



# Printanista Hub Technical Whitepaper

Version 1.5



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## Overview

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The Printanista suite of products delivers an enterprise class managed print solution that is quite easy to use and deploy. It is architected and designed to take advantage of the advanced features and benefits of the Microsoft .NET platform. Thus, it no longer requires skilled technicians to install software, configure and maintain the system. The Printanista products cannot in any way be configured to perform a task beyond the ones for which it was designed. The transmission of data from the products to outside sources is tightly restricted. The products do not report any other details except for information on the equipment being monitored (i.e., type of equipment). No confidential information is ever transmitted out of the network via Printanista products. The suite consists of the following components:

**Printanista Hub:** A website and backend system housing all the data received from the Printanista data collection tools. It is a repository allowing you to view data using a browser, generate reports, configure alert workflows and notifications, and synchronize data with your ERP systems for billing or supply fulfillment.

**ECI DCA:** This newest Data Collection Agent-DCA brings about major advantages over Onsite Data Collection Agent-DCA without losing any features, including full native cross-platform support of Windows, macOS, Linux, and Raspberry Pi, each with unique installation steps, support documentation, and trained support staff on these platforms. ECI DCA also brings ongoing discovery and scanning of devices, improved MIBWalk and Log collection capability, and many more meter types are collected now.

**Onsite DCA:** A legacy data collection agent tool automatically performs print assessments and monitors consumable levels, printer status, and error logs. This application is installed at the customer site and can perform print assessments automatically on a scheduled basis without human intervention. The data captured is sent to the Printanista Hub website using HTTPS, HTTP, or if the customer prefers a propriety encrypted file.

**WebAudit Assessment Tool:** A data collection tool that is a part of the Printanista Hub application. Fleet assessments are performed directly from a browser without installing any software. The data captured is sent directly to Printanista Hub.

The purpose of this document is to provide a product line overview of the Printanista Suite of Products from a technical perspective to help facilitate answers to the most frequent questions Information Technology teams will receive.

## How Printanista Works

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The data collection agent's core engine, which is the heart of every Printanista product, correctly identifies and extracts data from networked printers, copiers and MFPs utilizing the protocols the devices support.

Printanista currently supports (Simple Network Management Protocol) SNMP v1, v2c and v3 protocol. SNMP v3 provides increased packet protection to ensure information and communication is transmitted via reliable sources. Unlike SNMPv1 or v2, SNMP v3 is encrypted for increased security and requires both a username and a password. A benefit to using SNMP v3 is network administrators can determine the encryption method as well as a strong username and password.

SNMP is a network protocol facilitating the exchange of information between network devices extracting data from the Management Information Base (MIB) and other locations within the print device. The Management Information Base (MIB) is an internal database most network-connected devices have as part of their anatomy. The Management Information Base (MIB) holds data such as model name, toner levels and current status of the printer.

## Printanista Requirements

### Printanista Hub Backend Application

#### Printanista Hub Product Specifications

	Printanista Hub 5.0	ECI DCA 1.5	Onsite 4.1	Viewer 3	WebAudit on v4	Agent 4	Microsoft Support	Notes
<b>Supported OSes<sup>1</sup></b>								
Windows 7 SP1 (32/64)	No	Yes	Yes	Yes	Yes	Yes	April-2015 January-2020	
Windows 8 (32/64)	No	Yes	No	No	No	Partial <sup>2</sup>	April-2018 January-2023	
Windows 8.1 (32/64)	No	Yes	Yes	Yes	No	Partial <sup>2</sup>	April-2018 January-2023	
Windows 10 (32/64)	No	Yes	Yes	Yes	No	Partial <sup>2</sup>	October-2020 October-2025	
Windows Server 2003 (32/64) Internet Information Services 6 <sup>2</sup>	No	No	No	Yes	Yes	Yes	April-2010 April-2015	
Windows Server 2008 (32/64) Internet Information Services 7.0	No	No	No	Yes	Yes	Yes	April-2015 January-2020	
Windows Server 2008 R2 (32/64) Internet Information Services 7.5	No	Yes	Yes	Yes	Yes	Yes	April-2015 January-2020	
Windows Server 2012 Internet Information Services 8.0	No	Yes	Yes	Yes	Yes	Yes	October-2018 January-2023	
Windows Server 2012 R2 Internet Information Services 8.5	No	Yes	Yes	Yes	Yes	Yes	October-2018 October-2023	
Windows Server 2016 Internet Information Services 10	Yes	Yes	Yes	Yes	Yes	Yes	January-2022 January-2027	Recommended by ECI
Windows Server 2019 Internet Information Services 10	Yes	Yes	Yes	Yes	Yes	Yes	January-2024 January-2029	Recommended by ECI
Linux (x86/64 or ARM) Debian, Ubuntu and similar distributions	N/A	Yes	No	No	No	No	---	Mono 5.4 or higher required
macOS (x64) Sierra (10.12 or higher)	N/A	Yes	No	No	No	No	---	Mono 5.4 or higher required
Raspberry Pi 4B, 3B+, 3B, 2B	N/A	Yes	No	No	No	No	---	8GB or larger SD card required

Use the following link for the current complete Printanista Product Specifications: [SysReq v3.0.html](https://www.gttechonline.com/SysReq_v3.0.html)

All collected data is sent to the Printanista Hub server where it is made available for reporting and alerting.

