

PrinterOn Print Delivery Gateway

Administration Guide

Version 4.3.9



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1

Introduction

This guide explains how to configure and monitor the Print Delivery Gateway software.

1.1 About the Print Delivery Gateway software

The Print Delivery Gateway software serves as a protocol gateway to PrinterOn Server printers, allowing the PrinterOn service to support additional print protocols such as iOS print, Google Cloud Print and Windows print. It acts as a bridge that supports multiple print workflows, allowing IT Administrators to streamline the deployment, management and administration of PrinterOn managed printers while simultaneously retaining the native printing experience unique to each platform.

The PDG offers the following advantages for your organization:

- Enables printing to any PrinterOn managed printer with minimal or no IT support.
- Reduces IT costs by centralizing the management of print services.
- Saves investment costs incurred from purchasing "AirPrint" or "Google Cloud Ready" printer devices.
- Connects multiple disparate network environments without compromising network security.
- Connects multiple corporate business printing processes (for example, desktop printing and BYOD printing) to a single print service, thereby reducing infrastructure, maintenance, and management costs.

1.1.1 Print workflows enabled by PDG

The PDG software allows users to submit jobs from a number of workflows to the PrinterOn managed printers including:

- Standard Windows Printer Queues
- Google Cloud Print (such as Android smartphones or tablets, NetBooks, Chrome Browser, etc.)
- iOS-based devices (such as iPhone or iPad)
- IPP-based print clients (such as IPP, ERP, or Oracle server integration)

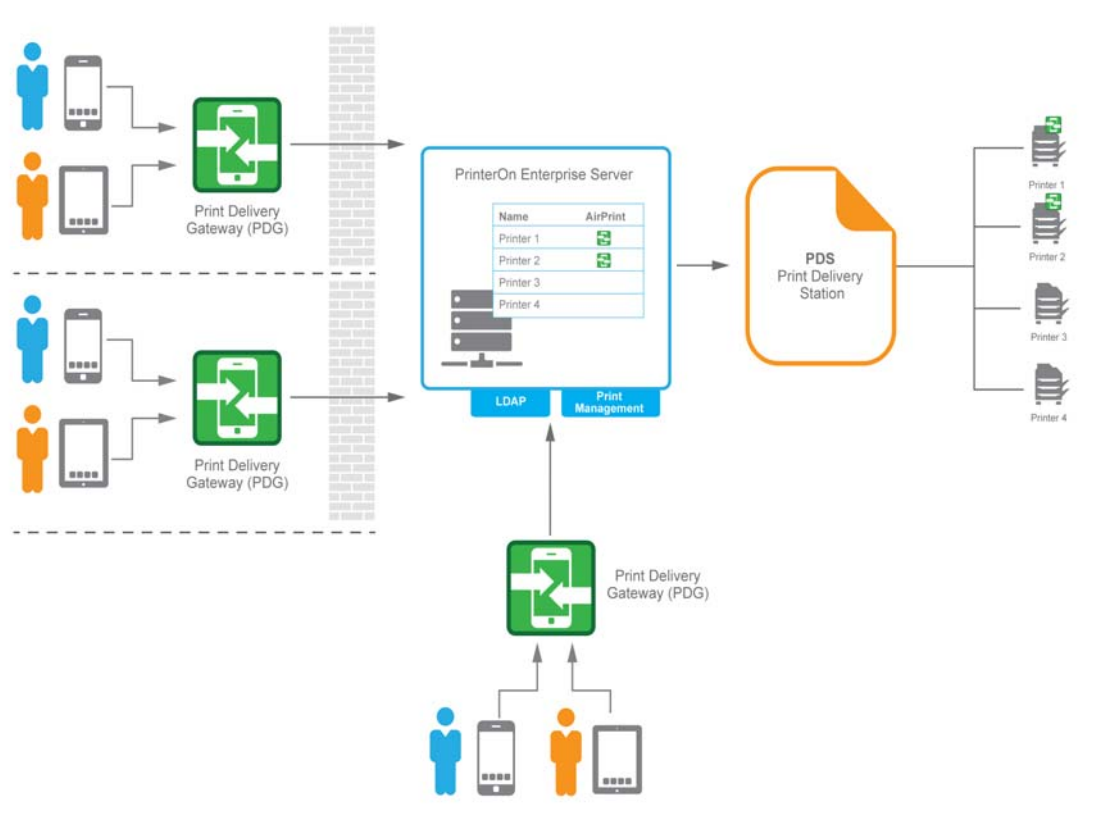
The PDG Software combines the best features of these workflows with the capabilities of PrinterOn Service to offer seamless printing experience to print users. The following are some of the key value additions of this approach:

- **Discovering Printers:** The PDG lets print users discover available shared printers easily. It also lets devices discover available printers on the network.
- **Print User Authentication and Management:** The PDG supports authentication features offered by third-party print workflows. It also supports LDAP/AD to enforce print user authentication and to ensure that only approved users can print to specific printers.
- **Native Printing Experience:** The PDG offers a natural printing experience across all platforms. There is no configuration required by users, and they don't need to install any software locally.
- **Printing Across Network Boundaries:** The Print Delivery Gateway extends printing supports across multiple networks.
- **Integration with Print Management Systems:** The PDG enables you to deliver the print jobs to third-party PMS queues.

1.1.2 Availability across multiple networks

The Print Delivery Gateway Software functions independently of the PrinterOn Server and can be deployed and configured in a number of different ways. In many cases, services such as print servers and authentication servers (LDAP/AD) are segregated from the networks that Wi-Fi devices connect to. In these situations, the PDG software is often installed on the wireless network and configured to communicate across networks.

The PDG supports communication through proxy servers and over secure SSL channels. The architecture has been designed to allow the deployment of Print Delivery Gateway software in multiple networks to extend printing support across network boundaries without compromising data security.



1.1.3 Print Delivery Gateway Components

The PDG is comprised of the following components:

- **Configuration Manager:** The Configuration Manager is a web-based management console that lets you configure and administer your PDG Connectors through a browser.
- **PDG PQMS Connector:** The PDG Printer Queue Monitoring Service (PQMS) Connector lets users submit jobs to remote printers through the PrinterOn infrastructure using Standard Windows Print Server Queues. Through the Configuration Manager, you can map specific Windows print queues to existing PrinterOn Printer Objects.

For a detailed discussion of the PQMS Connector workflow, see.

- **PDG GCP Connector:** The PrinterOn PDG Google Cloud Print (GCP) Connector lets users print seamlessly from any of the GCP client application (such as a Chromebook or Chrome Browser) to PrinterOn managed printers. This connector integrates the GCP Workflows with the PrinterOn Service by allowing you to create new Google Cloud Printers and map them to PrinterOn managed printers.
For a detailed discussion of the GCP Connector workflow, see.
- **PDG Discovery Connector:** The PrinterOn PDG Discovery Connector lets iOS users discover printers and submit print jobs to PrinterOn managed printers directly from their iOS devices.
For a detailed discussion of the Discovery Connector workflow, see.
- **PDG IPP Connector:** The PDG IPP Connector lets users submit jobs to remote printers using the IPP protocol through the PrinterOn infrastructure.
For a detailed discussion of the IPP Connector workflow, see.

1.2 PrinterOn Server editions

The PDG works with any edition of the following editions of the PrinterOn software:

- On-premise solutions:
 - **PrinterOn Enterprise** is a full-featured print solution. This edition supports advanced features such as multi-server deployment, scalability through clustering, and integration with MDM/EDM solutions.
 - **PrinterOn Express** is the starter package. Although it shares all the same basic features as PrinterOn Enterprise, it excludes many of the advanced configuration features of the Enterprise edition that are typically unnecessary for a small- to medium-sized business or organization.

You can upgrade your Express edition to Enterprise at any time.

- Cloud-Based solution: With **PrinterOn Hosted**, PrinterOn hosts all of the components of the PrinterOn solution, except for the PDS. If you are a PrinterOn Hosted subscriber, the only component that you need to install on your computers is the PDS software.

1.3 PrinterOn printers and pools

Before working with the PrinterOn solution, it is useful to understand two key concepts:

- [PrinterOn printers](#)
- [Secure Release Anywhere pools](#)

1.3.1 PrinterOn printers

A PrinterOn printer is not a physical printer, but rather a virtual printer. That is, it is a *definition* that points to a physical printer and defines the printing behavior. The PrinterOn server acts as middleware between the user and a physical printer. When users submit jobs to a PrinterOn printer, the PrinterOn server directs those jobs to the physical printer or print queue defined for that printer, referred to as an output destination. Before users can submit print jobs to a PrinterOn printer, you must point define that printer's output destination.

PrinterOn printers need not map to physical printers on a one-to-one basis. The benefit of creating virtual printers is that you can specify different printing behavior or access privileges for the same physical printer. You simply create multiple PrinterOn printer definitions, apply different configuration settings to each, and then map them to the same physical printer. Although it is the same physical printer printing the jobs in each case, to the user, they appear as distinct printers with different available features.

For example, consider a hotel with a color printer. The hotel could create one printer definition that points to their color printer and allows users to print in colour at a specific price per sheet. They could then create a second printer definition that points to the same physical printer, but restricts print jobs to black and white, and charges a lower rate per sheet. For frequent guests, they could also create a third printer definition for the same printer that does not charge a fee at all.

1.3.2 Secure Release Anywhere pools

Secure Release Anywhere pools are groups of PrinterOn printers. To the user, a printer pool appears as just another printer. However, instead of distributing jobs to a single output destination, a printer pool can distribute print jobs to any of its member printers. Users can go to the output destination of any member printer and pull the print job down using their credentials or a secure release code.

The printers in a Secure Release Anywhere pool are not limited to a single network; you can include printers from disparate networks in a single printer pool. For example, a hotel chain could create a single Secure Release Anywhere pool that contains all the printers from their business centers in all their hotels worldwide. A guest in the Singapore location can print to the printer pool, go to the business center, and pull the job down. The same guest could travel to Seoul the next day, print to the same pool, go to the business center at the Seoul location, and pull the job down there.

The Secure Release Anywhere service is not enabled by default. To enable Secure Release Anywhere, [contact PrinterOn](#).

1.4 New in this release

This guide documents PrinterOn Print Delivery Gateway v4.3.9. This release follows on previous releases of the product.

This release provides minor performance improvements for PDG. There are no major new features added in this release, and no changes to the UI.

2

Understanding the PDG connectors

The Print Delivery Gateway lets you provide access to the PrinterOn service infrastructure from a wide array of workflows, including printing to a Windows print queue, printing via Google Cloud Print printer, printing from an iOS device, or printing using the IPP protocol.

To extend the service to these printing workflows, the PDG uses a collection of extensions, called connectors. This chapter provides an in depth look at each of these connectors.

The PDG provides four connectors:

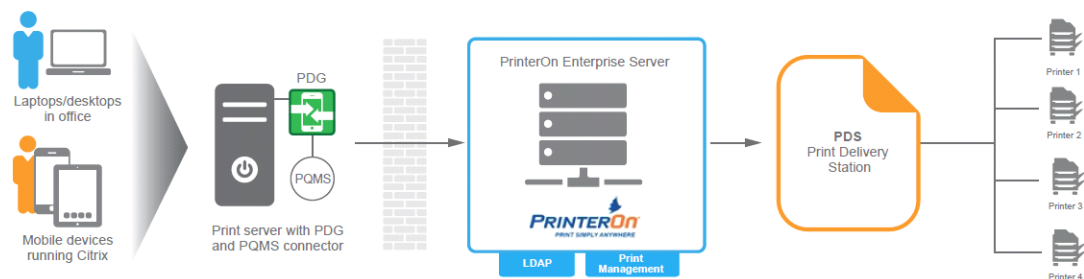
- **PDG PQMS Connector:** The PDG Printer Queue Monitoring Service (PQMS) Connector lets users submit jobs to remote printers through the PrinterOn infrastructure using Standard Windows Print Server Queues.
For more information, see [The PDG PQMS Connector](#).
- **PDG GCP Connector:** The PrinterOn PDG Google Cloud Print (GCP) Connector lets users print from any GCP client application (such as a Chromebook or Chrome Browser) to PrinterOn managed printers.
For more information, see [The PDG GCP Connector](#).
- **PDG Discovery Connector:** The PrinterOn PDG Discovery Connector lets iOS users discover printers and submit print jobs to PrinterOn managed printers directly from their iOS devices.
For more information, see [The PDG Discovery Connector](#).
- **PDG IPP Connector:** The PDG IPP Connector lets users submit jobs to remote printers using the IPP protocol through the PrinterOn infrastructure.
For more information, see [The PDG IPP Connector](#).

