



FMAudit ECI DCA Setup and Troubleshooting Guide

V2.0



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Overview

FMAudit is the complete, all-in-one solution that helps office equipment dealers and managed print providers collect print device data, manage those devices, and ensure the profitability of their offerings.

To be able to do this, FMAudit Onsite is used to be able to collect the device data information. Onsite is an application that is installed at a client's location on a server or Windows Based PC to capture their Meters, Supplies, and Printer error codes. This information will be collected on a scheduled frequency and sent to the FMAudit Central website Onsite was downloaded from.

With the newest version of FMA Central V4.5, the functionality of the new ECI DCA is introduced, with ECI DCA 1.4.0. This DCA replaces the functionality of FMAudit Onsite and will be set as the default DCA for use. This can be downloaded directly upon a new customer/account creation or can be upgraded to at any point via the FMAudit Central User Interface.

This newest DCA brings about major advantages over FMAudit Onsite 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.

The new ECI DCA brings about the following new benefits and features:

- Ongoing discovery and scanning of devices.
- Improved MIBWalk and Log collection capability.
- Many more meter types are collected now, including impressions/sheets/equivalents which allows for greater flexibility and capability of the DCA (planned to be able to be displayed and utilized by users in coming versions of FMAudit Central).
- Only changes in data are sent to server to optimize load.
- ECI DCA Tray Icon for Windows OS allows for quick analysis of the DCA status as well as the capability to preform initial troubleshooting of the DCA.
- Lastly, and the most significant change, device data collection updates can be performed and received by the ECI DCA within hours versus months with the use of MDFs (Model Definition Files).

This document will overview these newest additions as well as go through best practices and troubleshooting tips to assist in effective use of the ECI DCA.

Note: The new ECI DCA is referred to as “ECI DCA” or “DCA”.

IMPORTANT NOTE: To be able to utilize the new ECI DCA, SSL and access to HTTPS is required for operation. The DCA will NOT operate under HTTP and without an SSL Certificate. This is already implemented for customers hosted with ECI and so is critical for self-hosted customers to note.

System and Network Requirements

1.1 System Requirements

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 7, 8, 10, Server 2008 R2, Server 2012, Server 2012 R2, Server 2016, and Server 2019
- .NET 4.5.2 or higher

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

The below listed ports must be whitelisted to ensure connectivity of ECI DCA.

- Data Upload
 - Through **Port 443/tcp (HTTPS)** with a connection to FMAudit Central Server
- Software Updates
 - Through **Port 443/tcp (HTTPS)** with a connection to FMAudit Central Server
- Registration (fallback)
 - Through **Port 53/udp (DNS)** with a connection to Local Network DNS server (primary) and FMAudit Central (fallback)

ECI DCA New Features

As mentioned in the introduction, the newest ECI DCA brings about major new features and advantages over FMAudit Onsite. Only introducing new features without removing previously available Onsite features (such as remote MIBWalk, embedded web page retrieval, and Log collection capability), the new ECI DCA is the go-forward solution and has been set as the default DCA for the FMAudit Device Management platform.

1.2 Cross-Platform Capability

With the newest version of ECI DCA, natively built support for cross-platform installation of the DCA is introduced. When installation occurs of the DCA, users are given the option to select from 4 separate installation paths based upon the OS that the DCA is being installed to.



Requirements

- [Microsoft .NET Framework@ 4.5.2](#) or higher (recommended: latest version)
- Microsoft Windows 7, 8, 10, Server 2008 R2, Server 2012, Server 2012 R2, Server 2016, or Server 2019
- Local network and/or firewall settings allow [connection to ECI Updates Server services and the Enterprise server](#).

Instructions

1. Download and run the installer.



2. Follow all instructions as presented.

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[Copy download link](#) [Close](#)



Requirements

- [Mono Framework 5.4](#) or higher (recommended: latest version)
- Local network and/or firewall settings allow [connection to ECI Updates Server services and the Enterprise server](#).

Instructions

1. Install the [mono-complete](#) package from the [latest version of Mono](#).
2. While logged in as the user you want ECI DCA to run as, use the console to run:

```
wget 'https://install.printfleetcdn.com/dca-pulse/DEV/1.4.0.7835/1.4.0.7835-dev-Linux-x86_64-install-  
[redacted].sh'  
chmod +x ecidca-1.4.0.7835-dev-Linux-x86_64-install-  
[redacted].sh  
./ecidca-1.4.0.7835-dev-Linux-x86_64-install-  
[redacted].sh
```

x86_64 arm

[Copy download link](#) [Close](#)

WINDOWS LINUX **MAC** RASPBERRY PI

Requirements

- [Mono Framework](#) 5.4 or higher (recommended: latest version)
- macOS® Sierra (10.12) or higher
- Local network and/or firewall settings allow [connection to ECI Updates Server services and the Enterprise server](#).

Instructions

1. Install the [latest version of Mono](#).
2. Download and run the installer.

Download

 ECI DCA 1.4.0.7835-dev [],.pkg (3.4 MB)
3. Follow the instructions as presented.

Mac and macOS are registered trademarks of Apple Inc.

WINDOWS LINUX MAC **RASPBERRY PI**

Copy download link Close

Requirements

- [Raspberry Pi 2 Model B, Raspberry Pi 3 Model B or Raspberry Pi 3 Model B+](#)
- Blank 8GB or larger microSD card
- PC capable of writing to microSD card
- Local network and/or firewall settings allow [connection to ECI Updates Server services and the Enterprise server](#).

Installing New Raspberry Pi Image

1. Download and run the ECIDCAPI installer on a Windows system.

Download

 ECIDCAPI Installer-dev [].exe (0.9 MB)
2. Follow the instructions to write to your microSD card.
3. Install the microSD card in the Raspberry Pi and power it up.

Manually Installing New Raspberry Pi Image

Copy download link Close

Installation instructions and base requirements for the installation are listed here as well.

1.3 Additional Meter Types

Additional meter types (including impressions/sheets/equivalents) are now able to be collected via the ECI DCA, increasing the versatility and functionality of the DCA. These meters will be able to be displayed and utilized within FMAudit Central and connected systems in coming versions of FMAudit Central. In the meantime, this information will be utilized to ensure complete and correct information of devices is being collected and will ensure that Device Data Collection Updates are accurate when they are released.