ECI DCA connects to your Printanista Hub server using HTTPS (port **443/TCP**). Please contact your ECI solution administrator for information on domain names and IP address(es) used by your server. This connection is protected by industry standard **TLS** (Transport Layer Security). **TLS 1.2 is recommended**. TLS 1.0 and TLS 1.1 are currently supported but not recommended for security purposes. Support for TLS 1.0 and TLS 1.1 will be discontinued in the future.

This connection stays open the entire time ECI DCA is running. Normally a **WebSocket** connection is used, but in some situations ECI DCA may fall back to using either **server-sent events** or **HTTP long polling**.

**IMPORTANT NOTE:** Several Secure HTTPS outbound connections are required from the server where Printanista Hub is installed:

- <https://www.gttechonline.com>
- <https://modelmatch.printanista.net>
- <https://models.printanista.net>
- <https://updates.printanista.net>
- <https://api.printanista.net>
- <https://dcaregistry.printanista.net>
- <https://remotedevicelink.printanista.net>

## **Printanista Application Requirements**

### **Data Collection Agent (ECI DCA)**

Printers, copiers, and MFPs must have the SNMP protocol (Port 161) enabled for discovery and extraction of information. The SNMP protocol is a standard part of the Application Layer of the TCP/IP suite.

PC/Server requirements for ECI DCA:

#### Microsoft Windows (x86/64)

Requirements:

- Windows 10 or greater
- Windows Server 2008 R2, Server 2012, Server 2012 R2, Server 2016, Server 2019, and Server 2022
- Microsoft .NET Framework 4.7.2. or newer

#### Linux (x86/64 or ARM)

Requirements:

- Ubuntu 14.04, 16.04 or 18.04, Debian 9.5+, Raspbian Jessie or Stretch, RedHat Enterprise 7.5+, CentOS 7.5+, Fedora 28+
- Mono 5.4 or higher

#### macOS (x64)

Requirements:

- Sierra (10.12) or higher
- Mono 5.4 or higher

#### Raspberry Pi 2 Model B, Raspberry P 3 Model B, Raspberry Pi 3 Model B+, and Raspberry Pi 4 Model

Requirements:

- Blank 8GB or larger microSD card
- PC capable of writing to microSD card

### **Firewall Considerations for ECI DCA:**

#### **Inbound Connections**

There are no inbound connections from the internet to ECI DCA.

#### **Outbound Connections**

Service	Port	Connection To
Data Upload	443/TCP (HTTPS)	Your Printanista Hub Server
Software Updates	443/TCP (HTTPS)	ECI Updates Server
Registration (fallback)	53/UDP (DNS)	Local Network DNS server (primary) ECI Updates Server (fallback)

## ECI Updates Server

ECI Updates Server is a service run by [ECI Device Management](#) to facilitate DCA registration, automatic software updates, and DCA installations (this site), and is required for ECI DCA operation. Note: ECI DCA does not send any collected device or configuration data to ECI Updates Server.

## Software Updates

ECI DCA auto-updates itself by downloading updates published on <https://updates.printanista.net/>. Connections are always made on the standard HTTPS port **443/tcp**.

## Registration

ECI DCA uses DNS requests to `*.reg.pf-d.ca` to register. It will first try to do this using the local network DNS servers, and then fall back to talking directly to ECI Updates Server IP addresses (using port **53/udp**). The firewall only needs to allow this connection to ECI Updates Server if local DNS server(s) do not resolve the registration requests.

## Service Region

ECI DCA is routed to the region to which it has the lowest network latency and based on service availability. In certain locations, the region being used may change over time as activity on the global internet infrastructure can affect latency.

## Data Collected and Encryption

### Data Encryption

All data packages from ECI DCA and legacy Onsite DCA are encoded and obfuscated. Printanista requires using HTTPS for communication between the DCA's and Printanista Hub. ECI DCA requires HTTPS to function. Additionally, all sensitive settings and jobs between ECI DCA and Printanista are encrypted using AES256 standard symmetric encryption algorithm, using a protected shared key. This ensures end-to-end encryption, so data is protected from being read if intercepted by a third party, a competitive or otherwise non-authorized Printanista instance.