The PDG PQMS Connector

The PDG Printer Queue Monitoring Service (PQMS) Connector lets users submit jobs to remote printers through the PrinterOn infrastructure using Standard Windows Print Server Queues.

The PQMS Connector bridges the gap between the existing Windows Print Queue workflows and the PrinterOn Service. It allows print users to submit jobs using standard Windows workflows (**File > Print**) and make use of the PrinterOn Service to deliver the pre-rendered data content to printers located anywhere in the world.

Through the Configuration Manager, you can map specific Windows print queues to existing [PrinterOn printers](#).



PDG PQMS Connector requirements

The following system requirements are specific to the PDG PQMS Connector:

Consideration	Requirement
PrinterOn Printers	<p>Since Windows print workflows do not provide any way to collect user information, if authentication is required for the PrinterOn printer that the Windows print queues is mapped to, the print job cannot be printed successfully. Consequently, this workflow can <i>only</i> be used if authentication for the printer is disabled or Guest printing is enabled for the target printer.</p> <p>Because Windows print queues are normally only made accessible to privileged users, this limitation does not compromise security in any way.</p>
Print Servers	<p>If you want to consolidate device print queues, you'll need to deploy and configure third-party print server.</p>

PQMS Connector: Integration and configuration

The PDG PQMS Connector makes use of the following components for and service delivery and configuration:

- [PDG Port Monitor](#)
- [Configuration Manager \(PQMS tab\)](#)

PDG Port Monitor

The PDG Port Monitor component is responsible for monitoring the PDG Redirected Ports and ensuring that all the data sent to the PDG ports is forwarded to a specified directory location on the local system. The Port Monitor is also responsible for creating a corresponding job attribute file that will include the job metadata information.

Configuration Manager (PQMS tab)

The PQMS tab of the Configuration Manager lets you map a Windows print device or print queue to an existing PrinterOn printer.

When you map a Windows printer to a PrinterOn printer, the PDG defines a unique port for that mapping. The Port Monitor listens on each of these PDG ports; when a job submitted to a mapped printer is received on a PDG port, that job is redirected through the PrinterOn service to the destination printer.

For detailed instructions on using the Configuration Manager to configure the PQMS Connector, see [Configuring the PrinterOn Queue Management System \(PQMS\) workflow](#).

Overview of the PDG PQMS workflow

The PQMS Connector was designed to let administrators leverage the capabilities of the PrinterOn Service to deliver print jobs generated by third-party Windows print servers to designated printers located in remote locations.

The PCMS Connector follows the following sequence of events:

Note: This workflow assumes that the existing print infrastructure setup allows print jobs to be delivered to Windows print queues.

1. In the Configuration Manager, an administrator [maps Windows print queues to PrinterOn printers](#) and [configures the PQMS connectors](#).
2. PDG modifies the port information associated with each mapped print queues to allow data redirection. The PDG Port Monitor monitors each mapped print queue for incoming print job requests.
3. A user sends a print request to a mapped print queue.
4. The PDG intercepts the request and redirects it to the specified PDG-managed location.
5. The PDG Port Monitor notifies the Windows print sub-system that the job was successfully delivered to the destination endpoint.
6. The PDG Port Monitor generates the print data files, then delivers them to the PrinterOn Server using the PrinterOn printer information.
7. The PrinterOn Server verifies that the printer does not require authentication before accepting the pre-rendered job data and delivering it to the destination printer via the PrinterOn service.

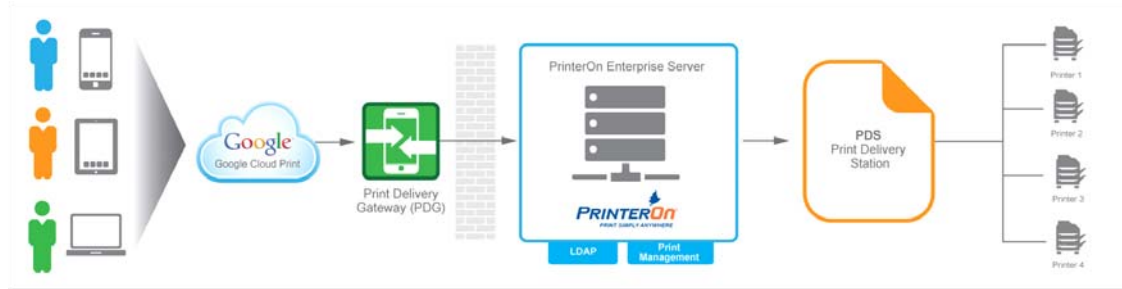
The PDG GCP Connector

The PrinterOn PDG Google Cloud Print (GCP) Connector lets users print seamlessly from any of the GCP client application (such as a Chromebook or Chrome Browser) to PrinterOn managed printers. This connector integrates the GCP Workflows with the PrinterOn Service by allowing you to create new Google Cloud Printers and map them to PrinterOn managed printers.

The combination of PrinterOn and GCP is particularly useful in Bring Your Own Device (BYOD) environments, where users are looking to print from smartphones, tablets, Chromebooks, and Notebooks that do not connect exclusively to the existing print infrastructure. The GCP Connector extends the following advanced capabilities for jobs submitted through the Google Cloud Print workflows:

- LDAP/Active Directory Authentication
- User-based Access Control
- Print Management Integrations

- Guest Print Workflows



PDG GCP Connector requirements

The following system requirements are specific to the PDG GCP Connector:

Consideration	Requirement
Printer On Printers	Google Cloud Print does not support release codes. Release codes must be disabled for any PrinterOn printer that is mapped to a Google printer.
Ports	<ul style="list-style-type: none"> • The PDG GCP Connector communicates with the Google Cloud Print Server using HTTPS over port 443. • The PDG GCP Connector creates a persistent connection with the Google Cloud Printer Server using XMPP on port 5353.
Google Account	A Google Printer is associated with specific Google account. To create and share Google Printers, you must have access to a Google account.
Google Cloud Print client applications	To print to Google Cloud printers, users must have access to Google Cloud Print client applications, such as smartphones, tablets, Chromebooks, or the Chrome Browser.

GCP Connector: Integration and configuration

The PDG GCP Connector makes use of the following components for and service delivery and configuration:

- [Google Cloud Print Interface](#)
- [Configuration Manager \(Google Cloud Print tab\)](#)

Google Cloud Print Interface

The PDG GCP Connector implements the **Google Cloud Print Interface**, allowing it to receive jobs submitted to the Google cloud. The connector uses persistent XMPP connections to receive notifications from the Google Cloud identifying print jobs that are available for download.

Once the GCP Connector receives notification of a job that is pending download, it uses Google APIs to download the job securely over HTTPS. Along with the job data, it also downloads related metadata information (for example, the Google Cloud Printer name, Job Name, Job Owner Name, Media Size, and so on). The connector submits the print job data and the job metadata information to the PrinterOn service for delivery to the destination printer or print management queue.

Configuration Manager (Google Cloud Print tab)

The Google Cloud Print Tab of the Configuration Manager lets you publish PrinterOn managed printers to the Google Cloud Print Service. You can create a Google printer that is associated with a Google account and map it to a PrinterOn printer. Once a printer is linked, the PDG GCP Connector accepts responsibility for maintaining this association.

After mapping a printer, you can rename, delete, or modify the printer mapping as necessary from within the Google Cloud Print tab of the Configuration Manager. You can also share the printer with other Google users or groups.

When you attempt to create or share a Google printer, the Configuration Manager redirects you to the Google Cloud Print website. As a result, you must have a Google account to enable the Google Cloud Print workflow for your PrinterOn service.

For detailed instructions on using the Configuration Manager to configure the GCP Connector, see [Configuring the Google Cloud Print workflow](#).

Overview of the PDG GCP Connector workflow

The PDG Connector for Google Cloud Print was designed with the goal of empowering the administrators to allow the PrinterOn managed printers to be made available through Google Cloud Print workflows.

1. In the Configuration Manager, an administrator [creates a new Google printer and maps it to a PrinterOn printer](#). The administrator then shares the Google printer

- with other Google users or groups, granting them print access. The invited users can accept or deny the invitation to add the printer to their Google workspace.
2. A user submits a print job to the shared Google printer.
 3. The Google Cloud Server renders the print job, makes it available for download, and sends a notification to the PDG GCP Connector.
 4. The PDG GCP Connector receives notifications from the Google Cloud about the jobs available for download.
 5. The PDG GCP Connector retrieves the print job and associated metadata information from the Google Cloud Print Server.
 6. The PDG delivers the print document and the associated metadata to the PrinterOn Service.
 7. The PrinterOn service prepares the job and delivers it to the destination endpoint via the PrinterOn service.
 8. The PDG GCP Connector notifies the Google server when the job is complete, forcing it to be purged from the Google Cloud Print server.

The PDG Discovery Connector

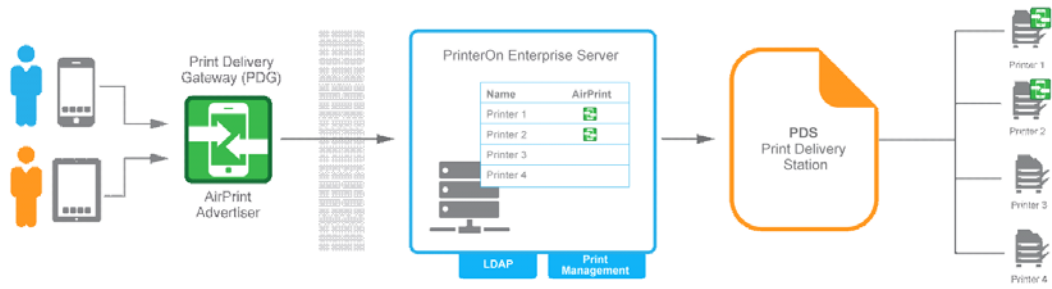
The PrinterOn PDG Discovery Connector lets iOS users discover printers and submit print jobs to PrinterOn managed printers directly from their iOS devices.

The PDG Discovery Connector bridges the gap between existing iOS-based print workflows and the PrinterOn Service. It allows the users to submit jobs to printers that are located both inside and outside the local network.

The Discovery Connector extends the following advanced capabilities for jobs submitted through the iOS device print workflow:

- LDAP/Active Directory Authentication
- User-based Access Control
- Print Management Integrations
- Guest Print Workflows

- Enabling Printing from Multiple Networks



PDG Discovery Connector requirements

The following system requirements are specific to the PDG Discovery Connector:

Consideration	Requirement
Printer On Printers	Native iOS printing does not support release codes. Release codes must be disabled for any PrinterOn printer for which Discovery is enabled.
Ports	<ul style="list-style-type: none"> • Zeroconf/Bonjour require that you have two-way communication on port 5353 • By default, the IPP listener listens for inbound print requests from iOS devices on port 6310. You can configure PDG to listen on an alternative port in Configuration Manager, but it is strongly recommended that all communication be over SSL.
Subnet	iOS devices and PDG must be on the same local subnet (network) that allows Bonjour.
AirPrint-compatible devices	To print via the PDG Discovery Connector to the PrinterOn service, users must have access to AirPrint-compatible devices (any Apple device running iOS 7 or later that has access to Apple's AirPrint).

PDG Discovery Connector: Integration and deployment

The PDG Discovery Connector makes use of the following components for and service delivery and configuration:

- [PDG Discovery Advertiser](#)
- [PDG IPP Listener](#)
- [Configuration Manager \(various tabs\)](#)

PDG Discovery Advertiser

The PDG Discovery Advertiser component uses the Bonjour zero-configuration networking architecture protocol to advertise information about PrinterOn-managed printers on the network. PrinterOn's implementation conforms to the specifications laid out in RFC 6762.

The Advertiser acts as a Multicast DNS Responder, broadcasting printer information at regular intervals to ensure that the printers are visible to compatible devices. To guard against network packet congestion, the PDG Discovery Advertiser follows the following specification requirements:

- A Multicast DNS Responder *must not* multicast a record on a given interface more than once per second (except when answering probe queries).
- When answering probe queries, because of the limited time before the probing host will make its decision about whether or not to use the name, a Multicast DNS responder *must* respond quickly. In this case only, a Multicast DNS Responder should multicast the record at an interval of at least 250 ms.

PDG IPP Listener

The PDG IPP Listener component provides a standard IPP 1.1 compatible interface with a few important 2.0 and 2.1 extensions to allow users with iOS devices to submit print jobs. PrinterOn's implementation of the IPP Listener component conforms to the specifications laid out in RFC 2910 and RFC 2911. IPP is transported over HTTP/1.1 using a message body with a content-type of *application/ipp*.

The PDG IPP Listener forces iOS clients to transfer the data securely over SSL.