Regarding security concerns, the ECI DCA will collect the following device metrics (similar to FMAudit Onsite):

- Manufacturer and model information, including hrDeviceDescription, hrDeviceId and SNMP Enterprise Numbers
- Device type, an internal device classification identifier

- Device-specific fields like SysName (user-configurable on some devices), hostname and location (user-configurable)
- Device serial number, MAC address and IP address
- Device entry creation and last active dates
- List of meters: name, last reported, last value, standardLabelId (if applicable)
- List of supplies: name, last reported, high percent, low percent, status, standardLabelId
- List of codes: code, type, count, group, groupIndex, location
- Engine firmware versions

1.4 New Data Collection Rules and Efficiencies

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 FMAudit Central 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 that only the IP addresses (or hostname) of devices that have been 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 that the speed of device data submissions is as up to date as possible. This will allow for 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 minimum and maximum values for the scan intervals are:

Scan Function	Default	Minimum	Maximum
Discovery	30 minutes	10 minutes	720 minutes
Meters	120 minutes	10 minutes	720 minutes
Supplies	60 minutes	10 minutes	720 minutes
Errors	60 seconds	30 seconds	600 seconds
Attributes	360 minutes	10 minutes	720 minutes
Device W/out MDF	60 minutes	10 minutes	24 hours

Please note that 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 on a predefined interval.

1.5 Device Data Collection Updates (Model Definition Files)

The largest and most significant change that users may or may not be aware of is the frequency and ability to update device data collection updates. This is made possible through the ability to update the ECI DCA on an ongoing basis which will forgo the long delay for device data collection updates.

Also, ECI DCA utilizes something called a Model Definition File (MDF) which essentially is a blueprint for each device. This is created by using a MIBWalk of the device in question (which can now be obtained remotely via ECI DCA) to create an MDF. This can then be applied immediately to the ECI DCA to allow for the DCA to accurately scan the device and utilize the scan intervals that have been set forth (for meters, supplies, errors, etc.) for that DCA. Also, if an error is discovered within what the DCA is collecting of a device, this can now be adjusted and edited to what is accurate at a much faster pace.

1.6 Remote MIBWalk Collection

With the newest versions of ECI DCA, the ability to remotely troubleshoot Onsite or device support and receive the results without requiring intervention by the end customer is now possible.

In the below area under the DCA Settings (log into FMA Central and navigate to **Account** → **Installs** click the **i** icon under **Settings** for the desired ECI DCA), a user would be able to enter in the specific IP Address(es) or Hostname(s) for devices where they would like to have the MIB Walk collected for the device, for device support or troubleshooting steps, and have the ECI DCA tool perform these tasks by pressing Start Collection.

Note: If performing a MIBWalk using a hostname (for example: ki5c955a, which happens to have IPv4 address of 10.14.0.1) the completed tab will show the IPv4 address and not the hostname.

The screenshot displays the 'DCA Settings' window. At the top, there are fields for 'Unique ID', 'IP', 'Host Name', 'Mac Address', and 'External IP'. Below these are expandable sections for 'Data Frequency', 'Network', 'Credentials', and 'General'. The 'MIB Walks' section is expanded and highlighted with a red border. It contains three tabs: 'Devices', 'Timeouts', and 'Completed'. The 'Devices' tab is active, showing three columns: 'IPv4', 'IPv6', and 'Hostnames'. The 'IPv4' column contains the addresses 10.6.0.127, 10.6.0.227, and 10.6.0.40. A 'Start Collection' button is located at the bottom left of the 'MIB Walks' section. At the bottom of the window, there is a warning message: 'Changing between sections will not save the values until the global Save option is selected.' and two buttons: 'Save' and 'Close'.

IPv4	IPv6	Hostnames
10.6.0.127		
10.6.0.227		
10.6.0.40		

Start Collection

Note: Timeout settings relevant for these tasks to be carried out by the ECI DCA can also be configured under **Timeouts**, if desired, depending on the environment that the MIBWalk is being performed within.









Devices	Timeouts	Completed
SNMP Requests	<input type="text" value="1000"/>	ms
Total Device SNMP Walk	<input type="text" value="600"/>	seconds
Total Web UI Walk	<input type="text" value="300"/>	seconds

Once MIBWalk commands have been initiated and completed, the list of them including the **Date**, **Device**, **Details**, and a **Download** link for the MIBWalk is able to be found under the **Completed** tab.

Devices

Timeouts

Completed

Date	Device	Details	Download
1/18/2021	fe80::223:7dff:fe70:9c7d	HP ETHERNET MULTI-ENVIRONMENT,ROM none,JETDIRECT,JD148,EEPROM V.43.16,CIDATE 07/13/2012	
1/18/2021	fe80::217:c8ff:fe00:1a4	KYOCERA Document Solutions Printing System	
1/18/2021	fe80::46ef:bfff:fea5:6728	MFG:Pantum;CMD:ACL,PJL,PL,PCL,PCLXL,PS3,PDF;MDL:M7300FDW series;CID:Pantum M7300FDW series;CLS:PRINTER;DES:Pantum M7300FDW series;	
1/18/2021	10.6.0.45	SHARP MX-2640N	
12/21/2020	10.6.0.104	ZebraNet Wired PS	
12/21/2020	10.1.1.220	Xerox Color 560 with Xerox Fiery Integrated Controller; SW1.1_SP9,IOT 64.24.0, FIN C18.32.0, IIT 6.18.0, ADF 12.11.1, , , , , ,	
12/21/2020	10.6.0.45	SHARP MX-2640N	
12/21/2020	10.6.0.210	SHARP MX-2640N	
12/21/2020	10.14.0.113	MFG:Pantum;CMD:ACL,PJL,PL,PCL,PCLXL,PS3,PDF;MDL:M7100DW series;CID:Pantum M7100DW series;CLS:PRINTER;DES:Pantum M7100DW	

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Displaying 1 to 15 of 19

Q

1.7 Remote Log File Collection

Lastly, it is now also possible to remotely access any logs that have been generated by the ECI DCA as it is in operation via the logs section. This is used for troubleshooting purposes generally. Under the **Activity** tab in the DCA Settings, the most recent logs for the specific DCA can be viewed. This can also be copied and pasted to another word processor, if desired.