### Security Matters

ECI DCA and legacy Onsite DCA communicate with Printanista Hub over HTTPS protocol, using industry standard **TLS 1.2** (Transport Layer Security). Confidential data is not collected, viewed, or saved by any Printanista application. Only printer-related data is collected and viewed. No other network data can be identified or collected by ECI DCA or legacy Onsite DCA, except for IP Address, MAC Address, and Hostname.

ECI DCA and legacy Onsite DCA do not collect or process any personal data. The only way the system will collect this type of information is if you or your customer(s) input the data into Printanista within a field or label such as location or customer name. ECI DCA and legacy Onsite DCA enable you to monitor network devices using Simple Network Management Protocol (SNMP). The application is deployed inside the customer's network and from there, it communicates with devices to gather operational information about the device that is made available via the device firmware and an SNMP Management Information Base (MIB). The data exposed by the device varies by manufacturer and model. It is always technical or operational in nature and specific to the device itself. At the most basic level the data exposed by a printer MIB is documented in the IETF RFC 3805 (<https://tools.ietf.org/html/rfc3805>). Additional device information may be exposed by the manufacturer through extensions and private MIBs (Management Information Base), but the information is fundamentally technical and device specific.

### Printanista Hub only stores:

- Hostname
- Operating System
- Remote IP Address
- System Architecture

*Other network/environment information is collected and displayed while connected for troubleshooting purposes, but never stored in Printanista.*

### Types of Information Collected

ECI DCA and legacy Onsite DCA attempts to collect the following information from networked printing devices during a network scan:

#### Device Attributes

- IP address (can be masked)
- Manufacturer
- Serial number
- Asset number
- MAC address
- Device description
- Location
- Miscellaneous (machine specific)

#### Service

- LCD reading
- Device status
- Error codes
- Firmware

#### Supplies

- Toner cartridge serial number
- Toner cartridge supply level
- Drum levels
- Maintenance kit levels
- Non-toner supply levels
- Miscellaneous levels
- Label-based printers supply details

#### Coverage and Meters

- Meter reads
- Meter type
- Coverage level
- Monochrome or color identification

## Network Discovery and Data Collection

To add to the efficiency of the DCA, only when there is new or changed data from the devices will this information be sent into the Printanista Hub Server. This will ensure minimal network load and remove the frequency of any backlogs of device data submissions. Also, discovery and scanning of devices are now independent to ensure only the IP address (or hostname) of devices previously discovered are being scanned on the periodically set basis versus a full network scan (this is completed initially, periodically, or when determined by an admin user).

This will ensure the speed of device data submissions is as up to date as possible. This allows users to be notified of troublesome devices within minutes or even seconds in many situations. ECI DCA separates device discovery from other scan types, enabling you to set custom scan intervals for retrieving meters, supplies attributes and errors. The default, minimum and maximum values for the scan intervals are:

Scan Function	Default	Minimum	Maximum
Discovery	60 minutes	10 minutes	7 days
Meters	24 hours	30 minutes	14 days
Supplies	4 hours	30 minutes	7 days
Errors	60 minutes	30 minutes	7 days
Attributes	24 hours	1 hour	14 days

Please note the scan intervals (meters, supplies, errors, and attributes) are only available if a device has a Model Definition File (MDF). If this is not present, a full scan will be done on the device in question using a predefined interval.

Printanista Hub administrators can remotely manage ECI DCA that have been activated on the server. Can remotely trigger the ECI DCA to execute predefined commands such as data collection tasks, providing ECI DCA logs, running remote MIB Walks, or updating ECI DCA settings.

**Note:** ECI DCA always initiates the communication to the Printanista server, and not the other way around.

**Note:** Only when meter, supply or errors information has updated or changed does communication occur, reducing bandwidth usage.