Configuration Manager (various tabs)

Configuration of the Discovery Connector occurs in various tabs of the Configuration Manager:

- From the **Import Data** tab, you can enable or disable the Printer Discovery service. If the Discovery Service is disabled, the PrinterOn managed printer queues will not be visible to iOS devices.
- From the **Printers** tab, you can enable or disable discovery for specific printers. In addition to the Discovery Service being enabled, the printer itself must be discoverable, or it will not be visible to iOS devices.

- From the **Networking**, you can configure the port information for IPP Listener, and, if necessary, the Service URI for the PrinterOn service.

For detailed instructions on using the Configuration Manager to configure the Discovery Connector, see [Configuring native iOS printing](#).

Note: You must use the central PrinterOn service Configuration Manager to configure rules pertaining to whether user authentication is required for the printers.

Overview of the PDG Discovery Connector workflow

The PDG Discovery Connector was designed to allow administrators to publish printers to iOS-based devices.

Note: You can control access to your printers by configuring user access privileges and enabling user authentication for each printer. User authentication must be configured as part of the central PrinterOn service.

- If you are using PrinterOn Enterprise/Express, you can define authentication and user access rules in the Configuration Manager on your central PrinterOn Server. For more information, see the PrinterOn Enterprise/Express Configuration Guide.
- If you are using PrinterOn Hosted, you can enable user authentication in the PrinterOn Web Admin Portal.

The Discovery Connector follows the following sequence of events:

1. In the Configuration Manager, an administrator [enables Discovery](#). This involves two steps:
 - Enabling the PDG Discovery Advertiser: Enabling the Discovery Advertiser allows the PDG to broadcast location and printer information for the PrinterOn service.
 - Enabling Discovery for one or more PrinterOn printers: Enabling Discovery on a printer makes the printer visible to iOS devices on the same local network and advertises the printer as iOS-compatible.
2. In the Configuration Manager, an administrator [configures the Service URI and IPP listening ports](#).
3. On the central server (for PrinterOn Enterprise/Express) or the PrinterOn Web Admin Portal (PrinterOn Hosted), administrators turn authentication on or off for

each printer definition for which discovery is enabled. Authentication is configured on a per printer basis.

Note: You can configure the PrinterOn Enterprise server to allow controlled access to Enterprise printers advertised to iOS devices. You can associate printers with department/groups within the organization to restrict access.

Additionally, you can also configure the server to allow unauthorized printing access to one or more Enterprise printer queues from iOS devices, to give guests and visitors access to select printer queues.

4. The PDG pulls the printer configuration information from the PrinterOn service and uses the Bonjour protocol to broadcast the information on the selected network.
5. An iOS device user submits a print job to a discoverable print queue.
6. The device renders the print job and submits it to the PDG over the network on port 6310 (which is configurable) using the IPP protocol.
7. If authentication is required, the user is asked to include their AD/LDAP or PrinterOn credentials for validation. The PrinterOn Enterprise server validates the user's access using an AD/LDAP department or group.
8. The PrinterOn service prepares the job and delivers it to the output destination configured for the selected printer.
9. PDG iOS Connector notifies the iOS device that the job has been successfully delivered to the destination endpoint.

Using the PDG for iOS devices without Bonjour

In many cases, the Bonjour protocol is not robust enough to overcome certain deployment scenarios. The limitations of Bonjour, and as a result native print for iOS, can make it either difficult or impossible to maintain a functional printing infrastructure.

You can use the Print Delivery Gateway to provide the same benefits of the native iOS print workflow without the need for Bonjour. To accomplish this, PDG uses other tools to inform iOS devices how and where to find printers on a network.

Native iOS Print Minimum Requirements

To support printing from an iOS device through PrinterOn without using Bonjour, you need to create a printer profile to define printer configuration information, and then push that profile to iOS devices.

You'll need to meet the following requirements:

Consideration	Requirement
PDG port configuration	PDG must be configured to listen for IPP requests on the default IPP port 631. The Apple Configurator only works if PDG is configured use this port.
Device OS	iOS devices must be running iOS 7 or later.
Printer Profile distribution tool	To push the Printer Profile to devices, you'll need one of the following tools: <ul style="list-style-type: none">• Apple Configurator• MDM/MAM-provided Print Profile configurator (for example, AirWatch, MobileIron, etc) <p>Note: Refer to your MDM/MAM documentation for more information regarding your specific solution.</p>

Sample configuration

The following section describes a sample configuration process using the Apple Configurator and a standard Print Delivery Gateway configuration.

Note: The Apple Configurator is useful for validating a configuration and preparing information, but is not recommended for larger scale deployments. PrinterOn recommends using tools provided by an MDM/MAM provider.

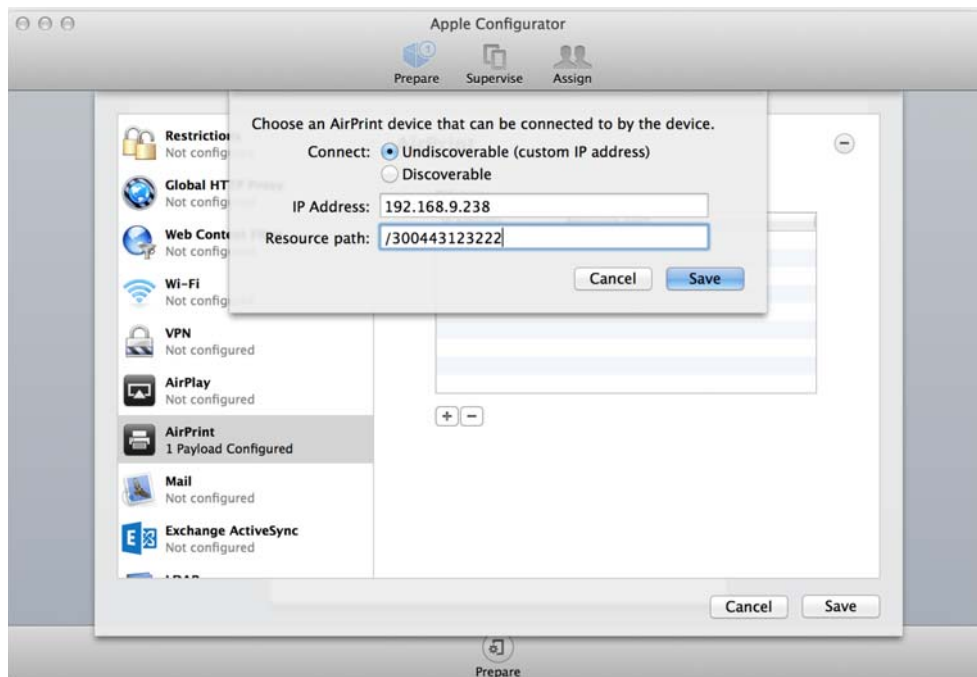
To provide iOS printing without Bonjour:

1. Retrieve the PDG Server's IP address or DNS name. This address should be accessible from the iOS devices that will be printing. By default, the PDS reports this information on the Service Settings tab for the selected Broadcast Interface as well as on the IPP tab
2. Configure the PDG IPP Listening Port to use 631. You can configure this in the **Network and Broadcast Settings** panel of the **Networking** tab.

3. Retrieve the desired print queue identifier (that is, the PrinterOn Printer ID or printer name). This is often referred to as the **Resource Path (rp)**.
You can access the printer name from the **Printers** tab.
4. Configure a Printer Profile using the Apple Configuration:
 - a) Locate the **AirPrint Profile Configuration Settings**.
 - b) Enter the PDG IP address in the **IP address field**.
 - c) Enter the PrinterOn Printer ID in the **Resource Path** (ex: /300122322323).

Note:

- When entering the Resource Path, ensure there is a slash in front of the ID.
- At the time of documenting this, a bug was identified in the Apple Configurator, the cursor **MUST** be in the IP Address field, or the information will not be saved.



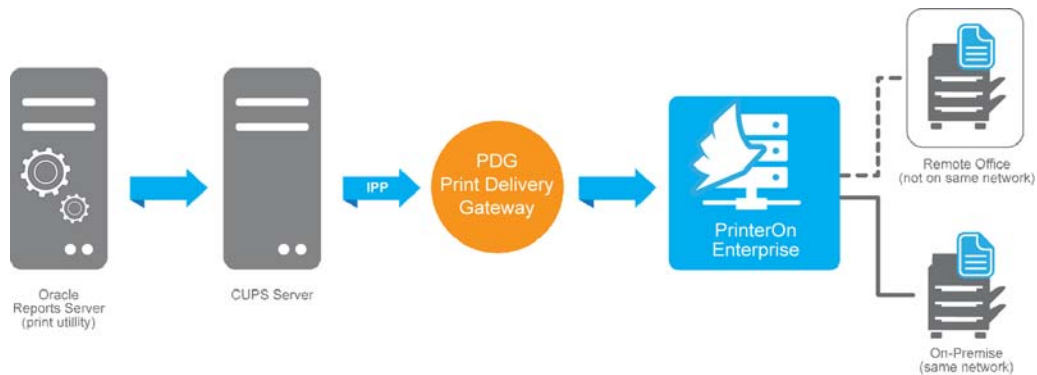
5. Save the settings and Push the Printer Profile to the iOS device to validate the configuration.

You can follow a similar configuration process when configuring devices using an MDM/ MAM solution.

The PDG IPP Connector

The PDG IPP Connector lets users submit jobs to remote printers using the IPP protocol through the PrinterOn infrastructure.

The IPP Connector bridges the gap between the existing IPP-based client and server workflows and the PrinterOn Service. It allows print users to submit jobs using a variety of clients, including integrating with advanced ERP systems, such as Oracle, and simple clients, such as those on many desktop and laptop computers.



PDG IPP Connector: Integration and deployment

The PDG IPP Connector makes use of the following components for and service delivery and configuration:

- [PDG IPP Listener](#)
- [Configuration Manager \(Networking tab\)](#)

PDG IPP Listener

The PDG IPP Listener Component provides a standard IPP 1.1 compatible interface with a few important 2.0 and 2.1 extensions to allow users with iOS devices to submit print jobs. PrinterOn's implementation of the IPP Listener component conforms to the specifications laid out in RFC 2910 and RFC 2911. IPP is transported over HTTP/1.1 using a message body with a content-type of *application/ipp*.

The PDG Listener forces IPP clients to transfer the data securely over SSL.

A note about IPP Queue Names and Resource Paths

The PDG IPP Listener adheres to key IPP requirements such as using the printer queue name to identify which printer the job is intended for. This information is used while configuring IPP print clients.

PDG accepts print jobs using either of the following values for the queue name or resource path of the IPP printer:

- The 12-digit PrinterOn Virtual Printer ID (for example, \300433123227)
- The PrinterOn Virtual Printer Name (for example, corp-company-printer)

Configuration Manager (Networking tab)

The Networking tab of the Configuration Manager lets you enable IPP support for existing PrinterOn printers as. You can also configure the port information for IPP Listener from this tab.

For detailed instructions on using the Configuration Manager to configure the Discovery Connector, see [Configuring IPP printing](#).

Overview of the PDG IPP workflow

The IPP connector was designed with the goal of empowering the administrators to leverage the capabilities of the PrinterOn Service to deliver print jobs generated by third-party IPP print servers and clients to designated printers located in remote locations.

Note: This workflow assumes that the existing print infrastructure allows print jobs to be delivered to an IPP-compatible server. For more information, see [Configuring your infrastructure to support IPP printing](#).

1. In the Configuration Manager, an administrator:
 - [Enables IPP printing for an existing PrinterOn printer](#)
 - [Configures the IPP listening port](#)

Note: If the printer is already configured to use PDG Discovery (that is, native printing from iOS devices) the IPP listener is enabled by default and cannot be configured.

2. Copy the printer information to the IPP-based client or server that will be sending print jobs to the server.

3. A user on the IPP-based client submits a print job.
4. As the PDG IPP Listener receives the data files, the PDG then delivered to the PrinterOn Server using the PrinterOn Printer information.
5. The PrinterOn Server verifies that the printer does not require authentication before accepting the job data and delivering it to the destination printer via the PrinterOn service.

3

Installing the Print Delivery Gateway

This chapter describes how to install the Print Delivery Gateway software and log into the Configuration Manager for the first time.

- [System requirements](#)
- [Installing the Print Delivery Gateway software](#)
- [Logging into the Configuration Manager for the first time](#)
- [Uninstalling a Print Delivery Gateway](#)

3.1 System requirements

To successfully deploy a standalone Print Delivery Station, you should ensure that your system meets the following requirements. These requirements apply to both the cloud and on-premise solutions.