Activity

Detailed

Date	Message
01/22/2021 09:43:00	DCA Settings loaded
01/22/2021 08:42:53	DCA Settings loaded
01/22/2021 07:42:46	DCA Settings loaded
01/22/2021 06:41:57	DCA Settings loaded
01/22/2021 06:41:57	DCA Settings loaded
01/22/2021 05:43:35	Imported HistoricalDataTask,StatusDataTask,ServiceDataTask for 16 device(s) in 0.0312416s
01/22/2021 05:42:40	DCA Settings loaded
01/22/2021 05:42:40	DCA Settings loaded
01/22/2021 05:40:59	DCA Settings loaded
01/22/2021 05:40:59	DCA Settings loaded
01/22/2021 05:40:35	DCA Settings loaded
01/22/2021 05:29:55	DCA Settings loaded

15 ▾ ◀◀ Page 1 of 124 ▶▶ Displaying 1 to 15 of 1855 🔍 Refresh

Under the **Detailed** tab, users are able to dig deeper and choose the level of detail that would like to be viewed for the DCA logs under the **Logging Level** drop-down box (**Critical**, **Error**, **Warning**, **Details**, and **Debug**) and one would be able to also select from which date they would like to see the logs for to assist in troubleshooting under **Logs Since**.

DCA Settings ✕

Unique ID b339c17b-4208-442e-bcf8-ac8ecfc0d039
IP
Host Name L-9PLGMV2
Mac Address
External IP ☐ Ignore on Lost Syncs

▶ Data Frequency

▶ Network

▶ Credentials

▶ General

▶ MIB Walks

▼ Logs

Activity

Detailed

Logging Level Use value from config file ▾
SNMP Logging Level Use value from config file ▾
Logs Since 11/1/2020 Retrieve
Available Logs 11/20/2020 - 11/23/2020 ▾ Download

⚠ Changing between sections will not save the values until the global Save option is selected.

Save Close

Activity

Detailed

Logging Level

Logs Since

Available Logs

Details

Off

Critical

Error

Warning

Details

Debug


Retrieve

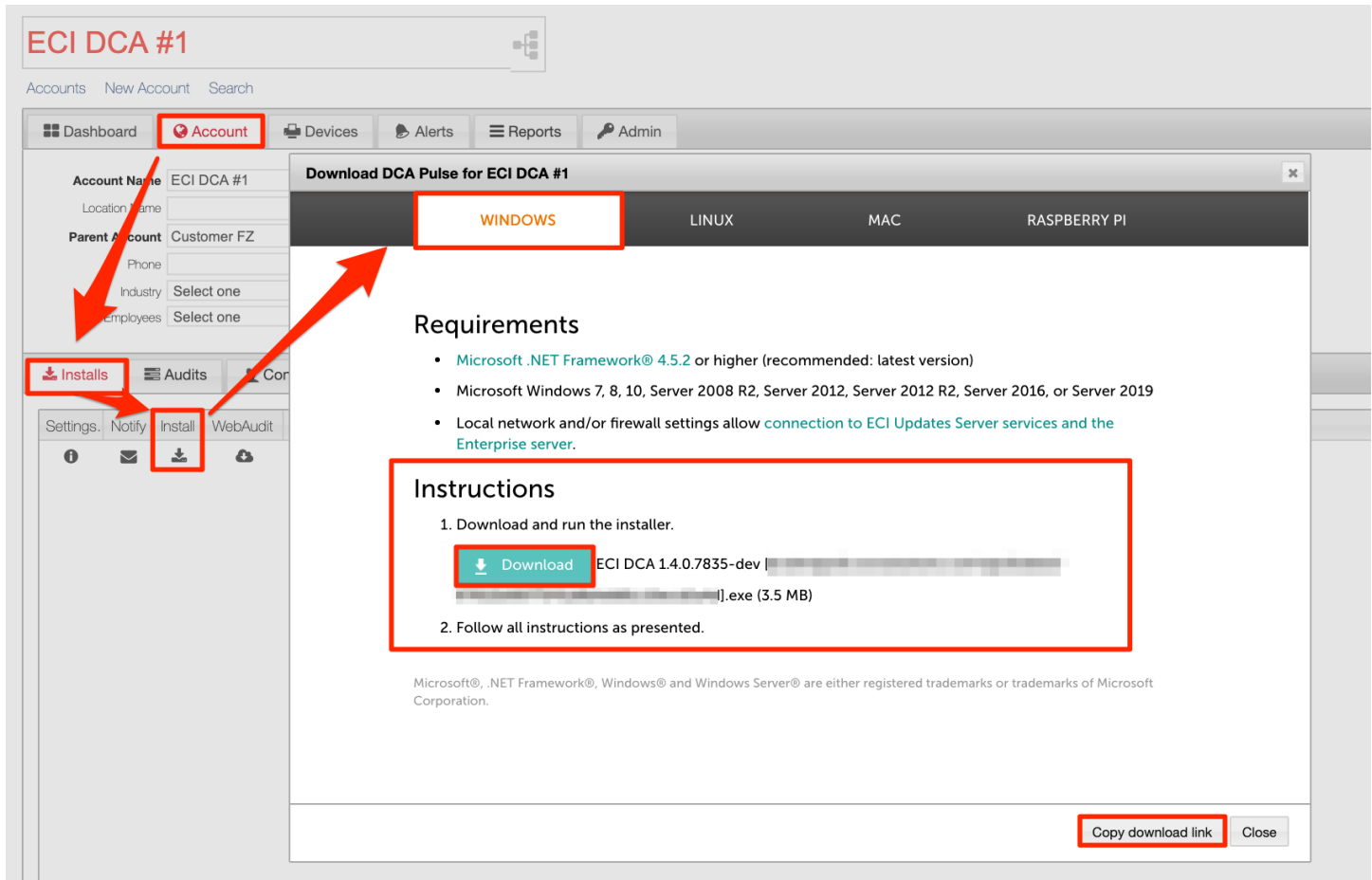
Download

⚠ Changing between sections will not save the values until the global Save option is selected.

ECI DCA Downloading and Setup

1.8 Downloading ECI DCA for Existing Account

When users access an existing account page under **Accounts** and navigate to the **Install**  button under **Installs**, the system will display a download window for ECI DCA which will allow for users to select the OS that they would want to download directly (if currently on the workstation that the DCA is to be installed to), or which they would want to copy the generated download link.



ECI DCA #1

Accounts New Account Search

Dashboard **Account** Devices Alerts Reports Admin

Account Name: ECI DCA #1
Location Name:
Parent Account: Customer FZ
Phone:
Industry: Select one
Employees: Select one


Download DCA Pulse for ECI DCA #1

WINDOWS LINUX MAC RASPBERRY PI

Requirements

- Microsoft .NET Framework® 4.5.2 or higher (recommended: latest version)
- Microsoft Windows 7, 8, 10, Server 2008 R2, Server 2012, Server 2012 R2, Server 2016, or Server 2019
- Local network and/or firewall settings allow [connection to ECI Updates Server services and the Enterprise server](#).

