Printer Profile Manager Enterprise Version 4.0



Installation Guide

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About This Document

This section provides you with contact information, document structure and organization, and additional reference documents.

Who Should Use This Document

This Installation Guide is intended for use by any person who needs to perform installation, routine maintenance, upgrade, or troubleshoot problems with the printer.

How This Document Is Organized

Section	Description
Installation, Upgrade, and Uninstall	This section includes the procedure to install
on page 6	Printer Profile Manager Enterprise (PPME),
1 0	upgrade, and uninstall it.
License on page 37	This section provides general and specific
1 0	information about the license.
LDAP User Directory	This section provides you with contact
Configuration on page 39	information, document structure and
5	organization, and additional reference
	documents.
Troubleshooting on page 41	This section provides assistance with installation
······································	and other known issues.

The Installation Guide is set up as follows:

Installation, Upgrade, and Uninstall

This section includes the procedure to install Printer Profile Manager Enterprise (PPME), upgrade, and uninstall it.

System Requirements

Supported Operating Systems

Windows:

- Windows Server[®] 2016, 64-bit processor
- Windows Server[®] 2019, 64-bit processor
- Windows Server[®] 2022, 64-bit processor
- Windows[®] 10, 64-bit processor
- Windows[®] 11, 64-bit processor

Browsers

Chrome Browser version 97

Minimum System Requirements

CPU cores: 4

Memory (RAM): 16GB

Minimum: 50GB available drive space

Using the printer analytics or battery management functions will require up to 1TB of disk space. Please refer to the Printer Profile Manager Enterprise User Guide for more information on these features.

Recommended System Requirements

CPU cores: 8

Memory (RAM): 16GB

Printer Requirements

Printers must run Link-OS 2.5 or later in order to connect to PPME.

Printers must run Link-OS 6.0 or later in order to use the Certificate Management feature.

Printers must run Link-OS 6.6 or later in order to use the SGD escape syntax in a Certificate Management Item subject alternative name field.

Network Access Requirements

Internet Access



IMPORTANT: Internet access is required to complete the installation and for the continued use of PPME.

For the PPME licensing system to work, the server must have continued internet access and be able to reach my.nalpeiron.com using port 443.

NOTE: Previous versions of PPME used port 80. Port 443 is used in version 3.2 and later.

For certificate signing, the server must have outgoing port 443 open to the internet, and must be able to reach acs.zebra.com

Internal Network Outgoing Ports

Zebra printers support a discovery process that utilizes UDP on port 4201.

Initial printer configuration may use TCP ports 9100, 9200, or 6101.

If using LDAP, additional ports may need to be opened.

Server Access (Incoming Ports)

The server firewall should be configured to only allow the following incoming ports:

- Port 8443: printer connections
- Port 443: client connections



Best Practice: Zebra recommends that PPME is installed on a physical or virtual server that complies with Microsoft <u>Windows security baselines</u>. Local access to the server should only be by an administrator for software updates, maintenance, and backup. It should not be used as a workstation.









Before You Begin

Ensure that your system clock and time zone are set properly before beginning the installation.



CAUTION: If your server clock is not set to the current time, you will experience issues with installation, provisioning events, operations log, and licensing.

If you have a version of PPME currently installed, continue with Backup PPME on page 12, and then proceed to Upgrading PPME on page 33.

If you do not have a version of PPME installed, proceed to Installation on page 14.

Information Checklist for Installation

The following is a list of information that the user setting up the administrator (admin) account must have before he begins the installation. If you have made changes to these assumptions (location, user, or directory), substitute your changes in the steps, as needed.

- 1. Installation location: The default location is C:\Program Files\Zebra Technologies\Printer Profile Manager Enterprise
- 3. Administrator account information:
 - a. Full Name
 - b. Username
 - c. Email Address
 - d. Password
- 4. Server
 - a. Fully Qualified Domain Name (FQDN)
 - b. Do you wish to Use Detected FQDN? (Checkbox)
- 5. PPME License code or Use in Evaluation Mode (Checkbox for Use in Eval. Mode)
- 6. Network IP Addressing:
 - a. DHCP or Static/Permanent IP addressing (Radio buttons)
 - b. DNS Server List

The DNS Server List is a space-delimited list of DNS Server IP addresses. Ensure that each IP address is a valid IPv4 address and that the addresses are separated by a space. The total list of addresses should not be longer than 255 characters.

c. DNS Domain Name

The DNS Domain Name needs to be a valid DNS name (for example, no white space in the name and no longer than 255 characters).

- 7. Outgoing Email Server (SMTP Server)
 - a. SMTP Server Host Name
 - b. Port

c. From Address

Spaces or other whitespaces in the email address is a common cause for failure when requesting a certificate.

- d. Enable SSL and Require Authentication (Checkboxes)
- e. (Optional) Do you wish to Send Test Email or skip to refrain from sending the test email.
- 8. Certificate Creation details:
 - a. Company name
 - b. Department
 - c. Address
 - d. City
 - e. State
 - f. Country
 - g. Postal Code
 - h. Email address
 - i. Phone number
 - j. Server Name (Fully Qualified Domain Name)
- 9. Type of Server's SSL Certificate
 - a. SHA-1: Zebra-Signed Certificate
 - b. SHA-2: Self-Signed Certificate
- **10.** For SHA-1 certificate, you will need the Port number.
- 11. For SHA-2 certificate, you will need the Password and Port number.

Backup PPME

Key Assumptions

If you have made changes to these assumptions (location, user, or directory), substitute your changes in the steps, as needed.

- Assume the location of installation is C:\Program Files\Zebra Technologies\Printer Profile Manager Enterprise
- Assume the local user is Administrator



NOTE: Versions later than v3.3.7607 do not install anything under user profile folders.