- [Hardware requirements](#)
- [Software requirements](#)
- [Service requirements](#)
- [Network communication requirements](#)

3.1.1 Hardware requirements

The PrinterOn Print Delivery Station has the following hardware requirements:

Consideration	Requirement
Operating System	PrinterOn Print Delivery Station supports the following: <ul style="list-style-type: none"> • Windows 7 SP1 (64-bit) or later, with current patches installed • Windows Server 2012 (64-bit), with current patches installed (Datacenter and Standard Editions) • Windows Server 2016 (Datacenter and Standard Editions)
Processor	Intel compatible processor with 2GHz multi-core processor
Memory	2 GB RAM minimum (4 GB recommended)
Disk Space	2 GB of free disk space

3.1.2 Software requirements

The PrinterOn Print Delivery Gateway requires that the Java Runtime Environment be installed on the machine hosting the PDG. If no JRE is installed, the PDG Installation Wizard installs it for you.

3.1.3 Service requirements

The Print Delivery Station has the following service requirements:

Consideration	Requirement
PrinterOn Subscription	You must have an active PrinterOn Hosted subscription.
Account	You must have a PrinterOn account username (based on your email address) and password.

3.1.4 Network communication requirements

To ensure that your Print Delivery Station has no network communication issues, make sure that your server meets the following requirements:

Consideration	Requirement
Port	For internal network communication, ensure that the computer has inbound and outbound access on port 443. It is recommended, but not required, to have ports 80 and 631 available also.
Internet access	If you intend to set up a Hybrid deployment of PrinterOn, ensure that Internet access is available at all times.
Additional network requirements when using the PDG GCP Connector for Google print:	
GCP Server Port	The PDG creates a persistent connection with the Google Cloud Printer Server using XMPP on port 5353
Additional network requirements when using the PDG Discovery Connector for iOS printing:	
UDP Port	Zeroconf/Bonjour require that you have two-way communication on port 5353
IPP Port	By default, the IPP listener listens for inbound print requests from iOS devices on port 6310. You can configure PDG to listen on an alternative port in Configuration Manager, but it is strongly recommended that all communication be over SSL
Subnet	iOS devices and PDG must be on the same local subnet (network) that allows Bonjour.

3.2 Upgrade limitations

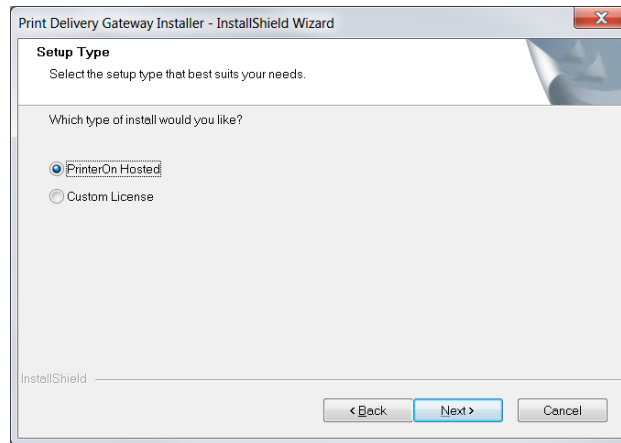
PrinterOn no longer supports upgrading from Print Delivery Gateway v1.3 AB. To upgrade to the newest version of PDG, you must uninstall the PDG, then reinstall it.

3.3 Installing the Print Delivery Gateway software

Once you have ensured that you have met all the [System requirements](#), you're ready to install your software.

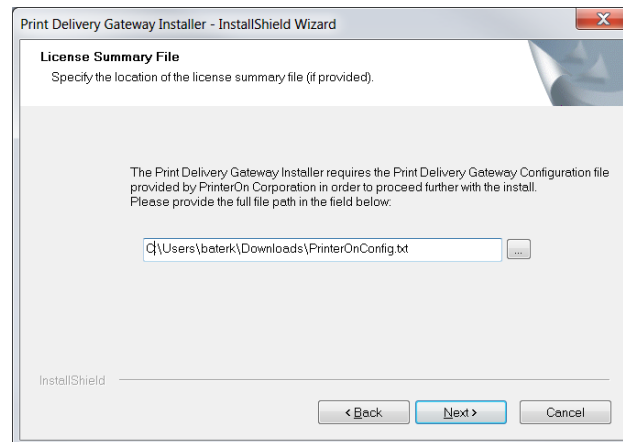
To install the PDG software:

1. Run **PrintDeliveryGateway.exe** to launch the Print Delivery Gateway Installation Wizard. The wizard guides you through the installation of the PDG software.
2. Click **Next** at the Welcome screen.
3. Accept the License Agreement to proceed with the installation.
4. On the Setup Type screen, choose which type of install you want to perform.



Setup Type	Description
PrinterOn Hosted	Installs a standalone PDG that is used in conjunction with the PrinterOn Hosted service. When you complete the installation, you'll need to import your customization file .
Custom License	Installs a remote PDG that is to be used in conjunction with PrinterOn Enterprise or PrinterOn Express. A Custom License installation requires that you supply your PrinterOn license file.

5. Click **Next**.
 - If you are selected a **PrinterOn Hosted** installation, the installer begins to install the PDG software. Proceed to Step 8.
 - If you selected a **Custom License** installation, the License Summary File screen appears. Proceed to Step 6.
6. If you are performing a **Custom License** installation, in the License Summary File screen, browse to your PrinterOn license file and select it, then click **Next**.



7. When the installation is complete, click **Finish**, and then reboot the computer.

3.4 Logging into the Configuration Manager for the first time

After you install the Print Delivery Station software, you'll be able to log in to the Configuration Manager using the default credentials. The Configuration Manager runs in your browser and serves as the central dashboard for your PDG service. From there, you can monitor your system health, you can monitor print jobs, and, of course, configure all your PDG settings.

To open the Configuration Manager:

1. Choose **Start > All Programs > PDG > PDG Configuration Manager**.

Note: On Windows 2010, search for PDG Configuration Manager from the **Start** menu, or go to <http://127.0.0.1:8057>.

The Configuration Manager immediately prompts you to change your password.

2. Enter and confirm a new password. Your new password must meet the following criteria:
 - It must not contain your Username.
 - It must not have 4 or more consecutive letters or digits.
 - It must be at least 8 characters in length, with at least 1 letter, 1 number, and 1 special character. Passwords of 10 or more characters must have at least 2 letters, 2 numbers and/or 2 special characters.

3. Click **Login**. The Configuration Manager opens.
 - If you are a **PrinterOn Hosted** subscriber, the Import Data tab appears, where you'll need to [link to your PrinterOn service](#) before configuring the PDG software.
 - If you are using **PrinterOn Enterprise/Express**, the PDG uses information from your PrinterOn license to link to your service. Since you provided your license during the installation process, the PDG should already be linked to your PrinterOn service.

As a PrinterOn Enterprise/Express customer, you only need to link to your service if your change the terms of your PrinterOn license. In this case, the information used to link to your service changes, breaking the link between your service and the PDG. You can [relink to your PrinterOn Enterprise/Express service](#) by updating the PrinterOn license that is associated with your PDG.

For an overview of the Configuration Manager, see [Exploring the Configuration Manager](#).

3.5 Uninstalling a Print Delivery Gateway

To uninstall the Print Delivery Gateway software:

1. Run **PrintDeliveryGateway.exe** to launch the Print Delivery Gateway Installation Wizard.
2. When the wizard prompts you to choose a modification option, select **Remove**, then click **Next**.

The installer removes all PDG software from the machine.

3. Restart your computer to complete the uninstall process.

4

Exploring the Configuration Manager

The Configuration Manager allows you to configure all PDG settings, monitor the health of the PDG, and manage and monitor the print jobs.

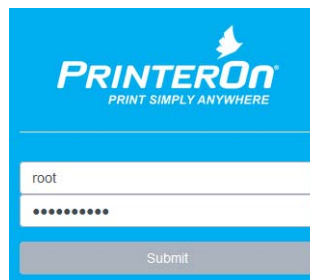
4.1 Launching the Configuration Manager

To open the Configuration Manager:

1. Choose **Start > All Programs > Print Delivery Gateway > Print Delivery Gateway Configuration Manager**.

Note: If on Windows 2010 or 2012, search for Print Delivery Gateway Configuration Manager from the **Start** menu, or go to <http://127.0.0.1:8057>.

2. Log in to the Configuration Manager.



The image shows the login interface for the PrinterOn Configuration Manager. At the top, the PrinterOn logo is displayed with the tagline "PRINT SIMPLY ANYWHERE". Below the logo, there are two input fields: the first contains the text "root" and the second contains a series of dots representing a password. A "Submit" button is located at the bottom of the form.

After you successfully log in, the Configuration Manager appears.

The screenshot shows the Configuration Manager interface with the 'PDG' tab selected. The main content area is titled 'Print Delivery Gateway Import Customization Data'. It contains the following fields and options:

- Administrator Username:** email@printeron.com
- Administrator Password:** [masked with dots]
- Site Service ID:** 123451234
- Automatic Printer Synchronization:**
- Scheduled Sync:** 5 Minutes
- Enable PrinterOn Server Discovery:**
- Enable Printer Discovery:**

At the bottom of the form, there are two buttons: 'Apply Settings' (green) and 'Sync Printers' (blue).

Note: If you have multiple PrinterOn components installed on this computer, you may see the Configuration Manager's Home tab by default. In this case, you can access the PDG configuration settings from the **Advanced** menu. For more information, see [Accessing PDG settings when multiple PrinterOn components are installed](#).

4.1.1 Accessing PDG settings when multiple PrinterOn components are installed

The Configuration Manager UI adapts based on which PrinterOn components are present on the server. Because the PrinterOn Enterprise/Express software can be deployed in a variety of ways based on the needs of an organization, the Configuration Manager only displays settings for the component(s) installed on the computer. As a result, depending on your deployment and the server you are configuring, you may see additional screens or settings beyond those described in this guide.

This guide assumes that the PDG is the only PrinterOn component installed on the computer. If you have multiple components installed on the same computer, you can access the settings for a specific component through the **Advanced** menu.

To open the PDG settings in a multi-component Configuration Manager:

1. In the Configuration Manager, click **Advanced > Components**.
2. Click the **Configure** button adjacent to the **Print Delivery Gateway** component. The PDG component configuration appears.

4.1.2 Configuration Manager security

Configuration Manager enforces the following security policies:

- After three failed log in attempts, Configuration Manager locks the Log In screen for one minute.
- For each subsequent failed log in attempt, it increases the lockout by one minute.
- After 15 minutes of inactivity, the Configuration Manager session times out, after which you must log in again to continue configuration.

4.2 The Configuration Manager workspace

4.2.1 Basic and Advanced views

You can display the Configuration Manager in two views:

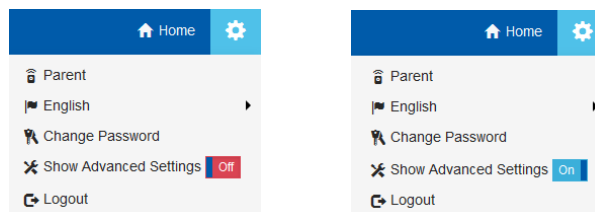
- **Basic view:** Displays commonly configured settings.
- **Advanced view:** Displays all Basic view settings plus additional advanced settings. Advanced settings are those that are only rarely configured.

By default, the Configuration Manager opens in Basic view. You can toggle between the two views using the **Show Advanced Settings** switch on the **Settings** menu. As you turn Advanced view on and off, the interface is updated in real time.

For completeness, this guide documents all settings. Screen shots are typically shown in Advanced view. As a result, if you are displaying Configuration Manager in Basic view, images in this guide may appear slightly different than what appears on screen. For a complete list of settings that are hidden when the Configuration Manager appears in Basic view, see [Appendix A: Advanced configuration settings](#).


To show or hide advanced settings:

1. In the Configuration Manager, click **Settings** (⚙️).
2. Click **Show Advanced Settings** to toggle advanced settings on or off.



4.2.2 Tabbed interface

The Configuration Manager workspace contains a number of tabs from which you can configure all aspects of your PDS software.