Instructions

1. Download and run the installer.
 **Download** ECI DCA 1.4.0.7835-dev [Progress Bar] [].exe (3.5 MB)
2. Follow all instructions as presented.

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Copy download link Close

Alternatively, users can utilize the **Notify** feature under **Installs** to directly email the DCA Installer Email using a pre-defined template.

Notify ✕

Template **ECI DCA Installation (Default)** ▼

Sender

Subject

Body

```
<br />
<span style="font-family: Arial, Helvetica, sans-serif;"><br />
As a result of the agreement between {AccountName} and {DEALER_NAME}, your account has
been successfully setup and configured.
The next step is to install the software so that it is able to collect the usage information and
consumable supplies levels on your printers.
The installer can be found at the following URL:<br />
<br />
<b><i>{INSTALLER_LINK}</i></b>.<br />
<br />
You may access your account at anytime in the future by browsing to <a href={CENTRALURL}>
{CENTRALURL}</a><br />
<br />
Account: {ACCOUNT_NAME}<br />
Contact: {CONTACT_NAME}<br />
Login: {CONTACT_EMAIL}<br />
<br />
If you have any questions, feel free to contact <a href=mailto:{DEALER_SUPPORT_EMAIL}>
{DEALER_SUPPORT_NAME}</a>.
</span>
```

☒ Include Authentication Token in the Installer Link

Note: Please note that doing this for an account that currently has an older FMAudit Onsite DCA installed, the system will send the new ECI DCA to the customer account, prompting installation.

1.9 Downloading ECI DCA for a New Account

When creating a **New Account** utilizing the Account Creation Wizard, please follow along the steps as shown in the **What's New Guide V4.4** as well as in the **Video Guide**. Please ensure to enter Contact details, DCA Instance Settings, verify the Send Install Email Notification, and the contact to receive the Notification Email.

ECI DCA #1

Accounts **New Account** Search

Dashboard Account Devices Alerts Reports Admin

Step 1 – Account Details

Account Name

Location Name

Parent Account ECI DCA #1

Street

Street Detail

City

State/Region

Zip

Country United States

Phone

Industry

Employees

Once the steps are completed, and the window is closed, the user will be navigated back to the Account Page for the newly created account, and the selected user to receive the installation email (if it is chosen to send the installation link versus downloading to the workstation that the user is creating the account from) will receive the below email from the system which will allow for the download and installation of ECI DCA (as well as the ECI DCA Service Tray Icon if on a Windows Operating System).

ECI DCA Installation

A admin@fmaudit.com
Wed 1/20/2021 5:11 PM
To: Justin Klimkait

As a result of the agreement between Support Team Account and ECI FMAudit, your account has been successfully setup and configured. The next step is to install the software so that it is able to collect the usage information and consumable supplies levels on your printers. The installer can be found at the following URL:

[Download DCA.](#)

You may access your account at anytime in the future by browsing to [redacted]

Account: Support Team Account
Contact: Justin Klimkait
Login:

If you have any questions, feel free to contact [Administrator](#).

[redacted]

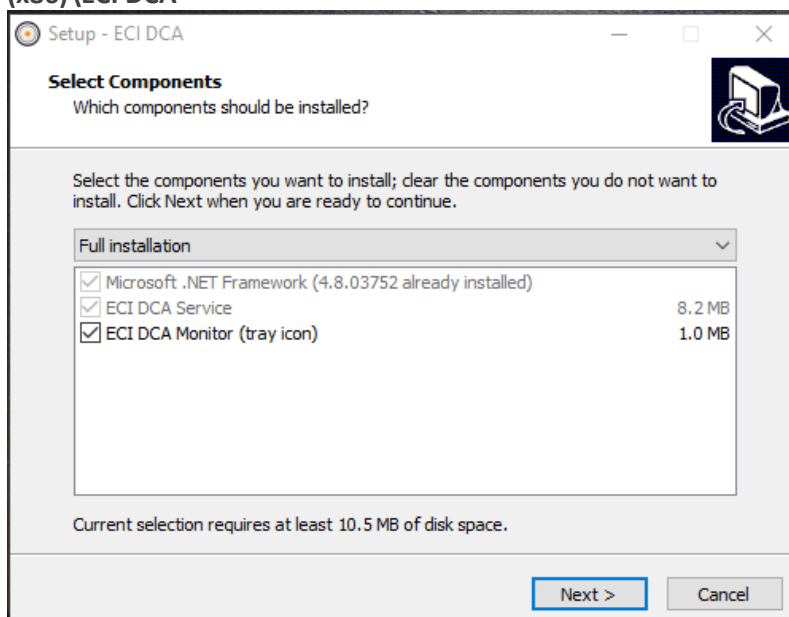
[Reply](#) | [Forward](#)

The installation process is simple and intuitive as long as users are familiar with the OS they are installing onto. The Windows installation as an example downloads as a simple executable file and is a simple and short click to proceed installation. The macOS, Linux, and Raspberry Pi installation processes and instructions similar. The procedure for installation onto these platforms (including the Windows OS installation as outlined below) is also located on the installation page and can be toggled using the header tabs.

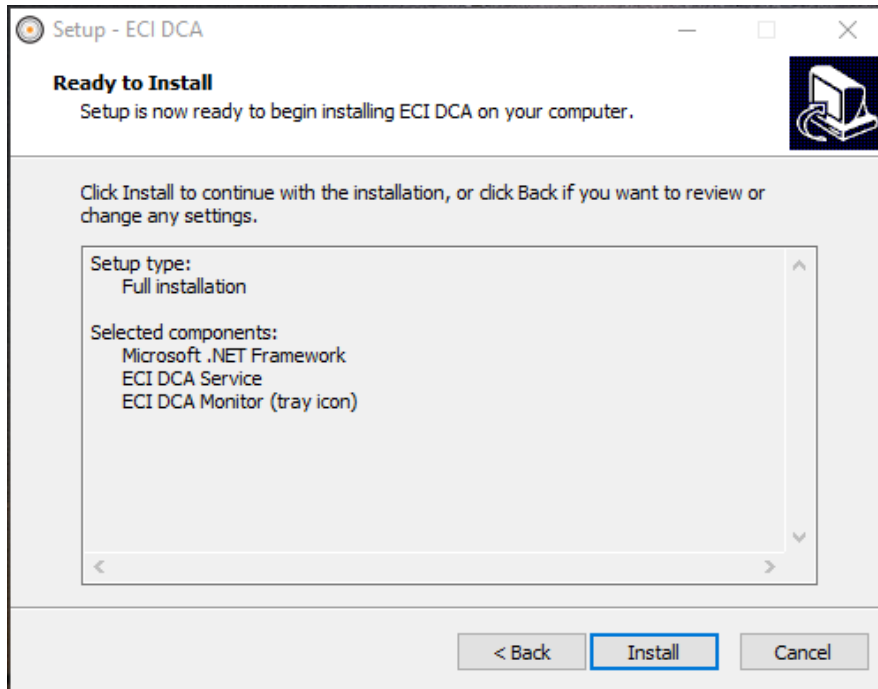
Note: This should be installed using an administrative account.