Assume the local PPME directory is located at:

The default location in v3.3.7607 and prior versions is: **%USERPROFILE%\.PPME**

The default location for versions later than v3.3.7607 is: %PROGRAMDATA%\Zebra Technologies\Printer Profile Manager Enterprise\.PPME

IMPORTANT: If you are using the same server, printers will not connect after an uninstall or re-install. If you save the certificate, then you are able to re-use it. If you have not saved it, you will not be able to re-use it.

Stop Services

This section directs you to "stop an "xyz" service". You may stop a Microsoft service using several methods:

- Services Window
- net Command
- Sc Command
- Task Manager
- PowerShell

To stop services using the Task Manager, perform the following steps:

- 1. Open the Task Manager (CTRL+SHIFT+ ESC).
 - Click the **Services** tab at the top of the Task Manager window.
- 2. To stop the Printer Profile Manager Enterprise service (ppme-service):
 - a. Select the name of the service.
 - **b.** Right-click on the service.
 - c. Select STOP to stop the specific service.
- 3. To stop the 'Printer Profile Manager Enterprise Database x.x.xxxx' service (Printer Profile Manager Enterprise Database x.x.xxxx): (Where x.x.xxxx indicates the version number of the software.)
 - a. Select the name of the service.
 - **b.** Right-click on the service and select **STOP** to stop the specific service.

4. Close the Task Manager window.

To backup your installation, perform the following steps:

1. Backup the following directories:

In v3.3.7607 and prior versions:

%USERPROFILE%\.PPME

%LOCALAPPDATA%\Printer Profile Manager Enterprise

In versions later than v3.3.7607:

%PROGRAMDATA%\Zebra Technologies\Printer Profile Manager Enterprise

- 2. Backup the 'C:\Program Files\Zebra Technologies\Printer Profile Manager Enterprise' directory.
- 3. Start the 'Printer Profile Manager Enterprise Database x.x.xxxx' service using Task Manager.(Where x.x.xxxx indicates the version number of the software.)
- 4. Start the 'Printer Profile Manager Enterprise' service using Task Manager.

Installation

The PPME Installation consists of two parts: the File Deployment and the Application Setup Wizard. Both parts must be completed to use and access the PPME application.

IMPORTANT: Internet access is required to complete the installation of PPME.

File Deployment

This section shows the screens you will see during the file deployment portion of the installation.

- 1. Log into the server (where you wish to install PPME) as an Administrator.
- 2. To launch the Printer Profile Manager Enterprise (PPME) installer, double-click on PPMEx.x.xxx.exe. (where x.x.xxxx indicates the version number of the software)

Figure 3 Welcome Dialog



3. Click Next to continue.

The License Agreement dialog displays.

Figure 4 License Agreement Dialog

cense Agreement	2
Please review the license terms before installing Zebra Printer Profile Manager Enterprise.	á
Press Page Down to see the rest of the agreement.	
END USER LICENSE AGREEMENT	^
(DEMO SOFTWARE)	
IMPORTANT PLEASE READ CAREFULLY: This End User License Agreement ("EULA") is a legal agreement between you (either an individual or a single entity) ("Licensee") and Zebra International Holdings Corporation ("Zebra") for software, owned by Zebra and its affiliated companies and its third party suppliers and licensors, that accompanies this EULA, which includes machine-readable instructions used by a processor to perform	~
f you accept the terms of the agreement, click I Agree to continue. You must accept the agreement to install Zebra Printer Profile Manager Enterprise.	
	34

- 4. Click I Agree to accept the terms of the license agreement.
- 5. Click Next on Deprecation of SHA1 Certificates screen.

Figure 5 Deprecation of SHA1 Certificates

eprecation of SHA1 Certificates		ŝ
repare for changes in a future release		``````````````````````````````````````
A future release of PPME shall no long change, only printers with Link-OS 5.0 PPME.	ger support SHA1 c) or later will be ab	ertificates. After that le to connect to
Refer to the readme documentation for	or details and recor	mmended actions.
Refer to the readme documentation for	or details and recor	mmended actions.
Refer to the readme documentation for	or details and recor	mmended actions.
Refer to the readme documentation fo	or details and recor	mmended actions.
Refer to the readme documentation fo	or details and recor	mmended actions.

- 6. Ensure that your server's system clock is synchronized with a time server.
- Figure 6 Time Synchronization Dialog

🚸 Zebra Printer Profile Manager Enterprise Setup 🦳 🗌	×
Time Synchronization Synchronize your system clock with a time server	
Your Printer Profile Manager Enterprise server should be synchronized v time server to ensure time related functions use the correct time. Please ensure your server time is correct before running the application	/ith a
< Back Next > C	ancel

7. Click **Next** to continue.

Figure 7 Port Configuration Dialog

ቚ Zebra Printer Profile Mar	nager Enterprise Setup	_	□ X
Printer Profile Manager E Port 80 is already in use, pl	A.		
Server Port:	≱ 0		
	< Back	Next >	Cancel

8. The availability of port 80 will be detected. The port configuration dialog will only display if port 80 is in use on your server.

Figure 8 Port Configuration Error Dialog

🔖 Zebra	Printer Profi	le Manage	er Enterprise	Setup		_		×
Printer Port 80	Profile Man	ager Ente use, please	enter an av	Configuration ailable port num	ı ber.			Ú.
Server	Port:		5555					
	🕸 Zebra F	Printer Pro Port 5555 number.	file Manage is already in	r Enterprise Se use, please en	tup ter an avai	ilable por	× t	
		-	-	-	[OK		J
				< Back	Nex	t >	Ca	ncel

9. Enter an available port number in the **Server Port** field. The port number entered will be checked and must be available in order to continue. If not, an error dialog will display.