**Note:** HP JAMC is only functional with legacy Onsite DCA at present time.

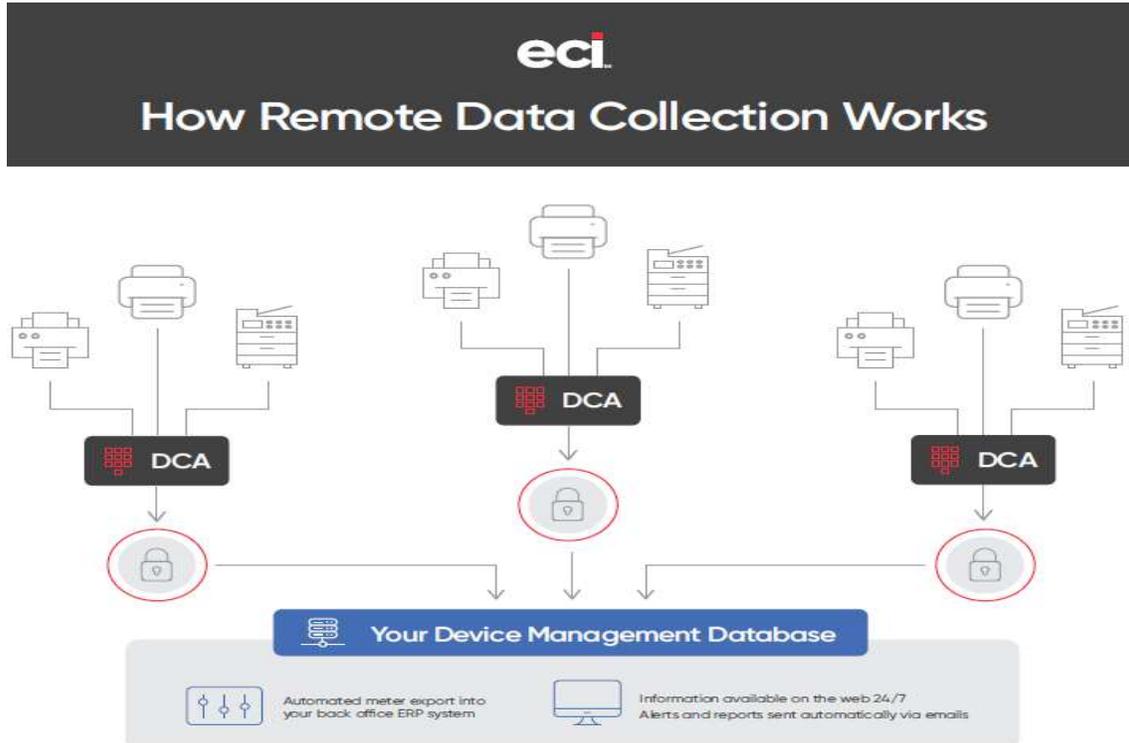
## Local Printers

### Printanista Workflow

Printanista Workflow is a robust print management tool. Printanista Workflow can help your clients reduce the cost of document output, increase their document security practices, and provide flexible cost recovery methods. Using a simplified installation process, your clients can quickly see all their print information in one location. Empowering your clients to reduce costs by understanding every document they produce.

#### What is Printanista Workflow?

Printanista Workflow is the next generation of user management products used to track and manage printing for hundreds of organizations and businesses all over the world. If you were familiar with the User Management application in the past, you will be pleased to see the installation and configuration of the application is still as intuitive as the previous versions. The menus, tools and overall administration of the system have been retained. If you are upgrading from a previous version everything will be familiar and seamless to navigate.



#### How Printanista Workflow works (through the ECI DCA data is collected from Workflow)

Printanista Workflow being the next generation of device management, this function only works with the ECI DCA. Printanista Workflow does not work with Onsite DCA.

- Workflow client can be installed on MAC and Windows Operating System desktops allowing locally connected USB device meter collection
- Meters are determined using data from spooler, application, and print driver
- Stored in Workflow database
- ECI DCA requests the meter info from Workflow via API (Application Programming Interface) call to the webservice
- ECI DCA provides data to Printanista Hub for ....
- Workflow to ECI DCA connection is encrypted (https)

## Printanista Workflow System Requirements

### Server and Admin Tools

You can install the Printanista Workflow server components on computers running:

- Microsoft Windows Server 2012 R2 or later
- Windows 8 Professional or newer (64bit)

A full server installation requires:

- A minimum of 5 Gigabytes of free space to support the Workflow software
- SQL Database and SQL Express 2012 are required. SQL Express 2012 will be installed if absent
- Internet Information Service (IIS) is required and will be installed if absent
- Microsoft .NET Framework 4.7.2 is required and will be installed if absent.
- By default, all print data jobs and logs are stored on this server

**Important:** Microsoft Home and Microsoft Small Business Server operating systems are not supported for any components.

### Windows Client Requirements and Memory Usage

You can install the Printanista Workflow Client Popup software on computers running Microsoft Windows 8 or later.

- A full client installation will require approximately 10-20 MB of disk space.

The Client is made up of two components: the Desktop Client and the Client Service.

- The Desktop Client requires between 5 – 20 Megabytes, depending upon activity.
- No additional software is needed.

### System Requirements for Workflow Client for Mac®

- Workflow Client for Mac® is supported on Mac® operating systems following Apple's support model.
- Mac® client will only support the latest and two previous Mac® OS versions.
- Click on "About this Mac® " in your Apple menu, to find which version of Mac® OS is running on the workstation.
- Workflow Client for Mac® also requires one (1) Windows-based PC to host the Workflow Server and database.

**Important:** Printanista Workflow must be installed on a network with at least one Windows computer.

### IIS Web Server Support

Workflow uses Internet Information Services (IIS) to communicate with devices and internally between Workflow components. The installation requires the full version of IIS. The installer will determine if you have an existing IIS installation. If not, the installer will create a new site and application pool using IIS.