Windows OS Installation Process:

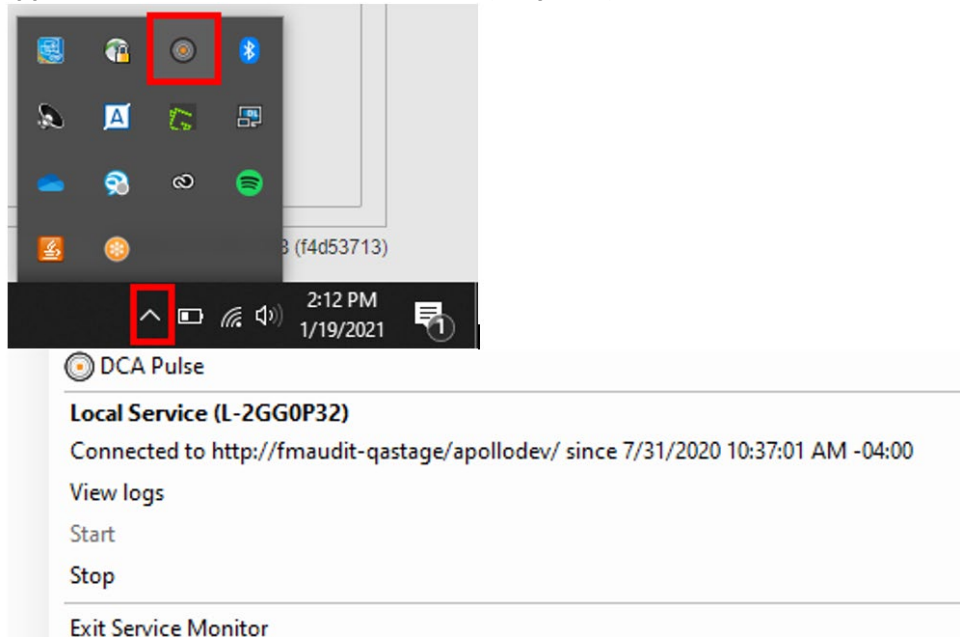
- 1) First step is to determine the destination folder for the ECI DCA. The default location is **C:\Program Files (x86)\ECI DCA**



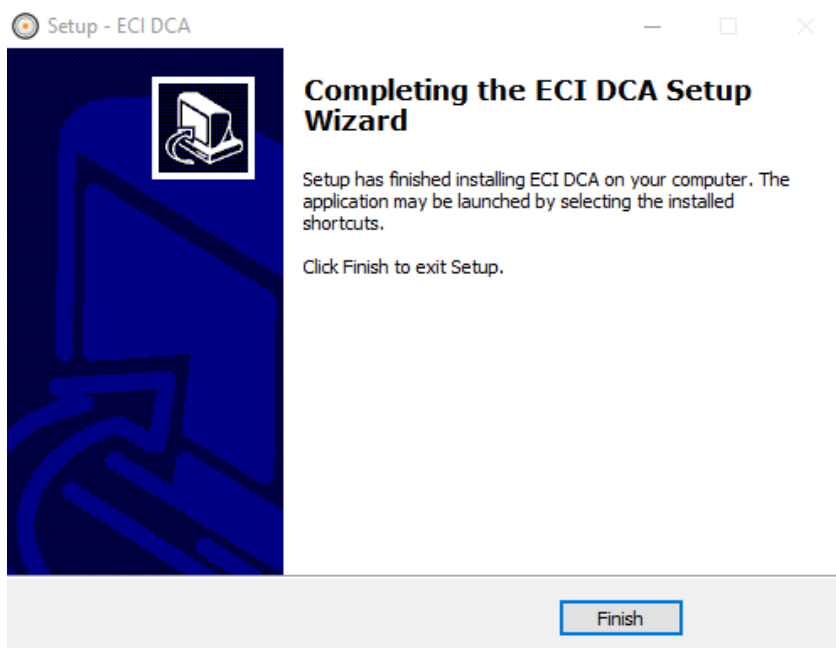
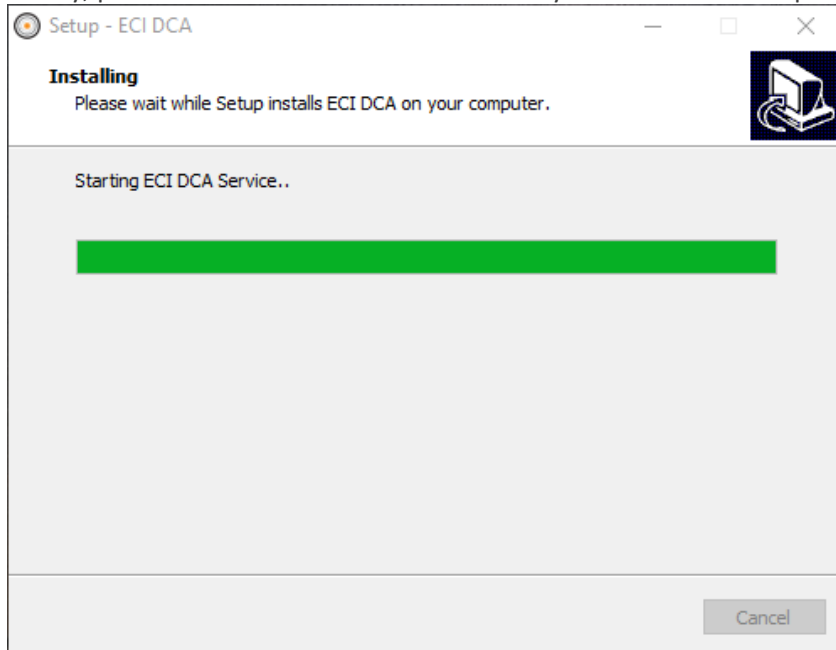
- 2) Following this is determining the components for installation. It is recommended to leave this as what is selected by default. The DCA Service Monitor (tray icon) is a Windows tray icon which allows for quick monitoring of the DCA status as well as preliminary troubleshooting such as opening of the localhost page, opening the log file location, as well as starting/stopping/restarting the associated DCA service.