Figure 9 Available Port Number Dialog

ቚ Zebra Printer Profile Manage	r Enterprise Setup	_	
Printer Profile Manager Ente Port 80 is already in use, please	rprise Port Configuration enter an available port number.		ښ.
Server Port:	8080		
	< Back	Next >	Cancel

10. Once an available port number is entered (for example, 8080), click **Next** to continue. The **Installation** Location Dialog displays (Figure 10 on page 18).

ቚ Zebra Printer Profile Manager Enterprise Setup 🦳 🗌	×
Choose Install Location Choose the folder in which to install Zebra Printer Profile Manager Enterprise.	itr.
Setup will install Zebra Printer Profile Manager Enterprise in the following folder. To install in different folder, click Browse and select another folder. Click Install to start the installation.	1a
Destination Folder am Files\Zebra Technologies\Printer Profile Manager Enterprise Browse	
Space required: 247.7MB Space available: 408.8GB	
< Back Install Cance	el

Figure 10 Printer Profile Manager Enterprise Installation Location Dialog

11. Click **Install** to begin the installation.

The Installing dialog displays (Figure 11 on page 18).

Figure 11 Installing Dialog

lease wait while Zebra Printer Profile N	1anager Enterprise is being installed.	Ų
xtract: jvm.dll		
Extract: sunmscapi.dll		^
Extract: tnameserv.exe		
Extract: unpack.dll		
Extract: unpack200.exe		
Extract: verity.dli		
Extract: w2k_isa_autn.dii		
Extract: zip.dii	Technologias)Printer Profile Manager	Enteroria
Subact Vicease bit	a rechnologies printer Profile Manager	enterpris
Extract: Ausage. IXI		
Extract: JVIII.dii		~

The Installation Complete dialog displays.





12. Click Next to continue.

The Starting Required Services dialog displays.

Figure 13Starting Required Services Dialog

🚸 Zebra Printer Profile Manager Enterprise Setup	_	□ ×
Starting Required Services		514.
This may take a moment		due.
Installing PostgreSOL service		
		2 mil
< Back N	lext >	Cancel

🚸 Zebra Printer Profile Manager Enterprise Setup	_	□ X
Starting Required Services This may take a moment		n.
Installation complete		
< Back Nex	d >	Cancel

Figure 14 Starting Required Services Installation Complete Dialog

Once the Required Services are complete, the Setup Wizard Complete dialog displays.

Figure 15 Setup Wizard Complete Dialog

🗞 Zebra Printer Profile Manager Enterprise Setup - 🗆 🗙		
<u>الا</u>	Completing the Zebra Printer Profile Manager Enterprise Setup Wizard	
	Zebra Printer Profile Manager Enterprise has been installed on your computer.	
	Click Finish to close this wizard.	
ZEBRA	Launch Printer Profile Manager Enterprise	
	Show Readme	
	< Back Finish Cancel	

13. Click Finish to close the Setup Wizard.

Ensure that the checkbox is checked.

A browser window will display.



NOTE: If the browser window doesn't connect immediately, be patient, refresh your screen as PPME services may still be starting.

Chrome Browser

If this is the first time you are logging into PPME and you use Chrome as your browser, you may see the Privacy Error warning. The notification displays because PPME generates a self-signed certificate to secure your initial connection.

Click Advanced to continue to the Setup Wizard where you will be guided to set up PPME.

Warning: Do not click on Back to Safety or close the browser window without saving the PPME URL.

Figure 16 Privacy Error Warning

Privacy error	× +
← → C ▲ No	OT SECURE your.co.PPME.lan/
	A
	A
Y	our connection is not private
At	ttackers might be trying to steal your information from your company PPME.lan (for
CX	ample, passwords, messages, or credit cards). <u>Learn more</u>
NE	ET::ERR_CERT_AUTHORITY_INVALID
	J Help improve sate Browsing by sending some system information and page content to Google. Privacy policy
_	
	Advanced Back to safety

Application Setup Wizard

Introduction to the Setup Wizard

Figure 17 is a complete screenshot of the PPME Application Setup Wizard. To improve readability, all other screens for the Application Setup Wizard are cropped and the size has been increased.

Figure 17 Full Screenshot of PPME Application Setup Wizard

	1			
	Setup Wizard Server Name -2			ðt. ZEBRA <mark>→</mark> 3
	Is this the fully qualified domain name for this server? The complete domain name for this server is vital for this application to pre- correct. Fully Qualified Domain Name (FQDH) Use Detected FQDN Use Detected FQDN	operly work. It is recom	4	t change the value below unless you are certain it is 5
1	Progress bar		5	Fields to fill in
2	Purpose (or main focus) of this screen		6	Continue button advances to the next screen
3	Zebra logo		7	Help button
4	Information button provides additional information. (Click on the icon to open it.)		8	Back button returns to the previous screen
		-		

Setup Wizard

The Welcome dialog displays.

Figure 18 Welcome Dialog



1. Click Get Started to continue.

The Administrator Account dialog displays.



NOTE: If you cannot access either the Nalpeiron Licensing Server or the Zebra Certificate Signing Server, Figure 19 displays. You **must** be able to connect to both of these servers to continue.

Figure 19 Issue Connecting to Nalpeiron Licensing Server or Zebra Certificate Signing Server

The application is having a problem connecting to the following servers. 🛛				
It may need administrat	It may need to use a proxy server or there might be an issue with a firewall setting or another security device. If you are not sure, please consult with your network administrators.			
8	Nalpeiron Licensing Server https://my.nalpeiron.com	Test Again		
8	Zebra Certificate Signing Server https://acs.zebra.com/CertificateSigningServer/sign	Test Again		
Use a Proxy Off	Server			
Proxy Host		Port		
Username		Password		
		Test Proxy Settings Continue		

2. See Figure 20. Fill in the fields to create your Admin account.



NOTE: The Admin username is the role with a complete set of permissions and functionality.