### Networking Requirements

Printanista Workflow uses standard HTTP/SSL communication via ports 80/443 for web services by default. If these ports are unavailable, Workflow will use 6320/6321. However, you can change the communication ports if there is a conflict in your organization.

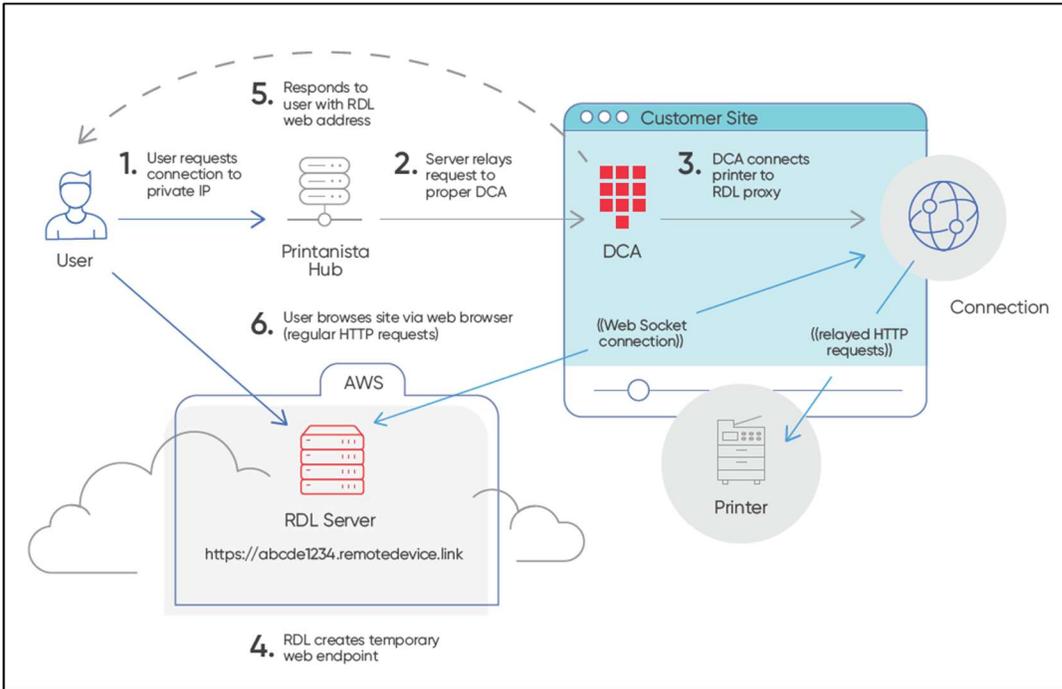
### Data Supplied to ECI DCA by Workflow Server:

Examples of some of the devices identifying information: Manufacturer, Model, IP Address, Serial/Asset number, location, Color/Monochrome Pages, Color/Monochrome Impressions, etc.

Printanista Workflow Help documentation can be found here:

[Printanista Workflow Help](#)

## Remote Device Link (RDL)



### System Overview – Remote Device Link (RDL)

**Remote Device Link (RDL)** is a service allowing a remote **end-user** to access an HTTP endpoint on a private LAN.

There are 4 major components to it:

1. The **end-user** accessing the device
2. The **Remote Device Link server**, on public internet (via `https://*.remotedevice.link` URL)
3. The **RDL client** (embedded in the DCA), running on the private LAN
4. The **HTTP endpoint** (printer) being accessed (running on the private LAN)

### Security: Ports and SSL (Secure Sockets Layer)

The public-facing path for RDL is always an `https://` URL on port 443, regardless of the endpoint port and/or SSL status.

### Enablement and Permissions

1. Global enablement option per dealer instance
2. Local enablement for each end-customer account
3. Permissions are required for a user to be able to access the feature

### Auditing Capabilities

1. Printanista Hub local auditing of each session details
  - a. Printanista Hub Administration reports for Remote Device Link (RDL) Auditing
2. Remote Device Link (RDL) AWS (Amazon Web Services) cloud logging of all session details

## Remote Device Link (RDL) Security

Security of Remote Device Link (RDL) was a key concern when developing this tool.

Authorization:

- User must have permission from within Printanista Hub to access Remote Device Link (RDL) feature on the specific account
- The Data Collection Agent (DCA) will only accept Remote Device Link (RDL) requests from the Printanista Hub server which is mutually authenticated
- The Data Collection Agent (DCA) only establishes Remote Device Link (RDL) connection to known and currently monitored print devices within the Data Collection Agents (DCA) discovery IP range(s).
- Each individual web request must be to the same IP – The Data Collection Agent (DCA) will not follow redirects

Connection Security:

- All connections to and from the Remote Device Link (RDL) and Printanista Hub servers are encrypted using standard TLS 1.2 (Transport Layer Security)
- Each connection is given a unique domain name which uses a 19-character (96-bit) random alpha/numeric combination
- Each request requires a 160-bit security token, stored as a browser cookie, and only set at the very start of the session secured by TLS encryption
- The Data Collection Agent (DCA) may establish a non-encrypted HTTP connection to the print device across the local network, but supports TLS 1.2 if the device does

Session Time Limits:

- Each individual Remote Device Link (RDL) session times out after 20 minutes of inactivity by default with an absolute maximum of 2 hours.