Appearance of ECI DCA Service Monitor (Tray Icon)



- 3) Finally, please review the installation summary and click **Install** to proceed and install the ECI DCA.



ECI DCA Troubleshooting – Pre-Installation

Prior to the installation of the ECI DCA, it is important to understand the environment for where the DCA will be installed into. In order to best set up the DCA, it is important to learn of the following details:

- 1) Inquire as to where the customer would like to install the DCA. It is recommended to install the DCA onto a workstation/computer or server that is running as close to 24/7 as possible so as to ensure that the DCA remains online and active and communicating as up to date information as possible. It is not recommended to install onto a laptop computer or any other type of portable system which may be plugged into another network, as depending on settings, if it discovers additional printers, it will report them to the same customer group.

Note: It is possible to install the ECI DCA onto your own hardware of a Raspberry Pi which can be connected to the customers network and monitor the printing devices through this versus your customers hardware.

Note: For DCA Installation on Linux/Raspberry Pi or Mac OS, please ensure that correct Mono-complete version has been installed.

Note: If you are looking to monitor locally connected USB devices, please utilize FMAudit Agent, as this is not available as of yet within ECI DCA.

- 2) Inquire if the customer has any firewalls or proxy servers that may block any sort of communication between the printing devices to the DCA and to FMAudit Central. If this is the case, please have their IT personnel or whomever is managing their firewall open the below ports. As a note, all DCAs only make outbound connections.
 - a. ECI DCA requires external communication through Ports 53/udp (DNS) for registration via internet and 443/tcp (HTTPS) for communication via internet. Further details here at **ECI DCA Connection Requirements:** <https://install.printfleetcdn.com/eci-dca/connections>
 - b. Also requires certain URLs whitelisted, if applicable:
 - i. URL of applicable FMAudit Central site (if unsure, this can be located in **Admin > Server > Web Server > Central URL**)
 - ii. <https://updates.printfleetcdn.com> – automatic updates
- 3) Inquire into the IP addresses/ranges (IPv4 or IPv6 or hostname) of the printers you are looking to monitor exist on (especially if they are monitoring multiple locations from one server). Generally, the IT team or personnel of the customer will know this. If not, this can be checked from a networked computer or directly on the printing device.

This can be entered into the **Network** tab of the **DCA Settings (Account > Installs > Settings)** for the ECI DCA. The DCA will attempt to find the most immediate subnet endpoints in the network of the host workstation it is installed upon, including VPN. This is generally the case as the vast majority of companies run a single subnet, however if a company does have multiple subnet ranges, they would need to be additionally entered in here as they may not be automatically discovered.

DCA Settings

Unique ID [redacted]
IP [redacted]
Host Name [redacted]
Mac Address [redacted]
External IP [redacted] ☐ Ignore on Lost Syncs

► Data Frequency

▼ **Network**

IPs | Hostnames | Registration | Discovery | SNMP Timeouts

IPv4
10.11.1.1-10.11.1.254
192.168.0.1-192.168.0.254
255.255.255.255

IPv6
ff02::1

► Credentials
► General
► MIB Walks
► Logs

⚠ Changing between sections will not save the values until the global Save option is selected.

Save Close

Note: As a best practice when utilizing ECI DCA, fewer scan ranges (and size of range) will speed up initial discovery, however it will have no effect on scan times. It is also important to note that with ECI DCA, discovery of most networks (under a few thousand IPs) should only take a few minutes of time.

- 4) Check if the customer is utilizing additional SNMP security for communication to any devices that should be monitored by the DCA. If the customer is monitoring any printers via SNMP V1/2 (community string other than default 'public') or SNMP V3 credentials, please follow these steps:
 - a. Once SNMP security settings have been indicated by the customer, please ensure that the DCA SNMP settings match the device SNMP version setting (SNMP v1 / 2 + community string, or SNMP v3 + auth protocol + privacy protocol + relevant fields).
 - b. For ECI DCA, this can only be controlled and configured from FMAudit Central as per the below through the **Credentials** tab within **DCA Settings (Accounts > Installs > Settings)**

DCA Settings

Unique ID
IP
Host Name
Mac Address
External IP

☐ Ignore on Lost Syncs

▶ Data Frequency

▶ Network

▼ Credentials

SNMP v1/v2 Communities

SNMP v3 Credentials

Admin Credentials

Read

Read/Write

public

▶ General

▶ MIB Walks

▶ Logs

⚠ Changing between sections will not save the values until the global Save option is selected.

Save

Close

Note: Please select the Security Level first for SNMP v3 to be able to enter in the right credentials here. If any assistance is needed, please contact the FMAudit support team or navigate to <https://fieldservicesupport.ecisolutions.com/s/>.

- 5) If the customer has a very slow network or devices which are very slow in communicating data, it is possible that the devices might need more time to respond to the DCA query. This is completed by increasing certain figures under the **Network** tab of **DCA Settings (Accounts > Installs > Settings)**. It is suggested to increase SNMP Retries and/or SNMP Timeout to test if doing so will allow the DCA to find the devices.

Note: Increasing SNMP Retries or SNMP Timeout will increase the amount of time the DCA takes to complete a scan of the network so only do so as necessary.

DCA Settings

Unique ID
IP
Host Name
Mac Address
External IP

☐ Ignore on Lost Syncs

Data Frequency

Network


IPs	Hostnames	Registration	Discovery	SNMP Timeouts
SNMP 1000 ms				
SNMP Retries 2				
FMAudit Agent 4000 ms				
HTTP 4000 ms				

Credentials

General

MIB Walks

Logs

 Changing between sections will not save the values until the global Save option is selected.