- Enter the Full Name, Username, Email Address, and Password fields.
- 3. Click View EULA, and then click Accept EULA and Continue.

Figure 20 Administrator Account Dialog

The first step is to create your administrative	account. 0	
This initial Administrator account is needed to complete the	preliminary setup process, including inviting other users.	
We recommend using a strong password and keeping these	credentials in a safe place.	
Here are the password requirements. The password must:		
 Be between 8 characters and 64 characters long 		
 Use at least one uppercase and one lowercase letter 		
 Contain at least one number 		
 Have at least one of these special characters: - ~ ! @ 	# \$ % ^ & * () _ + ` - = { } [] \ ; ' : " , . / <> ?	
Full Name		
Required		
Username		
Required		
Email Address		
Required		
Password		
Required	(1) Verify	٠
		View EULA Accept EULA and Continue

The Server Accessibility dialog displays.

- See Figure 21. Enter the Fully Qualified Domain Name (FQDN) or click the checkbox to Use Detected FQDN.
- 5. Click Continue.

Figure 21 Server Accessibility Dialog



The Server License dialog displays.

- 6. See Figure 22. Enter your license code register it or Use in Evaluation Mode.
- 7. Click Continue.

Figure 22 Server License Dialog

The next step is to activate your software license key or choose to use the software in evaluation mode.	
You have 30 days to evaluate this software - or enter your license code below to register it.	
License Code	
Clas is Evolution Mode	
V OSE III EValuation mode	
	Continue
	1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 -

The Network Addressing dialog displays.

- 8. See Figure 23. Click the radio button for DHCP or Static/Permanent IP addressing.
- 9. Enter the DNS Server List and DNS Domain.



NOTE: The DNS Server List is a space-delimited list of DNS Server IP addresses. Ensure that each IP address is a valid IPv4 address and that the addresses are separated by a space. The total list of addresses should not be longer than 255 characters.



NOTE: The DNS Domain Name needs to be a valid DNS name (for example, no white space in the name and no longer than 255 characters).

10. Click Continue.

Figure 23 Network Addressing Dialog



The Outgoing Email Server dialog displays.

11. See Figure 24. Enter the SMTP server Host Name, Port, and From Address.

NOTE: Spaces or other whitespaces in the email address is a common cause for failure when requesting a certificate.

- 12. If you select the checkboxes to Enable SSL and Require Authentication, enter the username and password.
- 13. (Optional) Click Send Test Email.

Or, click Skip to refrain from sending the test email.

14. Click Continue.

RA



This capability will be used to invite new users t	e app, update the administer and important events - and to help recover/reset passwords when necessary.	
These settings are not required and can be add	it a later time.	
Host Name	Port	
From Address	Enable SSL Require Authentication	
Jsername	Password	

15. If you chose **Skip** on the previous screen, you must confirm the choice.

The Warning dialog displays.

16. See Figure 25. Click **Confirm** to skip the SMTP server setup or click **Cancel** to return to the previous screen.

Figure 25 Warning Dialog

Setup Wizard Outgoing Email 5 Are you say source you way SMTP server setup	رون ZEBRA
forsakranik policifik user passed for former	Carcel Contin
The next step is to configure the app to talk to your email server. ${f 0}$	
This capability will be used to invite new users to the app, update the administer and import These settings are not required and can be added at a later time.	events – and to help recover/rest passwords when necessary.
Host Name	Port
From Address	Enable SSL Require Authentication
Username Pass	word
	Send Test Email Dip Continue
(Internet internet in	

The Certificate Creation dialog displays.

17. See Figure 26. Enter the requested company information, for example, your company name, etc.

18. Click Continue.

Figure 26	Certificate C	reation Dialog
-----------	---------------	----------------

The following information is needed for certificate creation in order to ensur	ypted communication between the server, p	printers, and users' web browsers.
Company	Department	
1		
Address		
City	State	
Country	Postal Code	
Afghanistan	•	
Email Address	Phone Number	
Server Name (Fully Qualified Domain Name)		
03wa-csholdt.zebra.lan		

The Printer Connections dialog displays.

19. See Figure 27. Select the type of printer connection.

Figure 27 Printer Connections Dialog

What Type o	Vhat Type of Printer Connections Do You Need? 1		
Advance Notic	dvance Notice: A future PPME release will no longer support SHA-1 certificates. Refer to the help system for additional details and recommended actions.		
It is highly recor known to be les	t is highly recommended that you use the advanced connection, which uses a minimum of SHA-256 certificates. The basic connection uses SHA-1 certificates which are (nown to be less secure.		
If both connecti	both connections are enabled, PPME shall configure printers supporting SHA-256 certificates to use the Advanced Connection.		
AVAILABLE W	AVAILABLE WEBLINK CONNECTIONS		
Enable	Advanced Connection Recommended The Advanced Connection requires the minimum Link-OS versions listed below. Get the latest at: www.zebra.com/linkos • For label printers running Link-OS v5 and later • For card printers running Link-OS v1 and later		
Disable	Basic Connection Deprecated Soon Enable this option when managing older Zebra printers that only support SHA-1 certificates. • For label printers running Link-OS v4 and earlier		
	Restore Using Backup Continue		

20. Which type of connection did you choose?

If you chose	Then do the following
Advanced Connection/SHA-2 or stronger certificates	Go to Advanced Connection/SHA-2 Certificate on page 29.
Basic Connection/SHA-1 certificates	Go to Basic Connection/SHA-1 Certificate on page 30.
Both	Go to Advanced Connection/SHA-2 Certificate on page 29.
	 At the end of this procedure in step 6 on page 30, you will also be directed to complete the Basic Connection/SHA-1 Certificate on page 30. NOTE: If you enable both certificates, you must ensure that they are both set to different ports.