Implications

The connection between ECI DCA and Printanista Hub is protected by authentication keys that are DCA installation specific, and the connection requires a valid trusted SSL certificate to use over a TLS connection.

All traffic transiting from the DCA to the internet is encrypted. However, the ECI DCA can talk to the device in the local network over plain HTTP connections if the device does not support secure connections.

## Printanista Hub Application

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Printanista Hub functionality is accessible via a web-based user interface.

### Permissions based User Management

Access to the Printanista Hub web front-end is controlled with permissions-based user management. Users must log in to Printanista using a designated username and password. Users are assigned one or more roles which specify permissions and are granted access to one or more groups of devices. Administrators with full permission can specify exactly which screens each user can view and/or interact with.

### HTTPS access

Printanista requires all sites to use HTTPS with a valid SSL security certificate. This ensures encryption of data being transferred over the Internet.

### Printanista Side-By-Side

Printanista Hub utilizes a Model metadata Database known as Side-by-Side (SBS), which has various model attributes such as: printing speeds, when was introduced on the market or OEM Part Numbers compatibilities, which is periodically updated as future models and versions are released by OEMs. Printanista Hub will communicate with Side-by-Side to check for new updates as well as retrieve device metadata to cache them locally on each Printanista Hub system.

### Printanista Hub Application Hosting

Printanista Hub is hosted by ECI Software Solutions within secure and protected datacenters in different regions of the world. ECI Software Solutions understands the confidentiality, integrity, and availability of our customers' information is vital to their business operations and to our own success. We use a multi-layered approach to protect that key information, constantly monitoring and improving our application, systems, and processes, to meet the growing demands and challenges of security.

### ECI Secure Data Centers

Our service is collocated in dedicated spaces at top-tier data centers. These facilities provide carrier-level support.

Click on the following link to get the ECI detailed document related to the Data Centers Security

[ECI Cloud Security Overview 2021 \(ecisolutions.com\)](https://www.ecisolutions.com/Cloud-Security-Overview-2021)

## Version Management

### Testing and Release Process

Each major and minor release of the software goes through a quality control process, in which multiple Printanista personnel will regression test altered portions of the system to ensure there has not been a downgrade in security or functionality of the system, as well as validate the new functional aspects. Major releases go through a beta release process where select clients run the new and old systems in parallel.

### Source Code Security

Printanista source code is kept in a secured revision control system, accessible only to authorized persons. Every change to the source code requires two authorized developers to approve the changes before being accepted in the production code repository where every change is tracked, which includes which developer made the change and why. Products are encrypted and digitally signed with a trusted code-signing certificate before shipping. An escrow deposit can be made available based on request.

ECI engages an industry leading CREST, SOC 2, NSA-CIRA, CSA-STAR certified independent third-party to conduct application-level penetration tests and remediates findings based on its business requirements and internal risk management framework. Penetration tests are conducted at least annually or when major changes are made to the system. ECI's policy is to use commercially reasonable efforts to remediate all critical findings within 30 days or within a reasonable timeframe with a provided business case. ECI does not disclose details regarding our security controls or results of penetration testing as that information is proprietary and confidential and in the wrong hands can lead to increased risk.

## Data Privacy and Legislation

### General Data Protection Regulations (GDPR)

As of May 2018, the European Union's General Data Protection Regulations (GDPR) came into full effect. The GDPR replaces the Data Protection Directive 95/46/EC and is designed to strengthen and unify data privacy laws across Europe.

ECI has implemented a structured and comprehensive GDPR compliance program. The program consists of, among other things, training of staff, audit and risk assessment across the business, policies and procedures, governance, and ongoing compliance efforts. We encourage our customers to take similar steps to ensure their own businesses comply with GDPR and for the years to come.

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The Printanista products do not process, monitor, or manage any personal records or any records or information specific to any one person or group of persons.

Printanista software applications do not collect, house, or transmit any information regarding the content of print jobs.

Printanista has no way of accessing, housing, or transmitting high risk information, even if this information is printed or otherwise sent to print devices monitored by Printanista software applications.

Printanista software applications do not store, process, or transmit cardholder data or personal information.

The product engine communications are controlled, using limited access to contact specific IP address and/or range.

All communications must originate from the Printanista products, and there is no way to contact and access the products from outside the network.

Communication outside of the network uses a proprietary, compressed data stream that is sent using industry-standard SSL over HTTPS.

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For information related to compliance of specific laws and/or regulations, please contact your ECI Account Manager.