Save **Close**

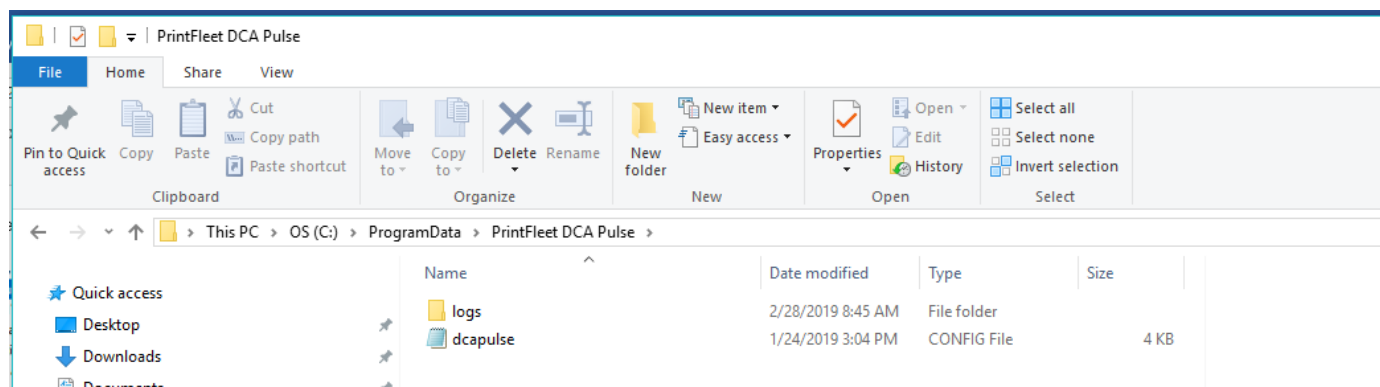
- 6) If the customer is utilizing a proxy server for internet communication, please note that with ECI DCA, you must enter the proxy settings directly in the config file on the workstation or server that the DCA is installed on.

Note: The DCA will not work with proxy script. You must use a specific proxy URL or IP Address.

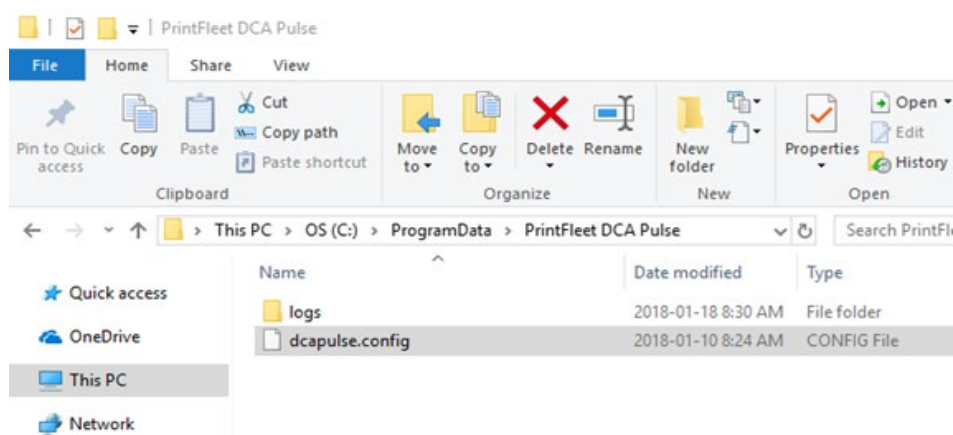
a. **ECI DCA (Windows OS)**

- i. With regards to Proxy configuration, these are the steps for each DCA instance:

1. Navigate to and open Windows Services.
2. Navigate to the **ECI DCA Service** (name would be **PrintFleet DCA Pulse** in an upgraded version of the DCA).
3. Stop the **ECI DCA Service**.
4. Open File Explorer and navigate to **C:\ProgramData\ECI DCA**. In an upgraded installation versus new installation, this will be located in **C:\ProgramData\PrintFleet DCA Pulse\logs**.



- Open the dcapulse.config file. Ensure that you are running the program for which you are opening the file within (such as Notepad) as an Administrator, even if you are logged in as an Administrator. The config file will be named dca.config if this is a fresh installation of ECI DCA versus an upgrade..



- Navigate to line #40 for proxy configuration in dcapulse.config file. Again, the config file may also be named dca.config depending on the version of ECI DCA being installed.

```

C:\ProgramData\PrintFleet DCA Pulse\dcapulse.config - Notepad++
File Edit Search View Encoding Language Settings Tools Macro Run Plugins Window ?
dcapulse.config
39
40 //===== PROXY CONFIGURATION =====
41
42 // By default, DCA Pulse auto-detects proxy settings from the OS.
43 // It is also possible to explicitly specify proxy settings to use, below.
44
45 // Address of explicitly-specified proxy server.
46 //ProxyServer: http://192.168.1.1
47
48 // User used for authentication. Only used if ProxyServer is set. If not set, default credentials are used.
49 //ProxyUser: username
50 // Password for ProxyUser. Required if ProxyUser is set.
51 //ProxyUserPassword: secret
52 // Domain for ProxyUser. Optional, but only used if ProxyUser is set.
53 //ProxyUserDomain: MYDOMAIN
54

```

7. Remove (uncomment) `//` at the beginning of the line. In the following lines and enter proper credentials:

`//ProxyServer: http://192.168.1.1`

`//ProxyUser: username`

`//ProxyUserPassword: password`

`//ProxyUserDomain: domain (if required)`

Note: ECI DCA will work only with Basic Authentication using Username and Password.

b. **ECI DCA (Linux and Raspberry Pi)**

With regards to Proxy configuration on Linux and Raspberry Pi, you will have to access the config file through utilizing the Terminal to be able to enter in this information. You will have to have a text editor previously installed (such as Getit, Nano, or Vim, etc.).

- i. Navigate to the Terminal program and stop the DCA Service.
Stop ECI DCA Service: `sudo '/Library/Application Support/ECI DCA/ecidca' stop-service`
- ii. Open the Configuration File for the DCA.
Open ECI DCA Service Config File:
Open Directory: `cd /boot`
List Files (optional): `ls`
Open Config File: `sudo nano dcapulse.config`
The config file may also be named `"dca.config"` if it is a fresh installation of ECI DCA versus an upgrade.
- iii. Enter in the Administrator Password to allow for the command to run.
- iv. Remove uncomment to edit (`//`) and enter in the proxy information for the proxy server into the relevant section before saving.
Note: For Raspberry Pi, the proxy information can also be edited on the Raspberry Pi SD card on a Windows OS before being reinserted into the Pi.
Once this is done, please confirm the details and Save the Config file in original folder.
- v. Start the DCA Service.
Start ECI DCA Service: `sudo '/Library/Application Support/ECI DCA/ecidca' start-service`
- vi. Check the DCA Status for the service.
Check ECI DCA Service Status: `sudo launchctl list com.printfleet.dcapulse`
- vii. Check within the FMAudit portal for the connection status as well as within the **Devices** tab to be able to check for any discovered devices.

c. **ECI DCA (Mac OS)**

When looking to enter any Proxy configuration details while on a Mac OS workstation, please follow the below steps. You will have to have a text editor previously installed (Mac OS should have a text editor pre-installed such as Nano). If not, please install this first.