Advanced Connection/SHA-2 Certificate

If you selected a SHA-2 Certificate, the Advanced Connection dialog displays.

1. See Figure 28. Click Generate to create a SHA-2 Certificate or click Back to return to the previous screen.

Figure 28 Advanced Connection Dialog

n order to	enable the Advanced Connection to your printers, we need to either locally generate or import a SHA-2 or stronger certificate.	
'ou can a	so create a Certificate Signing Request (CSR) for creating certificates using your own Certificate Authority.	
ort 8443	Use Default	
AVAILA	3LE OPTIONS	
*	Locally Generate the SHA-2 Certificates This is the fastest and easiest method of obtaining the necessary certificates.	Generate
1	Import Your Own SHA-2 (or Stronger) Certificate	-
- *	If you have created certificates using your own Certificate Authority, select this option.	import
-	Or Create a Certificate Signing Request (CSR)	
	Coming Soon	Oronto CCD

The Passwords for Locally Generated Certificates dialog displays.

- 2. See Figure 29. Enter the Server Certificate Password and Printer Certificate Password number.
- 3. Click Continue.

Figure 29 Locally Generated Certificates Dialog

Passwords for Locally Generated Certificates 0	
We recommend the use of passwords when generating the required SHA-2 or greater certificates.	
Server Certificate Password	
	۲
Printer Certificate Password	
	۲
	Continue

The Finalizing the Advanced Connection dialog displays.

- See Figure 30. (Optional) Click Download to save a copy of the printer settings if you need to manually connect your printer to PPME.
- 5. Click Continue.

Figure 30 Advanced Connection Dialog

This server them in orc	r is creating the necessary SHA-2 certificates for connecting your printers using the Advanced Connection. When they are der to back them up.	successfully created, you can export
dditionally loes not w	y, the settings file for manually connecting printers to this connection is being created. This is optional and usually only us vork on your network.	ed when automatic printer discovery
CERTIFI	CATE GENERATION	
-	SHA-2 Certificates	
	Successfully generated	
	Settings File for Manually Connecting Printers (Optional)	Download
	Successfully generated	Download

The Backup Your Connection Settings and Certificates dialog displays.

6. If you selected the Advanced Connections (only), go to Setup Complete on page 31.

If you selected Both connections (Advanced <u>and</u> Basic Connections), go to <u>Basic Connection/SHA-1</u> Certificate on page 30.

Basic Connection/SHA-1 Certificate



NOTE: If you have enabled the Advanced Connection (SHA-2 certificate), you must ensure that the Basic/SHA-1 certificate uses a different port.

If you selected a Basic Connection/SHA-1 Certificate, the Port and Certificates for the Basic Connection dialog displays.

- 1. See Figure 31. Click Generate to create a SHA-1 Certificate or click Back to return to the previous screen.
- 2. Enter the Port number.

Figure 31 Port and Certificates for the Basic Connection Dialog

Port and Certi	ificates for the Basic Connection 0	
You can locally ger	nerate your SHA-1 certificate to enable the Basic Connection.	
Warning: A future	PPME release will no longer support SHA-1 certificates. Refer to the help system for additional deta	ails and recommended actions.
Port 8443	↓ Se Default	
AVAILABLE OPTI	10NS	
Loca This i	ally Generate a SHA-1 Certificate is the fastest and easiest method of obtaining the necessary certificate.	Generate

The Finalizing the Basic Connection dialog displays.

- See Figure 32. (Optional) Click Download to save a copy of the printer settings in case you need to manually connect your printer to PPME.
- 4. Click Continue.



Finalizing This server back them	g the Basic Connection (a) is creating the necessary SHA-1 certificate for connecting your printers using the Basic Connection. When it is successfully created, you up.	can export it in order to
Additionally does not w	r, the settings file for manually connecting printers to this connection is being created. This is optional and usually only used when automa ork on your network. It should only be used with printers that do not support SHA-2 certificates.	atic printer discovery
CERTIFIC	CATE GENERATION	
٠	SHA-1 Certificate Successfully generated	
	Settings File for Manually Connecting Printers (Optional) Successfully generated	Download
		Continue

The Backup Your Connection Settings and Certificates dialog displays.

5. Go to Setup Complete on page 31.

Setup Complete

1. See Figure 33. Click **Continue** to create the backup archive and save the certificates and configurations for the Weblink connections (Advanced and Basic connections).

The backup archive does not contain any other settings, tags, profiles, or resources.



IMPORTANT: Save this file and the password in a safe and secure location in case you ever need to re-install your PPME instance.

Figure 33 Backup Your Connection Settings and Certificates Dialog

s recomr ation.	recommended that you take this time to backup the settings and certificates for your enabled printer connections. Please save the resulting archive in a safe and sec ation.			
wing this	backup ensures that you can more quickly restore this app when upgrading or changing your server.			
CERTIFIC	SATES AND PRINTER CONNECTIONS			
-	UI Certificate			
1	Seady for backup			
0	Advanced Connection			
0	⊘ Ready for backup			
Q.	Basic Connection			
	S Ready for backup			

The Backup Your Connections dialog displays.

- 2. See Figure 35. Enter the Backup Archive Password.
- 3. Click Backup.

Figure 34 Backup Your Connections Dialog

lease provide the required password to create the backup archive.	
ackup Archive Password	

The Setup Complete dialog displays.