Tab/Menu	Features
Import Data	Lets you link the PDG to your PrinterOn Hosted service, and define printer synchronization and discovery settings. For more information, see Configuring printer synchronization and discovery settings .
Printers	Displays a list of all the printers that are currently managed by your PrinterOn Service. For more information, see Viewing the printers managed by your PrinterOn service .
Logging	Lets you define what printing events should be logged and where the logs should be stored. For more information, see Configuring logging settings .
PQMS	Lets you map your PrinterOn printers to Windows print queues. For more information, see Configuring the PrinterOn Queue Management System (PQMS) workflow .
Google Cloud Print	Lets you map your PrinterOn printers to a Google printer. For more information, see Configuring the Google Cloud Print workflow .
Networking	Lets you enable your IPP printers and configure broadcast and proxy settings. For more information, see: <ul style="list-style-type: none"> • Configuring native iOS printing • Configuring IPP printing • Configuring proxy settings
Queue Monitor	Displays the local queue monitor, which lists current and completed print jobs. For more information, see Using the local Queue Monitor .
SSL	Lets you configure SSL certificate information. For more information, see Configuring your SSL Keystore .
Service and Support	Lets you start and stop the PDG service and download a support package that you can send to PrinterOn Support for troubleshooting assistance. For more information, see Managing the PDG service .
 (Settings menu)	Provides access to general administration tasks. For more information, see Administering the Configuration Manager .

4.3 Configuration Manager best practices

4.3.1 Specifying network addresses

Throughout the Configuration Manager interface, there are a number of locations where you must provide URLs/network addresses to facilitate communication between PrinterOn components, or between the PrinterOn server and external services, such as authentication services.


With PrinterOn Enterprise v4.2.3, key PrinterOn server components have been updated to support the IPv6 communication standard. However, some fields within the Configuration Manager may not have been configured to accept addresses in IPv6 notation (for example, [2001:470:b0df:b0df::1778]).

As a result, PrinterOn recommends that you enter network addresses as fully qualified hostnames. For example:

myhost.mydomain.com

These fully qualified hostnames can be entered in any field that requires a network address. PrinterOn will automatically resolve the address to the IPv4 or IPv6 value as necessary.

4.4 Administering the Configuration Manager

The Settings menu, identified by the gear icon () , lets you perform some general administration tasks, such as:

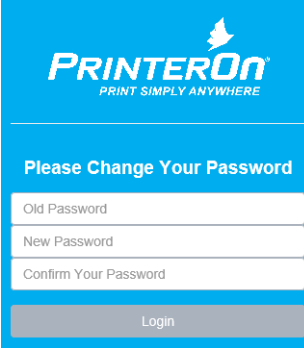
- [Toggling between Basic and Advanced views](#)
- [Changing your Configuration Manager password](#)
- [Connecting remote servers to a parent Configuration Manager](#)
- [Logging out](#)

4.4.1 Changing your Configuration Manager password

You can change your password at any time from the Configuration Manager Settings menu.

To change your Configuration Manager password:

1. In the Configuration Manager, click the **Settings** button (⚙️).
2. Click **Change Password**. The Change Password dialog appears.



3. Enter your old password, then enter and confirm your new password and click **Login**.

4.4.2 Resetting the Configuration Manager Password

In some cases, it might be necessary to reset your Configuration Manager administrator password. The PDG installation includes a utility to reset the password when necessary.

To reset your password:

1. Navigate to *PrinterOn_PDG_installation_directory*\Tools\ResetPassword.

By default, *PrinterOn_PDG_installation_directory* is:

C:\Program Files (x86)\PrinterOn Corporation\Print Delivery Gateway Installer

2. Right-click on ResetAdminPassword.bat, then click **Run as Administrator**.

The tool will stop your PDG, then reset your password to the default:

- If you have a licensed PrinterOn Enterprise/Express installation, the default password is the `APIsiteAuth` value found in your PrinterOn license file. For help locating this value, see [Locating your APIsiteAuth value](#).
- If you are a PrinterOn Hosted subscriber, the default password is **Password**.

When you next login, you'll be prompted to change your password immediately.

4.4.2.1 Locating your APISiteAuth value

When you first install a licensed version of the PrinterOn software, your Configuration Manager uses your APISiteAuth value as your password. The APISiteAuth value is an entry in the PrinterOn license file, unique to every organization that receives a license from PrinterOn.

To locate your APISiteAuth value:

1. Locate your PrinterOn license file (PrinterOnConfig.txt) and open it in a text editor.
2. In the file, locate the **[site]** section. This section includes the APISiteAuth value.

```
[site]
APISiteUID = 562873393017
APISiteAuth = SzNQJxV7
AdminEmail = email@printeron.com
```

4.4.3 Connecting remote servers to a parent Configuration Manager

The Configuration Manager allows you to manage multiple remote PrinterOn component installations from a single location. To complete this process, you must log into the Configuration Manager on the remote server and specify the URI for the parent configuration server.

Note: You can still configure individual servers locally on each remote server, regardless of the parent configuration.

To connect to a parent server:

1. On the remote server, log into the Configuration Manager and click **Settings** (⚙️) > **Parent**.

The Parent Status page appears.




2. In the **Parent URI** field, enter the IP address and port of the computer that will serve as the central configuration server. The default port is 8057.
3. Press **Connect**.

You can now log into Configuration Manager on your parent server to manage and configure the component that is installed remotely.

4.4.4 Logging out

To log out of the Configuration Manager:

1. Click Settings () > **Logout**.

5

Linking the PDG to your PrinterOn service

To be able to get information about your PrinterOn printers and synchronize with your PrinterOn service, the PDG must be linked to that service.

- If you are using PrinterOn Enterprise/Express, the PDG uses your PrinterOn license information to link to your service. Since you provided your license during the installation process, the PDG should already be linked to your PrinterOn service.
- However, if you update the license for your PrinterOn Service, you need to propagate that updated license to the remote PDG.
- If you are a **PrinterOn Hosted** subscriber, the Import Data tab appears, where you'll need to [link to your PrinterOn service](#) before configuring the PDG software.

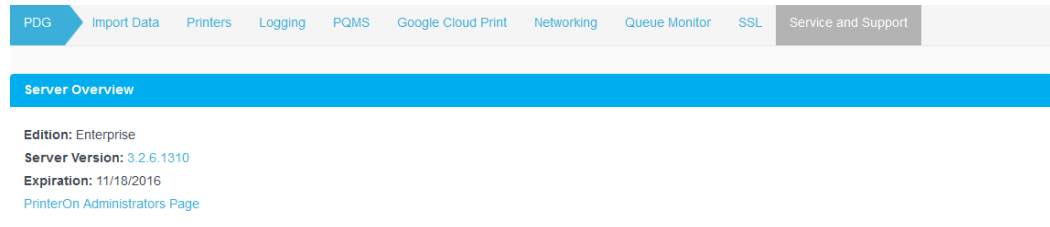
5.1 Linking the PDG to your PrinterOn Enterprise/Express service

If you are using PrinterOn Enterprise/Express, the PDG uses information in your PrinterOn license to link a remote PDG to your PrinterOn service. Since you provide your license during the installation process, the PDG is automatically linked to your Enterprise/Express service upon installation.

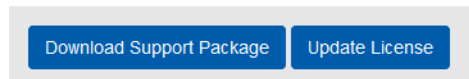
However, if you change the conditions of your license—for example, by adding support for additional printers, or extending the term of your existing license—the values in your license file change, and the link to your PrinterOn service is broken. To re-link to your service, you must update your license in the Configuration Manager.

To link to your PrinterOn Enterprise/Express service:

1. When you log into the Configuration Manager, click **Service and Support**. The Service and Support tab appears.



2. Locate the buttons at the bottom of the tab.



3. Click **Update License**. The Upload A New License dialog appears.



4. Enter the path to your updated license file, then click **Upload**. The license file associated with your PDG is updated, and the link to your PrinterOn service is restored.

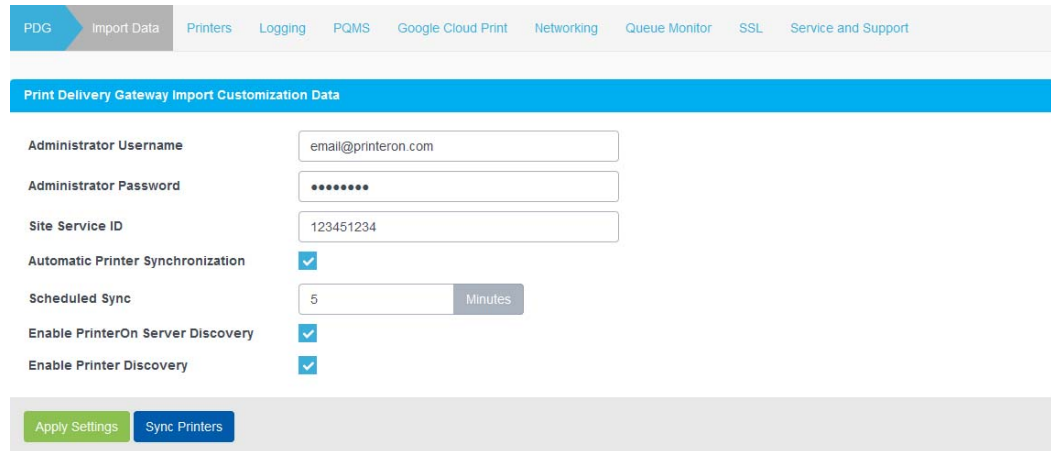
5.2 Linking the PDG to your PrinterOn Hosted service

When you install a new PDG server, you need to link it to your PrinterOn service so that it can import your list of printers.

The first time you log into Configuration Manager, you'll need to link your PDG server to your PrinterOn Hosted service by logging in to your PrinterOn account.

To link to your PrinterOn Hosted service:

1. When you log into the Configuration Manager for the first time, the **Import Data** tab appears.



The screenshot shows the 'Print Delivery Gateway Import Customization Data' form. The form is titled 'Print Delivery Gateway Import Customization Data' and is located under the 'Import Data' tab. The form contains the following fields and options:

- Administrator Username:** email@printeron.com
- Administrator Password:** *****
- Site Service ID:** 123451234
- Automatic Printer Synchronization:**
- Scheduled Sync:** 5 Minutes
- Enable PrinterOn Server Discovery:**
- Enable Printer Discovery:**

At the bottom of the form, there are two buttons: 'Apply Settings' and 'Sync Printers'.

2. Enter your PrinterOn Administration **Username** and **Password**.
3. In the **Service ID** field, enter your PrinterOn Service ID.

Note: You can retrieve your PrinterOn Service ID from the PrinterOn Web Admin Portal:

1. Log in to the PrinterOn.com web admin portal at www.printeron.com/administrators.
2. On the home page, in the **PrintSpot Summary** panel, locate the **Service ID**.

4. Click **Import Settings**. The PDG links to your service and attempts to synchronize your printers.

6

Configuring printing workflows

The PDG software allows users to submit jobs from a number of workflows to PrinterOn managed printers. The Configuration Manager provides several tabs that let you configure the connectors that enable these workflows:

- The **PQMS** tab lets you map a PrinterOn printers to a Windows print queue.
For more information, see [Configuring the PrinterOn Queue Management System \(PQMS\) workflow](#).
- The **Google Cloud Print** lets you map a PrinterOn printer to a Google Cloud Printer.
For more information, see [Configuring the Google Cloud Print workflow](#).
- The **Networking** tab lets you enable IPP printers and set the network settings and ports used for native iOS printing and LPD printing.
For more information, see:
 - [Configuring native iOS printing](#)
 - [Configuring IPP printing](#)
 - [Configuring LPD printing](#)

6.1 Configuring the PrinterOn Queue Management System (PQMS) workflow

PrinterOn's PDG Print Queue Monitoring Service (PQMS) Connector lets users submit print jobs to standard Windows Print Server queues and then have those jobs delivered to remote printers through the PrinterOn Server infrastructure.

Note: PQMS is *not* available for PrinterOn Express edition.

To configure the PQMS workflow:

1. In the Configuration Manager, click **PQMS**. The PQMS panel appears.
2. In the **Printer Mappings** panel, [map the local Windows printer queue to a PrinterOn printer](#).
3. In the **PQMS Settings** panel ([Advanced view](#) only), [configure your PQMS connector](#) as necessary. In most cases, you should not need to change the default settings.
4. Click **Apply Settings**.

6.1.1 Mapping the Windows Print Queue to a PrinterOn printer

The Printer Mappings section lets you map the existing Local Windows Print Queues to PrinterOn Printers.

Printer Mappings	
Local Printer Name	PrinterOn Printer
PrintWhere 5.2	<input type="text" value=""/>
Microsoft XPS Document Writer	<input type="text" value=""/>

To map a Windows print queue:

1. For each local printer queue that will be routed through the PrinterOn server, select the PrinterOn Printer to map it to from the adjacent drop-down.

You can map a single PrinterOn printer to a single printer device queue, or you can map it to multiple printer device queues.

Note: If the Configuration Manager is unable to modify the port information of a selected Windows print queue, the print queue is flagged in red.