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The following is a link to the ECI Cloud Security: [ECI Cloud Security Overview 2021 \(ecisolutions.com\)](https://www.ecisolutions.com/Cloud-Security-Overview-2021)

## Frequently Asked Questions (FAQs)

### Do Printanista products work with Internet proxies?

Yes, ECI DCA can work with most proxies. Configuration of the Proxy settings is required on the system where the ECI DCA is installed and operates.

### What are the Printanista Hub, ECI DCA, Onsite minimum requirements?

Please refer to the [Printanista Application Requirements](#) section in this document.

### Is Printanista Products compatible with Mac, Linux, or Raspberry Pi environments?

This ECI DCA brings about major advantages over Onsite DCA without losing any features, including full native cross-platform support of Windows, macOS, Linux, and Raspberry Pi. Each with unique installation steps, support documentation, and trained support staff on these platforms. The installation process has also greatly improved and is much more intuitive for all types of users.

### Does ECI DCA require Microsoft Internet Information Services (IIS)?

No. ECI DCA and Onsite DCA includes its own server to host the web-based User Interface (UI) and is set up automatically during the installation.

### Can you install ECI DCA on a computer which already hosts another IIS website?

Yes. However, the below listed ports must be whitelisted to ensure connectivity of ECI DCA.

Service	Port	Connection To
Data Upload	443/TCP (HTTPS)	Your Printanista Hub Server
Software Updates	443/TCP (HTTPS)	ECI Updates Server
Registration (fallback)	53/UDP (DNS)	Local Network DNS server (primary) ECI Updates Server (fallback)

ECI DCA uses port 31816 by default for the local DCA Web-based User Interface.

### How much ongoing maintenance does ECI DCA require?

ECI DCA and Onsite DCA is a service which runs in the background and performs audits and exports to configured destinations on predefined schedules. It is recommended to use subnets (IP ranges) instead of fixed IPs. When adding new devices to the network they will be discovered and included in the audit results, limiting manual intervention.

### How does the WebAudit Assessment Tool process work?

From Printanista Hub, the dealer specifies the end-user's (your clients/customers) applicable billing cycle. At this time, an email is automatically generated and sent to the proper contact informing them it is time to collect their meters. The instructions include a URL whereby when the end-user clicks the link, it automatically launches their web browser, ready to perform the action. The end-user then clicks "start" and "save". Done. No software is installed at any time. A link to the WebAudit page may also be posted on the dealers' existing website, i.e., Enter Meter Readings web page. This allows the user to automate the collection, rather than manually walking from device to device, print the configuration page and transcribe the meters.

**Which brands of equipment will Remote Device Link (RDL) monitoring work with?****What are the requirements for it to work?**

All brands with an embedded webpage are discovered by ECI DCA. The information on the embedded webpages will vary by manufacturer and model. Local devices will not show the embedded webpage.

**Are there added security concerns with Remote Device Link (RDL)?**

A secure channel is opened between the device on the local customer network and an operator located outside of that network. RDL will only report back devices discovered and actively monitored through ECI DCA. A message appears indicating device connection is not supported through the DCA

**Remote Device Link (RDL) seems a bit slow, why is this?**

This can be expected as the connection needs to be tunneled through our cloud services. However, the main influencing factor is how quickly the devices respond to Web User Interface (UI) requests.

We have seen devices responding in tenths of seconds to the first connection attempts, to being influenced by current usage or resources available for the User Interface (UI).

**What features are available with Remote Device Link (RDL)?**

Any options the OEM provides access to through the embedded webpage are accessible through Remote Device Link (RDL).

**Can the Remote Device Link (RDL) feature be turned off?**

Yes, there is the ability to switch this feature off per account.

It is also possible to turn this feature off per user, allowing you to block a user's access to Remote Device Link (RDL).

**Where do I get additional information for Printanista Hub, Printanista Workflow, ECI DCA, legacy Onsite DCA, etc.?**

Additional information can be found on the ECI's Printanista website:

<https://www.ecisolutions.com/products/printanista-hub/>

## Legacy Onsite DCA Information

ECI DCA is recommended to be used with Printanista. However, legacy Onsite DCA currently functions with Printanista. PC/Server requirements for Onsite DCA:

- 1GB RAM
- 400 MB Disk Space
- Microsoft .NET Framework 4.7.2 or newer
- Windows 7 SP1, 8.1, 10, 11, 2008 R2 SP1, 2012, 2012 R2, 2016, 2019, 2022
- Onsite Version 4.1.3 and newer supports Windows Server 2022
- Internet Explorer 11.0 or newer, Chrome, Firefox
- MDAC 2.8 or higher (normally included when Windows is installed)
- JET 4.0 or higher (normally included when Windows is installed)
- Loaded on a machine that is up 24/7 or at least the entire business day
- Must be logged on as a Local Administrator (or equivalent) during the installation

Outbound Firewall considerations (Port 80 or 443):

Data transmission:

- [https://\(company\\_Printanista\\_FQDN\)/WebServices/Onsite2Service.asmx](https://(company_Printanista_FQDN)/WebServices/Onsite2Service.asmx)
- Application: fmaonsite.exe
- SOAP over HTTP(s) must be allowed past firewall

Network Requirements:

SNMP (Port 161) traffic must be routable across the LAN or WAN (Wide Area Networks)

Please use ECI DCA if macOS, Linux or Raspberry Pi operating systems are necessary

The legacy Java Onsite on Linux and macOS Systems is non-functional.