4. See Figure 35. Click All Done! to complete the PPME application setup and close the Setup Wizard.

Figure 35 Setup Complete Dialog



If you experience any connection issues or receive an error message, see Installation Issues on page 41.

Upgrading PPME

Before continuing with the upgrade, it is recommended that you backup your current installation. See Backup PPME on page 12 for more information.

Any printer management events, or users logged into the software at the time of this upgrade will experience a disruption in service while the upgrade is in progress.

Upgrades should only be performed on successful installations. If an installation was incomplete, the product should be completely uninstalled and a new installation performed. See Uninstall PPME on page 36 for more information.



NOTE: In order to upgrade to v4.x or later, you must already have v3.4.7711. Otherwise, you must upgrade to v3.4.7711 and then perform the upgrade to a 4.x or latest version.



NOTE: Downgrading to an earlier version of PPME is not recommended since new features, data, and recent fixes will be lost in the downgrade process.

To upgrade your installation, perform the following steps:

- 1. Log in to the server using the same User Account that was used to install PPME.
- To launch the Printer Profile Manager Enterprise (PPME) installer, double-click on PPMEx.x.xxx.exe. (where x.x.xxxx indicates the version number of the software)
- 3. You will start with the same first two screens as the installation. These screens include:
 - Welcome
 - End User License Agreement
- 4. The Time Synchronization dialog displays.



5. Click Next.

The Printer Profile Manager Enterprise Upgrade dialog displays.

ų.	Zebra Printer Profile Manager Enterprise Setup
Prin	ter Profile Manager Enterprise Upgrade
A	version of Printer Profile Manager Enterprise is currently installed.
Prir Ter	nter Profile Manager Enterprise is currently installed and located in C: \Program Files \Zebra chnologies \Printer Profile Manager Enterprise.
Bel	fore continuing with the upgrade, it is recommended that you backup your current tallation.
Thi ani exp	s upgrade will stop the Printer Profile Manager Enterprise service, upgrade the application, d restart the service. Any printers or users connected at the time of this upgrade will perience a disruption in service while the upgrade is in progress.
Thi wa	s update is only to be used on older, successful, installations. If an installation is newer or s incomplete, the product should first be completely uninstalled.
_	
	< Back Next > Cancel
-	

6. Click Next.

The Printer Profile Manager Enterprise Upgrade In Progress dialog shows the Upgrade complete.

(†.	Zebra Printer Profile Manager Enterprise Setup	_ 🗆 X
Prin Thi	ter Profile Manager Enterprise Upgrade in Progress s may take a moment	atr.
Up	grade complete	
1		
	< Back Next >	Cancel

7. Click Next.

The Completing...Setup Wizard dialog displays.

🚸 Zebra Printer Profile Ma	nager Enterprise Setup	-		×
N	Completing the Zeb Manager Enterprise	a Printe Setup V	r Prof Vizard	ile
	Zebra Printer Profile Manager Ent on your computer.	erprise has b	een install	ed
	Click Finish to close this wizard.			
ZEBRA	Launch Printer Profile Manager Enterprise			
	Show Readme			
	< Back	Finish	Can	cel

8. Click Finish to close the wizard.

Uninstall PPME

Release License

- 1. Navigate to the main licensing page from the User menu admin 📤 🔻
- 2. Choose Release (beside License Code) and confirm.

The license code is returned to the server and allow it to be used on another server without going over the activation limit.



CAUTION: This will log the user out of the application and make it unusable until a valid license is entered.

Uninstall PPME

- 1. Log in as Administrator.
- 2. Navigate to the drive and folder where you installed PPME.

For example:

C:\Program Files\Zebra Technologies\Link-OS Printer Profile Manger Enterprise...

3. Double-click uninstaller.exe to run the uninstaller program.



Reboot the Server

• If PPME is uninstalled, rebooting the server is required before re-installing.

License

This section provides general and specific information about the license.

View License Status

This page allows the administrator to view the license status and all relevant license information.

- 1. Click User menu admin 🚢 🔻
- 2. Select License from the User drop-down menu.

Setup a License

For the PPME licensing system to work, the server must have continued internet access and be able to reach my.nalpeiron.com using port 443.



NOTE: If the server is unable to access the above web site, the server will revert to an unlicensed status and may indicate License Expired.

To Enter a New License Code:

If an administrator wants to enter a new license code before it expires for whatever reason, this can be done from the main license page.

- 1. Click User menu admin 🚢 🔻
- 2. Select License from the User dropdown menu.
- 3. Locate the License Code field with the lock icon.
- 4. Click the lock icon to allow editing, and enter the new code.
- 5. Click the icon once again to save and activate the new license code.

Effects of License Limits

License Check Interval - If the licensing server is not contacted by PPME within the license check interval, the license will be considered expired. (This means that PPME must always be online.)

Printer Count - When the maximum printer count is reached, further connection attempts from printers will be denied. All PPME admins will receive an e-mail notification.

Move an Installation of PPME

If an administrator is moving an installation of PPME to a new server, you may want to reuse the same license code.

- 1. Navigate to the main licensing page from the User menu admin 📥 🚬
- 2. Choose Release (beside License Code) and confirm.

The license code is returned to the server and allow it to be used on another server without going over the activation limit.



CAUTION: This will log the user out of the application and make it unusable until a valid license is entered.

LDAP User Directory Configuration

This section describes how to configure the fields in the PPME LDAP User Directory section for user authentication with Active Directory. This can be configured from the PPME configuration page after logging into the console with admin privileges.

Name (Required): This is used only for display purposes within PPME.

Hostname (Required): The address which Active Directory is available at, should not include port or protocol prefix.