6.1.2 Configuring the PQMS connector

The PCMS Settings panel provides configuration settings associated with job management and processing.

Note: The PQMS Settings panel is displayed in [Advanced view](#) only.

The screenshot shows the 'PQMS Settings' panel with the following configuration:

- Folder to Monitor:** C:\ProgramData\PrinterOn Corporation\PDG\gateway\printjobwatch
- Max Concurrent Jobs:** 10
- Job Processing Timeout:** 5 Minutes
- Enable Monitor Logging:**

6.1.2.1 PQMS Settings

Setting	Description
Folder to Monitor	Specifies the directory in which the PrinterOn Server stores print data. All print data sent to the PDG port is forwarded to this folder.
Max Concurrent Jobs	Specifies the maximum number of print jobs to be processed by the PrinterOn Server at any given time. This setting helps avoid overloading the PrinterOn Server and reduces job delays during periods of heavy usage. If you are using multiple PDG servers, you can increase this value.
Job Processing Timeout	The maximum amount of time the PQMS connector waits for confirmation after job submission before abandoning the job request and freeing up the print slot. The default timeout is 5 minutes.
Enable Monitor Logging	When checked, the PQMS Connector creates a new log file in the PDG Log Directory and starts logging PQMS-related information.

6.2 Configuring the Google Cloud Print workflow

PrinterOn's PDG Google Cloud Print (GCP) Connector lets users print from any GCP client (such as a Chromebook or Chrome Browser) to PrinterOn managed printers. This connector integrates the GCP Workflows with the PrinterOn Service by allowing you to create new Google Cloud Printers and map them to PrinterOn managed printers.

Note: As you add and configure your Google Cloud printers, you will be redirected to the Google Cloud Print website to enter your credentials and provide the PrinterOn Server access to your Google printers. Before continuing, see [Google Cloud Print authentication](#) to learn how to ensure that you are prepared to add Google Cloud Printers.

To configure the Google Cloud Print workflow:

1. In the Configuration Manager, click **Google Cloud Print**.
2. [Add your Google Cloud printers](#) by providing a printer name and mapping it to an existing PrinterOn printer.
3. [Share the printer](#) to make it available to Google Cloud users.
4. To rename a printer queue, select the printer in the list then click Rename.
5. To delete a printer queue from both the PrinterOn Server and the Google Cloud Printer services, click Delete Printer.
6. Click **Apply Settings**.

6.2.1 Google Cloud Print authentication

The PrinterOn Server uses Google's OAuth2 based system for identifying users and printers. This provides a secure method of linking Google printers and users to PrinterOn. During the setup process, you will be redirected to the Google Cloud Print website to enter your credentials and provide the PrinterOn Server access to your Google printers.

Before starting your Google Cloud Print setup:

- Create a Google Account to manage your printers and Google Cloud Print workflow.
- Ensure that pop-up windows are allowed for the PrinterOn Server.

During the setup process, the Configuration Manager will load a pop-up window or tab and redirect you to the Google website.

6.2.2 Adding a Google Cloud printer

To add a Google Cloud Printer to your PrinterOn solution, you must create a map that links a Google printer to a PrinterOn printer

To map a Google Cloud Printer to a PrinterOn printer:

1. On the Google Cloud Print tab, click **Add Google Printer**. The Add Google Printer dialog appears.

2. Set the following values:

Setting	Description
Printer Name	The user-friendly Google Cloud Print printer name that will be assigned to this printer.
Map to Printer	The PrinterOn server printer that was previously created on the PrinterOn.com portal.

3. Click **Add Google Printer** to create the printer on the Google Cloud Print servers. You'll be redirected to the Google Cloud Print Website to complete the printer registration.
4. Once the printer is created, it is added to the Google Cloud Print Printers list.

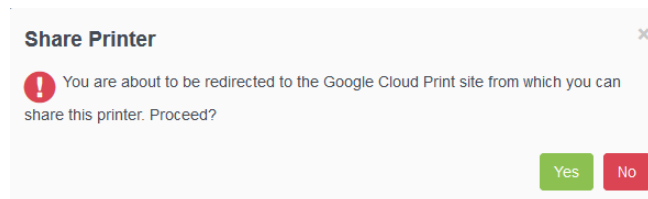
Select	Google Printer Name	PrinterOn Printer
<input type="checkbox"/>	MarketingPrinter	marketingprinter

6.2.3 Sharing a Google Cloud printer

Once the Google Cloud Printer has been added, you must then share the printer so that users can see the printer in the GCP client. You can share the printer with individual users or with groups of users, provided the users all have access to a GCP client.

To share a Google Cloud printer:

1. In the Select column of the Google Cloud Print screen, check the printer you would like to share.
2. Click **Share Printer**.
3. In the Share Printer dialog, select **Yes** to be redirected to the Google Cloud Print site.



4. Log in to the Google Cloud Print services and click **Share**.
5. In the **Invite People** field of the Printer Sharing Settings page on the Google Cloud Print site, enter the names, email address, or groups of the people you want to be able to access the printer.
6. Click **Share**.

6.3 Configuring native iOS printing

PrinterOn's PDG Discovery Connector lets users submit print jobs from iOS bas-devices such as iPads or iPhones.

You can configure the PDG Discovery Connector to let iOS-based devices discover printers and submit print jobs to PrinterOn printers. The Discovery Connector allows users to submit jobs to printers that are located both inside and outside the enterprise network.

To configure the PDG Discovery Connector, you need to complete the following tasks:

- [Enabling Discovery](#)
- [Configuring the Service URI and IPP listening ports](#)

6.3.1 Enabling Discovery

To enable the PDG Discovery Connector to support native iOS printing, you must first:

- Ensure that the PDG Discovery Advertiser is enabled for the PrinterOn service, so that iOS devices can access the PrinterOn Server and the printer directory.

Note: Discovery is enabled by default.

- Enable discovery for each individual printer that you want to make visible to iOS devices.

To configure discovery:

1. Enable the PDG Discovery Advertiser:
 - a) In the Configuration Manager, click **Import Data**. The Import Data tab appears.
 - b) Enable the following settings:

Setting	Description
Enable PrinterOn Server Discovery <i>(Advanced view only)</i>	When checked, the PDG broadcasts location information about the PrinterOn print service. Client applications can retrieve information about the printers by directing requests to the Service URI you define in the Network and Broadcast Settings panel. By default, this setting is enabled.
Enable Printer Discovery <i>(Advanced view only)</i>	When checked, the PDG broadcasts information about the printers. By default, this setting is enabled. If you disable this setting, printers will not be visible to iOS devices.

- c) Click **Apply Settings**.
2. Enable Discovery for Individual printers:
 - a) In the Configuration Manager, click **Printers** tab. The Printers tab appears.
 - b) In the printers list, locate the printer(s) that you want to make discoverable by iOS devices.
 - c) In the **Discovery** column for each printer, click the icon to toggle discovery on.

Printer Name	Output Destination	Authentication	PQMS	GCP	Discovery
Nagoya-1	docapis://127.0.0.1/cps	None			
generated-printer-4	docapis://127.0.0.1/cps	None			
generated-printer-6	docapis://127.0.0.1/cps	None			

6.3.2 Configuring the Service URI and IPP listening ports

To receive print requests from iOS devices, you must configure the IPP listening ports. The IPP Listener listens on these ports for any incoming print requests from iOS or IPP devices.

To configure native iOS printing:

1. In the Configuration Manager, click **Networking**. The Networking tab appears.
2. In the **Network and Broadcast Settings**, configure the settings as necessary.

Setting	Description
Service URI	<p>The address MacOS devices will use to retrieve the list of PrinterOn printers with discovery enabled. The Service URI should be the following value:</p> <p style="text-align: center;"><i><PrinterOn_Server_IP>/cps</i></p> <p>Click Test Connection to verify that the URI is properly defined.</p>
Broadcast Interface	<p>Indicates the network interface to use for advertising printer information. If multiple network cards or interfaces are available on the server, such as when using a Virtual Machine, select the interface that is mapped to the same network as your mobile devices.</p> <p>When using a virtual machine, it is important that this is the externally visible network adaptor.</p> <p>The IP address used by each interface is displayed in the drop-down list to help you identify the appropriate interface.</p>
Default IPP Port	<p>The default port on which the IPP Listener service listens for print jobs from iOS devices. The default port is 6310.</p> <ul style="list-style-type: none"> • To enable the port, check Enable. • To transfer the print data securely, check SSL. This setting is checked by default for the Default IPP Port.
Additional Port 1, Additional Port 2 <i>(Advanced view only)</i>	<p>Additional ports on which the IPP Listener service listens for print jobs, to be used by iOS devices when the default port is blocked.</p> <ul style="list-style-type: none"> • To enable the port, check Enable. • To transfer the print data securely, check SSL.

3. Click **Apply Settings**.

6.4 Configuring IPP printing

The IPP Connector lets users submit print jobs generated by third-party IPP print servers and clients to designated printers located in remote locations.

To configure the PDG IPP Connector, you need to complete the following tasks:

- [Configure your PrinterOn printers as IPP-enabled printers](#)
- [Configure the IPP listening ports](#)

Additionally, to support IPP printing for your environment, you may need to perform some additional tasks. For more information, see [Configuring your infrastructure to support IPP printing](#).

6.4.1 Enabling IPP support for PrinterOn printer

To enable IPP support for PrinterOn printers:

1. In the Configuration Manager, click **Networking**. The Networking tab appears.
2. Locate the **IPP Printers** panel.

IPP Printers				
Enable	Printer Name	Printer Number	Printer Address	Printer Data Type
<input type="checkbox"/>	Auto-generated Print ...	900005228231	docapi://127.0.0.1/cps	Unrendered <input type="checkbox"/>
<input type="checkbox"/>	Auto-generated Print ...	900784151735	docapi://127.0.0.1/cps	Unrendered <input type="checkbox"/>
<input type="checkbox"/>	Warehouse	900739427876	docapi://127.0.0.1/cps	Unrendered <input type="checkbox"/>

- In the **IPP Printers** panel, for each PrinterOn printer you want to accept IPP print jobs, configure the following settings:

Setting	Description
Enable	When checked, the printer can receive IPP print jobs.
Printer Data Type	<p>Specifies whether the job data must be processed by the PrinterOn Server or can be delivered as is to the destination printer.</p> <ul style="list-style-type: none"> Rendered: The print job data is already prepared for the destination printer and no additional processing by the PrinterOn Server is necessary. For example, the client may submit PCL, or other printable data to the PrinterOn server. Unrendered: The PrinterOn server must provide additional processing and conversion before the destination printer can accept the print job data. For example, the client may generate and submit a PDF file to the server that must then be converted by the PrintAnywhere server before being delivered to the printer.

- Click **Apply Settings**.

6.4.2 Configuring the IPP listening ports

To receive print requests from IPP devices, you must configure the IPP listening ports. The IPP Listener listens on these ports for any incoming print requests from iOS or IPP devices.

To configure native iOS printing:

- In the Configuration Manager, click **Networking**. The Networking tab appears.
- In the **Network and Broadcast Settings**, configure the settings as necessary.

Setting	Description
Default IPP Port	<p>The default port on which the IPP Listener service listens for print jobs from iOS devices. The default port is 6310.</p> <ul style="list-style-type: none"> To enable the port, check Enable. To transfer the print data securely, check SSL. This setting is checked by default for the Default IPP Port.

Setting	Description
Additional Port 1, Additional Port 2 <i>(Advanced view only)</i>	<p>Additional ports on which the IPP Listener service listens for print jobs, to be used by iOS devices when the default port is blocked.</p> <ul style="list-style-type: none"> To enable the port, check Enable. To transfer the print data securely, check SSL.

3. Click **Apply Settings**.

6.4.3 Configuring your infrastructure to support IPP printing

To support IPP printing for your environment, you may need to perform some additional tasks.

- [Configuring IPP printing on your Windows Server](#)
- [Connecting an IPP printer in Windows](#)
- [Supporting IPP over HTTPS](#)

6.4.3.1 Configuring IPP printing on your Windows Server

To set up IPP Printing on your Windows Server:

1. Configure your Windows Server roles to support print services:
 - a) In the Server Manager, click **Server Roles**, then check **Print and Documentation Services**.

Note: In Windows Server 2008, you must also check the Printer Server role service.

2. Install the IPP Printing Client:
 - a) In the Server Manager, click **Features**, then check **IPP Printing Client**.
3. Reboot the server.

6.4.3.2 Connecting an IPP printer in Windows

You can use the following steps to connect Windows to PrinterOn using IPP. You'll need the IP address of the server hosting the PrinterOn software.

Note: The specific panels in Control Panel may vary depending on which version of Windows you are running.

