm: in Task Log details and Device List.

Confirming in Task Log details

1. Create a configuration task to check "Install SLNX Embedded".
2. If Streamline NX Embedded Applications is installed properly, "Match" will be logged. Or, if card reader is connected to the controller by mistake, "Error Code 79: Card Reader is not set correctly." is logged.

Confirming in Device List

1. Execute [Other Polling] on all devices.
2. Add "Device: SDK/J Platform Version" and "Device: Embedded Applications" columns on the Device List.
3. Confirm that Type Smart is installed on devices whose SDK/J Platform Version is blank.

8. Disable automatic upgrade of Type Hybrid.

This is optional. When this is disabled, existing Type Hybrid is not upgraded to Type Smart by a configuration task. It helps you notice Type Hybrid and migrate it to Type Smart.

1. Log-in to the Management Console using a user account that has SysConfigRead, SysConfigWrite, and @RemoteCE privileges.
2. Click [System] ► [Server Settings] ► [Advanced System Settings Editor].
3. Click [View] ► [Delegation Server Settings].

4. To apply this change to all Delegation Servers, select [Global Settings]. To apply this change to a specific Delegation Server, select the target Delegation Server.
5. Find the "slnx.embedded.upgrade.hybrid.enabled" key.
6. Set [Type] to "Boolean", and [Value] to "False".
7. Click  (Save).

Note

- SLNX Management Extension (Type:SOP) will be installed to the target devices automatically when a configuration task that requires SLNX Management Extension (Type:SOP) is executed.
- As a condition to install SLNX Management Extension (Type:SOP) instead of SLNX Management Extension (Type:J), SDK/J Platform must be disabled on the device side.

Specifying the NIC IP Address to Use for Connecting to the Core Server

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

★ 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 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 IP address, and then click (Move).

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

Switching from Oracle Java SE8 to Amazon Corretto OpenJDK

To switch the RICOH Streamline NX internal module from Java Runtime Environment (JRE) to Amazon Corretto OpenJDK, use the following procedure.

1. **Stop RICOH SLNX Central Manager Service, RICOH SLNX Delegation Server Service, and RICOH SLNX Mobile Intranet Extender Service on the server.**
2. **Open Windows [Control Panel], and then click [Programs and Features].**
3. **Uninstall Oracle Java.**
4. **Install Amazon Corretto OpenJDK by running the Amazon Corretto v8 JDK MSI installer.**
 - The Amazon Corretto v8 JDK MSI installer is stored in the "\Java" folder in the RICOH Streamline NX install media.
5. **Start RICOH SLNX Central Manager Service, RICOH SLNX Delegation Server Service, and RICOH SLNX Mobile Intranet Extender Service on the server.**

Exporting the Certificate 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 and access the following URL to export the certificate from the MIE server.

`http(s)://{MIE Server Name}:{MIE Port}`

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 is configured on a workgroup, you cannot connect from an iOS device to the MIE server.

Installing Mac CUPS Filter

To send a Server Secure Printing job from a computer running macOS to the Delegation Server, install the Mac CUPS filter.

★ Important

- Mac CUPS Filter and RICOH Streamline NX PC Client for Mac cannot be installed on the same computer.
1. Unzip "CupsBackendShellInstaller.zip" in the "Mac CUPS" folder in the "Mac Client" folder on the installation media.
 2. Modify the "slnx.conf" file to specify the Delegation Server IP address and enter the connection key.
 3. Open a Terminal window.
 4. Enter "sudo sh cups.sh -b slnx -p pilppd_source.ppd -c slnx.conf".

Enter the string without quotes.

↓ Note

- The default printer name is "SLNX". To change the printer name, open the "cups.sh" file and modify the line "PRINTERNAME=SLNX". Note that no non-breaking spaces are allowed in the printer name.
- To uninstall the Mac CUPS filter, follow the procedure below:
 1. Open a Terminal window.
 2. Enter the following commands:


```
sudo rm -/usr/licexec/cups/backend/slrx
sudo rm /private/etc/cups/slrx.conf
sudo lpadmin -x SLNX (when the printer name is "SLNX")
```

When There Are Not Enough Maintenance and Support Points Remaining

Even if the Maintenance and Support licenses are expired, you can keep using the RICOH Streamline NX system with no functional limitation except for the following:

1. You cannot update the Core Server.

The update installation stops and the following error message is displayed.

"To perform upgrade, it is necessary to validate maintenance."

Note

- Patch modules for a bug fix can be applied even if the Maintenance and Support licenses are expired.
2. A notification message about the expiration of the Maintenance and Support licenses is displayed when an administrator logs in to the Management Console. Also, the expiration date is displayed on the Management Console.

Service Account Setting

The account settings needed to run Streamline NX server services are described in the table below.

Service Name	Account Required based on SQL Authentication Mechanism	
	Using SQL Authentication	Using Windows Authentication
RICOH SLNX Central Manager Service	"Local System Account"	Domain User with Local Administrator permissions
RICOH SLNX Delegation Server Service	"Local System Account"	Domain User with Local Administrator permissions
RICOH SLNX Mobile Intranet Extender Service	"Local System Account"	Domain User with Local Administrator permissions
RICOH SLNX Process Watcher Service	"Local System Account"	"Local System Account"

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