Port (Required): The port Active Directory is available on, usually this is 389 for non-secure traffic and 636 for secure traffic.

Use SSL: Check this if the Active Directory system requires secure traffic.

Username (Required): This should be the full path to a management/admin user within Active Directory that can be used for the initial connection, allowing PPME to validate/authenticate users.

Password: The password for the management user.

CA Certificate: If using SSL, you will most likely need to add the certificate which your Active Directory system is hosting unless the certificate is signed by a trusted certificate authority. This will allow PPME to trust the Active Directory server, otherwise, the connection will be refused.

Base DN (Required): This is the base distinguished name for which all queries will be run against. Generally this will be your internal domain for example zebra.lan would be an internal domain and the Base DN might be dc=zebra,dc=lan.

The URL used to connect to the Active Directory server would be Idap://HOSTNAME:PORT/BASE_DN

Additional User DN: This is an optional field which can be used to limit where PPME will query users, for example users may be stored in a path such as CN=PPME_Users,DC=zebra,DC=com in which case you would want to set this field to CN=PPME_Users, as the Base DN will be automatically added. It can however, be left blank and PPME will attempt to search the Active Directory tree for users.

Use of this field requires PPME version 2.1.6638 or later.

Additional Group DN: This is an optional field which can be used to enforce users be part of an Active Directory group via their memberOf attribute. For example, you may have a Group within Active Directory at path CN=PPME_Admins,OU=Groups,DC=zebra,DC=lan in which case you would want to set this field to CN=PPME_Admins,OU=Groups. If you have multiple groups and you want them to be created with specific PPME roles when the users log in, you will have to create multiple LDAP User Directory entries inside of PPME where each one defines a separate Additional Group DN and Default User Role.

User Name Attribute (Required): This is the field name inside of your Active Directory system which maps the username. This is NOT a username, it is a field. Generally, this will be samAccountName if using Active Directory or if using OpenLDAP, it will probably be uid.

User Full Name Attribute (Required): This is the field name inside of your Active Directory system which maps the user's full name.

User Email Attribute (Required): This is the field name inside of your Active Directory system which maps the user email addresses. While this field is required, it is only used to store the email address within PPME and no validation of whether it is a valid email address occurs. Therefore, if you are using an Active Directory system which does not map an email address to users, you can set this to something else, such as the User Name Attribute (samAccountName), and PPME will store the username as the email address.

Default user Role: This is used to predefine which role Active Directory users will be given when they first login to PPME.

Troubleshooting

This section provides assistance with installation and other known issues.

Installation Issues

If you receive either of the error messages below, check your internet connection.

鷼 Zebra	Printer Profile Manager Enterprise Setup	$\langle $
Failed to contact https://www.zebra.com. Please verify this system ha Internet access and retry to continue the installation. You will to need start the installation again if you choose cancel.		
	Retry Cancel	
	< Back Next > Cancel	
∛∿ Zebra	Link-OS Printer Profile Manager Enterprise Setup	×
Failed to try agair	o contact licensing server. Please verify this system has Internet access and n.	
	ОК	

Other reasons you may not be able to connect include:

- Connection to a network that has no internet access
- Firewall is blocking outgoing ports 80/443
- Firewall is blocking zebra.com

- Firewall is blocking nalpeiron.com
- DNS issues

Other Issues

Enabling License Logging

The ability to control the log size applies to version 3.2 and later.

Logging for the license system can be enabled in situations where the licensing may not be functioning correctly.

The log files can be found at the location below and should be provided to Zebra for interpretation.

C:\Windows\System32\config\systemprofile\AppData\Local\Nalpeiron

To enable logging:

- 1. Stop the PPME service.
- 2. Edit the ppme.properties file at %PROGRAMDATA%\Zebra Technologies\Printer Profile Manager Enterprise\.PPME and add the following two entries:

linkos.licensing.logLevel=4

linkos.nalpeiron.maxLogSize=<maxlogsize>

where <maxlogsize> is the maximum file size in bytes. Default, if not specified: 20971520 (20MB)

- 3. Restart the PPME service.
- 4. Logging should be disabled for normal usage.

To disable logging:

- 1. Stop the PPME service.
- 2. Edit the PPME properties file and set the property below to 0:

linkos.licensing.logLevel=0

3. Restart the PPME service.



NOTE: When a log file reaches the defined size, a new log file is created up to a maximum of 5 log files. When there are 5 full log files, the oldest one is deleted and a new one is created.

Increasing Log Capture Content

The logging levels for PPME are controlled by the ppmelogback.xml file stored in the .PPME folder (for example, **%PROGRAMDATA%\Zebra Technologies\Printer Profile Manager Enterprise\.PPME**). To change the levels, one must edit the file and save it. PPME will automatically check every 2 minutes for any updates and apply them without the need to reboot the server/service.

To Change the Level to Debug for Non-Printer Data:

1. Edit the ppmelogback.xml file in a text editor that understands Windows and Linux line endings. (Notepad or a browser are not recommended.)

2. Find the PPME_LOGS appender. The xml line looks like this:

```
<appender name="PPME_LOGS" class="ch.qos.logback.core.rolling.RollingFileAppender">
```

3. Change the filter level to DEBUG:

```
<filter class="ch.qos.logback.classic.filter.ThresholdFilter">
```

```
<level>DEBUG</level>
```

</filter>

4. Find the root level filter that contains the PPME_LOGS appender and change it to DEBUG.

```
<root level="DEBUG">
```

```
<!--<appender-ref ref="CONSOLE"/>-->
```

```
<appender-ref ref="PPME_LOGS"/>
```

</root>

- 5. Save the file and wait approximately 2 minutes.
- **6.** The .PPME/logs/ppme.log file should start to increase in size at a much faster rate (depending upon how many printers being used).
- 7. If the file is opened, the 'DEBUG' level should be seen as a prefix to some messages.