To connect an IPP printer to a Windows computer:

1. Enable IPP printing:
 - a) Click **Control Panel > Programs and Features**, then select **Turn Windows Features On or Off**.
 - b) In the features list, expand **Print and Document Services** and verify that **Internet Printing Client** is checked.
2. Return to the Control Panel home page, then open **Devices and Printers**.
3. On the Devices and Printers screen, click **Add a Printer**.
4. In the Add Printer dialog, choose **Network**, then click **The printer I want isn't listed**.
5. Choose **Select a shared printer by name** and enter the IP address of the machine where the PDG is located. Include the port number used by the PDG. For example:
`http://172.16.100.101:6310/generated-printer-1`
If necessary, you can validate that the port is open by using Telnet
6. Click **Next**. Windows attempts to connect to the PrinterOn printer using IPP.
7. Select the printer driver that you want to use.

6.4.3.3 Supporting IPP over HTTPS

If you intend to print using IPP over HTTPS, you'll need to install a valid self-signed SSL certificate on the PrinterOn server, and the server hosting the PDG, if it is installed on another server.

Note: Only install SLL certificates from servers that you trust.

To install a certificate:

1. Log in as an administrator.
2. Right-click on Internet Explorer, and click **Run as administrator**.
3. In Internet Explorer, browse to the following URL:

`https://PDG_Server_IP_Address/`

4. Because there is no certificate installed in the server, you'll receive a certificate error. Click on the error.
5. Click **View Certificates**.
6. In the Certificates window, click **Install Certificate...**
7. Select **Place all certificates in the following store**, then click **Browse**.
8. Select **Trusted Root Certification Authorities**, then click **OK**.
9. Click **Next**, then click **Finish**.
10. A security warning appears informing you that you are adding a certificate from a source that cannot be validated. Click **Yes** to trust this SSL certificate.

6.5 Configuring LPD printing

Because every printer supports the LPD/LPR protocol, you can use the LPD printing workflow to add legacy devices that do not support newer printing protocols to your printing infrastructure.

To enable your PrinterOn service to support LPD printing, you'll need to configure and enable the LPD port. To allow Windows and MacOS users in your organization to print using this protocol, you may also need to configure your infrastructure to support LPD printing.

- [Configuring the Service URI and LPD printing port](#)
- [Enabling LPD printing on Windows](#)
- [Enabling LPD printing on MacOS](#)

6.5.1 Configuring the Service URI and LPD printing port

To receive print requests from devices using LPR printing, you must configure and enable the LPD printing port. The PrinterOn Server listens on this port for any incoming print requests directed to LPD devices. By default, the port is configured to use port 515 (the standard port for LDP/LPR communication). The port is disabled by default.

Because this workflow is rarely used, the **LPD Print Port** is not configurable from the Workflows tab in Configuration Manager. Instead, you'll need to access the PDG component settings to enable the port. In addition, the **LPD Print Port** setting is displayed in [Advanced view](#) only; you must turn on Advanced view before configuring the port.

To configure the LPD printing port:

1. In the Configuration Manager, click **Settings** (⚙️) and ensure that [Advanced view](#) is turned on.
2. Click **Networking**. The Networking tab appears.
3. In the **Network and Broadcast Settings**, configure the settings as necessary.

Setting	Description
Service URI	The address iOS devices will use to retrieve the list of PrinterOn printers with discovery enabled . The Service URI should be the following value: <code><PrinterOn_Server_IP>/cps</code> Click Test Connection to verify that the URI is properly defined.
LPD Print Port (Advanced view only)	The port on which the Server listens for LDP print requests. To enable the port, check Enable .

4. Click **Apply Settings**.

6.5.2 Enabling LPD printing on Windows

To configure LPD Printing on a Windows computer, you'll need to:

- Enable the LPD Print Service.
- Enable LPD Byte Counting.
- Add the LPD printer to your Windows print queue.

. You'll need the IP address of the server hosting the PrinterOn software.

Note: The specific panels in Control Panel may vary depending on which version of Windows you are running.

6.5.2.1 Enabling the LPD print service

To enable the LPD print service:

1. Click **Control Panel > Programs and Features**, then select **Turn Windows Features On or Off**.
2. In the features list, expand **Print and Document Services** and verify that **LPD Print Service** and **LPR Port Monitor** are checked.

6.5.2.2 Adding the LPD printer to the Windows printers list

After enabling the print service, you need to add the LPD printer.

To add the LPD printer:

1. In the Windows Control Panel home page, open **Devices and Printers**.
2. On the Devices and Printers screen, click **Add a Printer**.
3. In the Add Printer dialog, choose **Network**, then click **The printer I want isn't listed**.
4. Choose **Select a shared printer by name** and enter the IP address of the machine where the PDG is located. Include the port number used by the PDG. For example:
`http://172.16.100.101:515/generated-printer-1`
If necessary, you can validate that the port is open by using TelnetTo enable byte c
5. Click **Next**. Windows attempts to connect to the PrinterOn printer using LPD.
6. Select the printer driver that you want to use.

6.5.2.3 Enable LPR byte counting for Windows.

In order for LPD printing to work successfully in Windows, you must also enable LPR byte counting for the LPD printer.

To enable byte counting:

1. In the Windows Control Panel, on the Devices and Printers screen, right-click the LPD printer you added in the previous task and select **Printer properties**. A Properties dialog appears.
2. In the Properties dialog, open the **Port** tab.
3. Choose the port used by your printer, then click **Configure Port**. The port configuration dialog appears.
4. In the Port Configuration dialog, check **LPR Byte Counting Enabled**, then click **OK**.

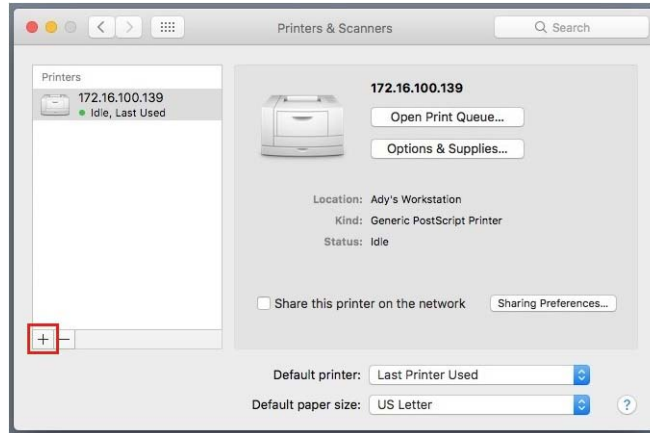
6.5.3 Enabling LPD printing on MacOS

To enable LPD printing on MacOS, you need to add the LPD printer to the list of available printers.

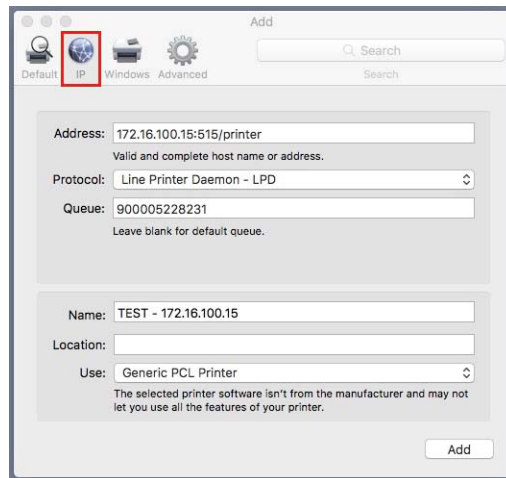
To add the LPD printer in MacOS:

1. On your computer, from the Apple menu, click **System Preferences**.

- In the System Preferences dialog, click **Printers and Scanners**. The Printer and Scanners dialog appears.
- In the Printers and Scanners dialog, below the **Printers** list, click **+** to add a new printer.



- In the Add dialog box, click **IP**.



- Provide the printer connection details as necessary:

Setting	Description
Address	The IP address and port of the LPD printer.
Protocol	The protocol used by the printer. From the drop-down list, select Line Printer Daemon – LPD .
Queue	The PrinterOn Printer number.
Name	The name used to identify the printer on the OS.

Setting	Description
Location	
Use	The Printer driver to use.

6. Click **Add**.

7

Managing printers

The Print Delivery Gateway Software enables your PrinterOn service to support print protocols such as iOS print, Google Cloud Print and Windows print.

- The **Printers** tab lets you view a list of all the printers that are currently managed by your PrinterOn Service. You can enable/disable discovery for printers from the Printers list.

For more information, see [Viewing the printers managed by your PrinterOn service](#)

- The **Import Data** tab lets you configure printer Synchronization and Discovery settings.

For more information, see [Viewing the printers managed by your PrinterOn service](#).

- The Queue Monitor tab lets you view print activity for your PDG connected printers.

For more information, see [Using the local Queue Monitor](#).

7.1 Viewing the printers managed by your PrinterOn service

From the **Printers** tab, you can view the printers that are managed by your PrinterOn service. This list is updated to reflect any configuration changes to the printers.

Note: The PDG must be linked with your PrinterOn service before it can synchronize the list of printers.

To view the printers that managed by your PrinterOn service:

1. In the Configuration Manager, click the **Printers**. The printers list appears.

PrinterOn Printers						
Display	40	records per page	Search: <input type="text"/>			
Printer Name	Output Destination	Authentication	PQMS	GCP	Discovery	
Nagoya-1	docapis://127.0.0.1/cps	None				
generated-printer-4	docapis://127.0.0.1/cps	None				
generated-printer-6	docapis://127.0.0.1/cps	None				
nagoya-2	docapis://127.0.0.1/cps	None				
nagoya-3	docapis://127.0.0.1/cps	None				
pull-nagoya-1	docapis://127.0.0.1/cps	None				
Showing 1 to 6 of 6 entries						<input type="button" value="Previous"/> <input type="button" value="1"/> <input type="button" value="Next"/>

Column	Description
Printer Name	The name used to identify the printer on the printeron.com website.
Output Destination	Defines the physical printer, print queue, or file to which the PrinterOn printer directs print jobs.
Authentication	Indicates whether the user must enter credentials and be authenticated to used the printer.
PQMS	Indicates whether the printer is enabled to use the PrinterOn Queue Management System. This column is read-only. To configure the printer to use PQMS, see Configuring the PrinterOn Queue Management System (PQMS) workflow .
GCP	Indicates whether the printer supports Google Cloud Printing. This column is read only. To configure the printer to use Google Cloud Printing, see Configuring the Google Cloud Print workflow .
Discovery	Indicates whether the printer is discoverable by iOS users. Click the icon to enable or disable discovery.

7.2 Configuring printer synchronization and discovery settings

The Import Data tab contains several settings that let you manage how the PDG synchronizes printers with the central server, and how it shares printer information with client applications.

To configure your printer synchronization and discovery settings:

1. In the Configuration Manager, click **Import Data**. The Import Data tab appears.

The screenshot shows the 'Print Delivery Gateway Import Customization Data' configuration page. The 'Import Data' tab is selected in the top navigation bar. The configuration fields are as follows:

Field	Value
Administrator Username	email@printeron.com
Administrator Password	••••••••
Site Service ID	123451234
Automatic Printer Synchronization	<input checked="" type="checkbox"/>
Scheduled Sync	5 Minutes
Enable PrinterOn Server Discovery	<input checked="" type="checkbox"/>
Enable Printer Discovery	<input checked="" type="checkbox"/>

Buttons at the bottom: **Apply Settings** (green) and **Sync Printers** (blue).

2. Configure the following settings as necessary:

Setting	Description
Automatic Printer Synchronization	When checked, the PDG printer list is automatically synchronized with the central printer list.
Scheduled Sync	The interval, in minutes, that the printers list is synchronized with the central printer list. You can manually synchronize the printers lists at any time by clicking Sync Printers .

Setting	Description
Enable PrinterOn Server Discovery <i>(Advanced view only)</i>	When checked, the PDG broadcasts location information about the PrinterOn print service. Client applications can retrieve information about the printers by directing requests to the Service URI you define the Network and Broadcast Settings panel of the Networking tab. By default, this setting is enabled.
Enable Printer Discovery <i>(Advanced view only)</i>	When checked, the PDG broadcasts information about the printers. By default, this setting is enabled. If you disable this setting, printers will not be visible to iOS devices.

3. Click **Apply Settings**.

7.3 Using the local Queue Monitor

The Queue Monitor lists current and completed print jobs that have been submitted to the PrinterOn service via PDG connectors. Administrators can use the PDS Queue Monitor to monitor printer usage.