PC/Printer requirements for using the Local Agent (Optional installation):

- Windows 7 SP1, 8.1, 10, 11, 2008 R2 SP1, 2012, 2012 R2, 2016, 2019, 2022
- Microsoft .NET Framework 4.7.2 or newer
- Current driver for the local printer (UPD is recommended for HP devices)
- Printer must support Printer Job Language (PJM) or Printer Management Language (PML)
- Remove any unused print drivers
- Driver's bi-directional support is enabled
- Windows Firewall modifications — Port 161/33333 inbound/outbound for both TCP and UDP

**Note:** For recent Operating System versions using driver model 4 (e.g., Windows 10), only Kyocera and Ricoh OEMs, and their variations, are supported currently.

## Network Discovery and Meter and Supply Collection (Onsite DCA)

The Printanista patented Automatic Network Discovery Settings use a mixture of algorithms to identify the network ranges where print devices may be located and then discover and communicate with the devices that are online, routing through multiple network elements such as active workstations or servers, routers, hubs, switches, and additional network hardware.

Printanista Hub administrators can remotely manage activated Onsite DCAs (Data Collection Agent) on the server as well as remotely trigger the Onsite to execute predefined commands such as data collection tasks, providing Onsite logs, running remote MIBWalks, installing HP JAMC, or updating Onsite settings. These are explained in further detail below:

Function	Location	Description
Tasks	Onsite Settings	Can remotely configure tasks to run on a preset schedule but can select tasks (Cache, Meters, Supplies, Service) to run immediately and collect device data on command.
MIB Walks	Onsite Settings	Can indicate certain IPv4/IPv6/Hostnames of devices and trigger the Onsite to Start the Collection of the MIB Walks immediately.
Logs (Detailed)	Onsite Settings	Can instruct the Onsite to collect the Logs (Critical, Error, Warning, Details, Debug) from a certain date.

None of these commands lead to data collection beyond the types of information collected as described above. Data exchanged between Onsite DCA and Printanista Hub is encrypted using strong encryption protocols that are FIPS compliant. Onsite receives secure software updates from the Printanista Updates servers.

The legacy Onsite DCA communicates with Printanista at a predefined interval to determine if there are any queued actions not already executed. This ensures actions are executed in a timely manner.

**Note:** Onsite DCA always initiates this communication to the Printanista server, and not the other way around.

**Note:** HP JAMC is only supported while used in conjunction with the legacy Onsite DCA at the initial launch of Printanista.

## Network Traffic

Audits conducted by the software use an intelligent system to extract minimal information for each printer, copier, or MFP. Unlike similar products that send a fixed set of queries (a superset of all possible queries) to every networked device, Onsite DCA only sends the relevant queries according to the fields the target device supports, with each device query being no more than a few kilobytes of data. To further reduce the amount of network bandwidth used, Onsite DCA communicates with no more than 20 devices at a single time. Each IP within the configured ranges will be queried and if no response is received within the configured timeout period it will move onto the next IP address. A rule-of-thumb is Printanista will gather information on approximately 65,000 devices in just under one hour.

## Local USB Agent (ONLY functional with Onsite DCA)

The Local USB Agent is the solution used to extract information from one or more local printers attached to any Windows port type, such as USB and parallel. The Local USB Agent does not interrupt the printing job flow, it only activates when called upon by one of Printanista's collection application tools—Onsite DCA or WebAudit— and then closes. The Local USB Agent collects specific information dependent upon the intelligence levels of the device from the engine and not the print spooler. Most common attributes reported are model, serial number, life-time meters, consumable coverage, consumable level, and service. Printanista Local USB Agent may be deployed to the workstations using a solution such as Microsoft SMS. Reconfiguration of antivirus or software firewalls may be required if blocking the SNMP port 161 or the alternative Agent fallback port 33333.

## Manufacturer Support

Printanista products are manufacturer neutral. They support all major manufacturers and model families. Some devices have limitations preventing extraction of certain information.

## Virus Concerns

The Printanista application files have been digitally signed to prevent execution if the file integrity is compromised. This ensures if any virus may be present is not activated and prevents spreading the virus from one network to another. For added assurance, we recommend using antivirus software on your network.