To Change the Level to Debug for Printer Data:

- 1. Edit the ppmelogback.xml file in a text editor that understands Windows and Linux line endings. (Notepad or a browser are not recommended.)
- 2. Find the PPME_LOGS appender. The xml line looks like this:

```
<appender name="PRINTER_DATA_LOGS"
class="ch.qos.logback.core.rolling.RollingFileAppender">
```

3. Change the filter level to DEBUG:

</filter>

4. Find the root level filter that contains the PPME_LOGS appender and change it to DEBUG. <root level="DEBUG">

```
<!--<appender-ref ref="CONSOLE"/>-->
```

```
<appender-ref ref="PPME_LOGS"/>
```

</root>

- 5. Save the file and wait approximately 2 minutes.
- 6. The .PPME/logs/ppme_printer_data.log file should start to increase in size.
- 7. If the file is opened, the 'DEBUG' level should be seen as a prefix to some messages.



NOTE: In both scenarios above, only leave the new DEBUG level in place for the duration that is needed in order to collect the logs. Once the collection period is over, make sure to put the levels back to WARN, so that the log is not filled up with DEBUG data during normal operation.

Uploading large files triggers an exception in the System Log

No solution required. This exception is just a warning from the database code stating that the operation is taking too long and may be a memory/data leak.

The application fails to start and the log file reads "SOAP: invalid license number"

This is typically due to an incorrectly set server clock. If the server clock is not the correct time, update the clock, and then reinstall the application. If this does not solve the problem, you may have an invalid license key.

LDAP encounters a communication or connection error

This can happen when attempting to 'Save and Test' settings and can be due to several issues:

- One of the server settings being incorrect.
- The PPME server cannot resolve the Hostname.
- The port is blocked between PPME and the LDAP server.
- If the SSL box is checked, the LDAP server may be issuing a self-signed certificate. In order for PPME to connect, it must trust the server's Certificate Authority (CA). If the certificate is self-signed, then PPME needs to be updated to trust that CA. In order to do that, you must configure PPME to trust the LDAP CA.

The following steps can be used to resolve this error in the ppme.log file:

PKIX path building failed: sun.security.provider.certpath.SunCertPathBuilderException: unable to find valid certification path to requested target

- 1. Stop the PPME service.
- 2. Open a Windows Command Prompt.
- 3. Navigate to the jre folder within the PPME installation folder, e.g., C:\Program Files\Zebra Technologies\Printer Profile Manager Enterprise\java\jdk-x.x.xxxx-jre (Where x.x.xxxx indicates the version number of the software).
- Note the location of the LDAP CA PEM file. In this example, assume it is %USERPROFILE%\Desktop\ldap_ca.pem
- 5. Run the following command using any value for the -alias parameter, e.g. 'ldapca'.

> bin\keytool -importcert -keystore lib\security\cacerts -file %USERPROFILE%\Desktop\ldap_ca.pem -alias ldapca

- 6. Start the PPME service.
- 7. Attempt to configure and connect to your LDAP server again.

The application fails to start and the log file reads, "Nalpeiron: Invalid or corrupt library".

- 1. Shut down the application.
- Locate the Nalpeiron folder, typically located at: C:\Windows\System32\config\systemprofile\AppData\Local\Nalpeiron and delete the entire folder.
- 3. Restart the application.

The printer will not connect to PPME and/or the printer is stuck in the 'Adding' state



NOTE: The Zebra Programming Guide contains much of what you see below and goes into more detail on the operation and functionality of Weblink.

The printer uses HTTPS to connect to the PPME server. Therefore, it does hostname verification when connecting to ensure that the certificate that is presented by the server matches the hostname/DNS name the printer is attempting to connect to. In order to make a successful connection to PPME, several things have to be true:

- The PPME server must be reachable from the printer's subnet (for example, you can ping the PPME server from the printer's subnet).
- The port that printers use to connect to PPME (for example, 8443) must be reachable from the printer's subnet (e.g., any firewalls or firewall rules that prevent access to the server port should be modified to allow access).
- The Fully Qualified Domain Name (FQDN) of the server (for example, acme.internal.lan) must be in the DNS server that the printer is configured to use, so that it can be properly resolved.
- The certificate associated with the port that the printer connects to must be signed by Zebra. Only the default certificate generated by the installer or any issued by Zebra after the installation are acceptable.

Printers do not always connect right away

In some cases, a user cannot always login, or there is a large delay when logging in. Other times, pages are extremely slow to load or don't load completely.

It is possible that the database (DB) connections are overwhelming the database. Take the following steps to ensure the PPME DB connection pool size is correct:

1. Open the ppme.log (and maybe a few of the previous days' logs) and look for a message similar to the following:

ERROR org.hibernate.engine.jdbc.spi.SqlExceptionHelper - FATAL: sorry, too many clients already

- 2. If the above message is found, proceed with the rest of these steps. Otherwise, the DB pool size is not the issue.
- 3. Open the Windows Services window and find 'Printer Profile Manager Enterprise Database'.
- 4. Double-click the service to open it.
- 5. Locate the value passed into the service using the -N parameter (e.g., it is likely -N 75).
- 6. Close the service dialog.
- 7. Go to the .PPME directory (e.g., %PROGRAMDATA%\Zebra Technologies\Printer Profile Manager Enterprise\.PPME) and open the ppme.properties file.
- 8. Edit (or insert if it is not present) the linkos.database.poolsize value to be about five fewer than the value seen in step 5.
- **9.** Restart the PPME service and see if the issue(s) still occur.



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