To use the Queue Monitor:

1. In the Configuration Manager, click **Queue Monitor**. The Queue Monitor opens.

The screenshot shows the Queue Monitor interface with a table of print jobs. At the top right is a 'Refresh' button. Below it is a 'Display' dropdown menu set to '10 records per page'. The table has columns for Request ID, Name, Size(KB), Time, Printer, Owner, Status, Pages, and Reference #. There is one entry in the table with Request ID 10, Name www.google.ca, Size 60.8 KB, Time 6/8/2016, 9:12:56 PM, Printer generated-printer-1, Owner 127.0.0.1, Status Done, Pages 1, and Reference # 1000010. At the bottom, it says 'Showing 1 to 1 of 1 entries' and has 'Previous', '1', and 'Next' navigation buttons.

Request ID	Name	Size(KB)	Time	Printer	Owner	Status	Pages	Reference #
10	www.google.ca	60.8	6/8/2016, 9:12:56 PM	generated-printer-1	127.0.0.1	Done	1	1000010

2. To sort print jobs, click the column title that you want to sort by.

7.3.1 Print job status values

The following table explains the status messages you might see in the Queue Monitor.

Status	Definition
Data Missing	Data file for the request cannot be found by PDS.
Deleted	Data file for the request has been deleted.
Done	Print job has been printed and is no longer available to reprint.
Download Pending	PDS has queried PDH and is retrieving details about pending documents.
Downloading	Data file for the request is being downloaded from PDH.
New	Print job is being held pending release.
Partially Downloaded	Data file for the request was partially downloaded from PDH and was interrupted.
Pending	Paused – must be printed in Manual mode.
Printed	Printing completed – job can still be reprinted.
Printing	Being sent to a printer or queue.
Purged	Data has been deleted by PDS – based on the Failed Job purge setting in PDS.
Ready	Ready to be printed.
Waiting	Requested printer is unavailable or busy – will change to Ready status when printer is available.

8

Configuring proxy settings

If you need to set up a proxy server to allow communication outside your local network, the Proxy Settings panel of the Networking tab allows you to define the necessary settings to enable communication.

To configure Proxy settings:

1. In the Configuration Manager, click **Networking**. The Networking tab appears.
2. In the **Proxy Settings** panel, configure your proxy settings as necessary.

Setting	Description
Proxy Enabled	When checked, the proxy is used for communication outside the local network.
Proxy Server URI	The URL or IP address of the proxy server with which to communicate.
Proxy Port	The network port number with which the proxy server has been configured to communicate.
Proxy Username	The user name required to authenticate against the proxy server, if required. Note: For NTLM Proxies, ensure that the Windows Domain name is added to the Username. This will automatically cause the server to use NTLM proxy options.

Setting	Description
Proxy Password	The password required to authenticate against the proxy server, if required.
Proxy Test Result Non-SSL, SSL	Displays the results for non-SSL and SSL communication when you click Test Proxy Connection .

3. Click **Test Proxy Connection** to ensure that the PDG can successfully communicate with the proxy server as intended.
4. Click **Apply Settings**.

9

Configuring your SSL Keystore

The SSL tab lets you define your keystore information. PDG uses a standard format file for storing SSL Certificates, known as a keystore. As defined by Oracle (Sun), the keystore file can contain multiple certificates.

To configure your keystore settings:

1. In the Configuration Manager, click **SSL**. The SSL tab appears.
2. In the **SSL Certificate KeyStore** panel, configure your keystore settings:

Setting	Description
SSL Keystore File	The file path for the keystore's location. If you created your own certificate, the file path where it was stored is displayed here.
SSL Keystore Passphrase	The keystore password used when generating the keystore file.
Key Name	The key alias used to store the Certificate in the keystore file.
Key Passphrase	The key password used when storing the Certificate in the keystore file.

3. In the **Enter SSL Information** panel, provide the information associated with your certificate.

4. To generate a new keystore, click **Generate New KeyStore**. This creates a new SSL Certificate based on the Private/Public Keypair method provided by Sun Microsystems' keytool.

Note: The generated certificate is not signed by a Certificate Authority but is an unsigned certificate still allows for the use of SSL. Web browsers may prompt the user to accept or reject the certificate; both Internet Explorer and Firefox allow for the permanent importing of an unsigned certificate.

For information on submitting a certificate to be signed by a Certificate Authority, see [Appendix B: Obtaining a signed SSL certificate](#).

5. Click **Apply Settings**.

10

Managing and monitoring system health

Configuration Manager includes several tabs that let you configure and monitor the health of your PDG:

- The **Logging** tab lets you define how much information is included in the log files. For more information, see [Configuring logging settings](#).
- The **Services and Support** tab lets you stop and start the PDG service and to download packages for the PrinterOn Support team to help them troubleshoot any issues.

For more information, see [Managing the PDG service](#).

10.1 Configuring logging settings

The Logging tab lets you define what printing events should be logged and where the logs should be stored. If you are integrating with a third-party print management system, the Logging tab also lets you define logging and notification interaction between the PDS and the third-party system.

To configure PDG logging settings:

1. In the Configuration Manager, click **Logging**. The Logging tab appears.

2. In the **Log Level** drop-down, specify the level of detail of the information saved to the log file. Higher levels of detail are most useful when troubleshooting.

Log Level	Description
Off	All logging is disabled.
Fatal	Only records non-recoverable or fatal errors.
Error	Records all errors.
Warning	Records warning messages (recoverable errors or unexpected conditions that interfere with normal operations).
Information	Records all informational messages (default).
Debug	Records detailed troubleshooting logs that are useful for debugging.
Trace	Records more detailed troubleshooting logs than Debug.
All	Records all loggable information, providing the most detailed logs.

3. In the **Output Directory** field, specify the location where the log file is stored.
4. Set the **Maximum File Size** of an individual log file.
5. Set the **Total Size Limit** for all logs. When this limit is met, the oldest log file is purged.
6. Click **Apply Settings**.

10.2 Managing the PDG service

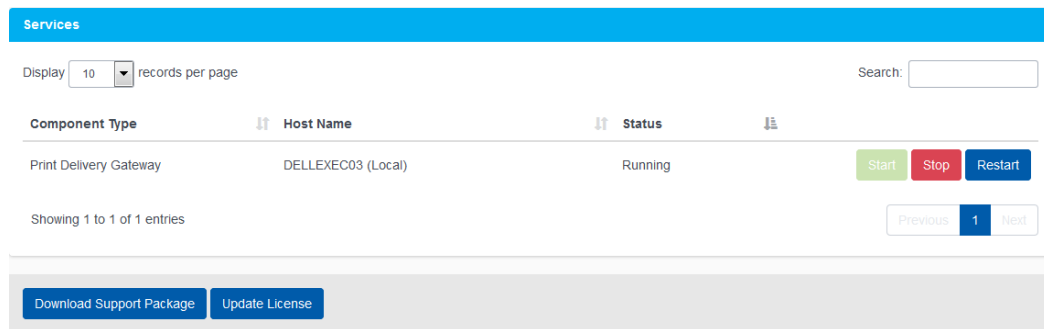
The Service and Support tab lets you manage the PDG server. You can view server information, start and stop the service, or download a support package that you can send to PrinterOn Support for troubleshooting assistance.

For PrinterOn Enterprise/Express users, you can also upload an updated license file from this tab to link your PDG to your PrinterOn service. For more information, see [Linking the PDG to your PrinterOn Enterprise/Express service](#).

10.2.1 Stopping and starting the PDG service

To stop the PDG service:

1. In the Configuration Manager, click **Service and Support**. The Service and Support tab appears.



2. In the **Services** panel, click **Stop**.
3. To restart the service, click **Restart**.

10.2.2 Creating a package of diagnostic information

To help diagnose an issue with your Print Delivery Gateway, you may need to send PrinterOn Support log and system information. You can quickly create a package of this information from the **Service and Support** tab.

To create a package for PrinterOn support:

1. In the Configuration Manager, click **Service and Support**. The Service and Support tab appears.

2. Locate the buttons at the bottom of the page.



3. Click **Download Support Package**. The Configuration Manager creates a ZIP file with comprehensive server information and all PDG logs.

A

Advanced configuration settings

You can display the Configuration Manager in two views:

- **Basic view:** Displays commonly configured settings.
- **Advanced view:** Displays all Basic view settings plus additional advanced settings. Advanced settings are those that are only rarely configured.

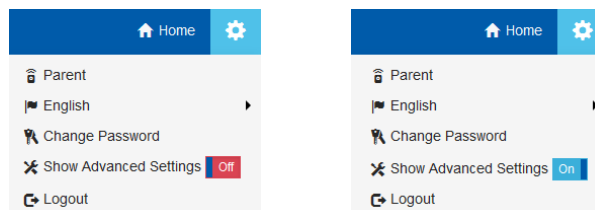
By default, the Configuration Manager opens in Basic view. You can toggle between the two views using the **Show Advanced Settings** switch on the **Settings** (⚙️) menu. As you turn Advanced view on and off, the interface is updated in real time.

This chapter provides a list of Advanced settings. In most cases, you won't need to configure these settings.

To view these settings, you must turn on the **Show Advanced Settings** toggle.

To show or hide advanced settings:

1. In the Configuration Manager, click **Settings** (⚙️).
2. Click **Show Advanced Settings** to toggle advanced settings on or off.



Advanced settings list

The following table lists all settings that only appear in the Configuration Manager in Advanced view.

Location	Advanced Settings
Import Data tab	Advanced settings in the Import Data tab: <ul style="list-style-type: none">• Enable PrinterOn Server Discovery• Enable Printer Discovery
PQMS tab	Panels displayed only in Advanced view: <ul style="list-style-type: none">• PQMS Settings panel
Networking tab	Advanced settings in the Network and Broadcast Settings panel: <ul style="list-style-type: none">• Additional Port 1• Additional Port 2• LPD Print Port

B

Obtaining a signed SSL certificate

This appendix outlines the steps required to generate an SSL Certificate and get it signed by a Certificate Authority.

This method uses Sun Microsystems' keytool. This tool is part of the Java Runtime Environment (JRE), which is included with your download of PDG.

To obtain and install an SSL Certificate, you need to complete the following tasks:

1. [Generate a Private/Public KeyPair.](#)
2. [Generate a Certificate Signing Request.](#)
3. [Submit a signing request to a Certificate Authority](#) to receive a signed certificate.
4. [Import the signed certificate into your Keystore.](#)
5. [Configure PDS to use your Keystore and SSL.](#)
6. [Test SSL Communications.](#)

Generating Private/Public KeyPair

You can generate a KeyPair from the Security tab of the Configuration Manager.

To generate a KeyPair:

1. In the Configuration Manager, click **Security**. The Security tab appears.
2. Click the **Create RSA KeyPair** at the bottom of the page.

Alternatively, you can use a keytool to generate a Keypair. For details on generating a Private/Public KeyPair, view [this article from Verisign](#).

Notes:

- All keytool commands consist of a single line
- You may require quotation marks around long path names

Generating a certificate signing request

For details on generating a CSR, view [this article from Verisign](#).

Submitting your signing request to a Certificate Authority

The precise steps to follow to get your certificate signed vary depending on which Certificate Authority (CA) you choose. Several companies, such as Verisign, Thawte, and RSA Security, provide this service.

Most CAs charge a fee for this service, depending on the nature of the Certificate being signed, the validity period, and other factors.

Example steps for using Verisign to generate a Test Certificate:

1. On the Verisign web site, www.verisign.com, sign up for a Test Certificate.
2. When prompted, paste a copy of the text from the Certificate Signing Request file (certreq.crq) into the provided text entry box on one of the web pages.
3. Submit the request.

Verisign processes the request and returns a text file via email. The file represents the Signed Certificate.

Note that the process to obtain a real certificate will vary from obtaining a Test Certificate.

Importing your signed certificate into your Keystore

For details on importing a certificate into a Keystore, view this [article from Apache Tomcat](#).

Configuring PDG to use SSL and your Keystore

To securely transmit data, you need to enable SSL communication in the PDG. You can enable SSL from the Networking tab of the Configuration Manger. The [Network and Broadcast Settings](#) panel, used by PDG to listen for printing requests from iOS and IPP devices, lets you enable SSL on several IPP listening ports.

If SSL is active for a particular port, all communication using that port must use SSL. Activation is done on a port-by-port basis.

Once you active SSL on any of these ports, you must define your Keystore information and password. For more information, see [Configuring your SSL Keystore](#).

Testing SSL Communications

After installation the certificate in PDS, you can verify SSL communications in your browser.

To test your SSL certificate:

1. From an SSL-capable browser, try accessing the IPP Listener interface on the configured port (for example, <http://localhost:6310>).
2. If the web address changes from <http://> to <https://>, your SSL certificate is active.

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