- i. Navigate to the Terminal program and stop the DCA Service.
Stop ECI DCA Service: `sudo '/Library/Application Support/ECI DCA/ecidca' stop-service`
- ii. Open the Configuration File for the DCA.
Open ECI DCA Service Config File:
`sudo nano -w /Library/Preferences/com.printfleet.dcapulse.config`

The config file will be named “*dca.config*” if it is a fresh installation of ECI DCA versus an upgrade.

- iii. Enter in the Administrator Password to allow for the command to run.
- iv. Enter in the proxy information for the proxy server into the relevant section.

Note: Remove uncomment (‘//’) on any lines you are changing.

- v. Once this is done, please confirm the details and Save the Config file in original folder.
- vi. Start the DCA Service.

Start ECI DCA Service: *sudo '/Library/Application Support/ECI DCA/ecidca' start-service*

- vii. Check the DCA Status for the service.

Check ECI DCA Service Status: *sudo launchctl list com.printfleet.dcapulse*

- viii. Same as Step h. from previous section.

ECI DCA Troubleshooting – Post-Installation

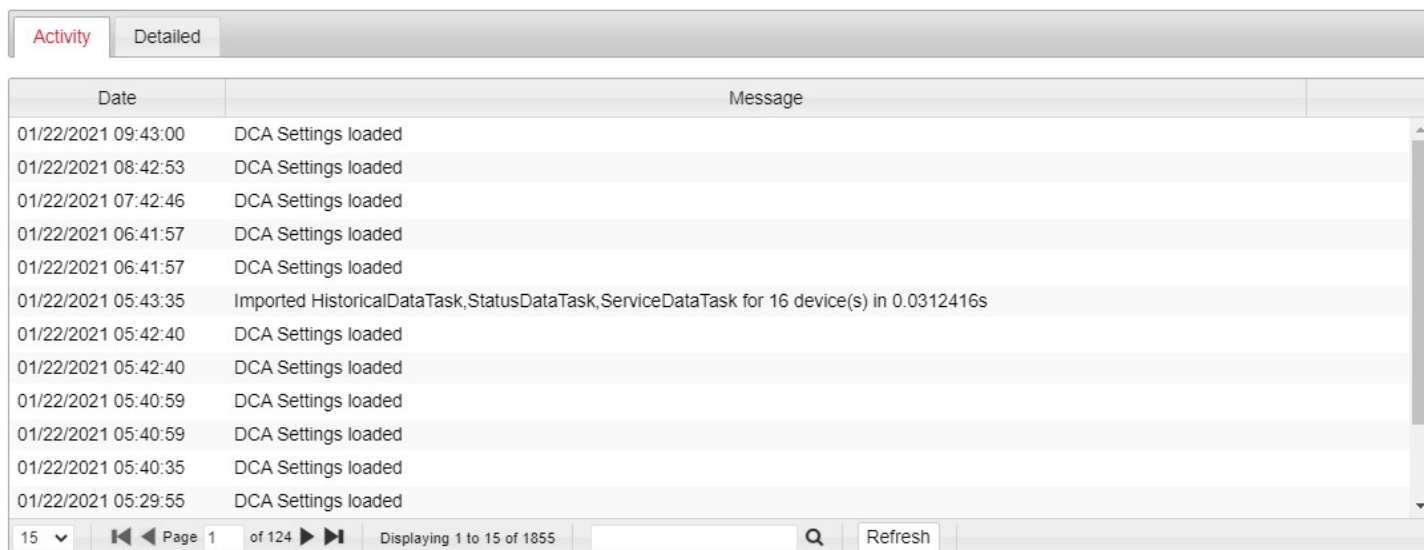
Beyond the best practices for initial setup of the DCA to assist with troubleshooting any issues, there are some useful steps to take for troubleshooting some common problems prior to seeking out support from the FMAudit Technical Support Team.

Step One – Obtaining ECI DCA Logs

The most important step in troubleshooting any issue regarding the DCA would be to obtain the log files to check what the latest messages are, which will likely indicate the source of the issue. The logs are also what would be required by our Technical Support Team if a user is reporting a bug or issue.

Please follow this step to be able to obtain the DCA Log files.

Under the **Activity** tab in the DCA Settings, the most recent logs for the specific DCA can be viewed. This can also be copied and pasted to another word processor, if desired.



Activity		Detailed
Date	Message	
01/22/2021 09:43:00	DCA Settings loaded	
01/22/2021 08:42:53	DCA Settings loaded	
01/22/2021 07:42:46	DCA Settings loaded	
01/22/2021 06:41:57	DCA Settings loaded	
01/22/2021 06:41:57	DCA Settings loaded	
01/22/2021 05:43:35	Imported HistoricalDataTask, StatusDataTask, ServiceDataTask for 16 device(s) in 0.0312416s	
01/22/2021 05:42:40	DCA Settings loaded	
01/22/2021 05:42:40	DCA Settings loaded	
01/22/2021 05:40:59	DCA Settings loaded	
01/22/2021 05:40:59	DCA Settings loaded	
01/22/2021 05:40:35	DCA Settings loaded	
01/22/2021 05:29:55	DCA Settings loaded	
15	Page 1 of 124	Displaying 1 to 15 of 1855
		Refresh

Under the **Detailed** tab, users are able to dig deeper and choose the level of detail that would like to be viewed for the DCA logs under the **Logging Level** drop-down box (**Critical**, **Error**, **Warning**, **Details**, and **Debug**) and one would be able to also select from which date they would like to see the logs for to assist in troubleshooting under **Logs Since**.

DCA Settings

Unique ID b339c17b-4208-442e-bcf8-ac8ecfc0d039
IP
Host Name L-9PLGMV2
Mac Address
External IP

☐ Ignore on Lost Syncs

Data Frequency

Network

Credentials

General

MIB Walks

Logs

Activity

Detailed

Logging Level Use value from config file ▼

SNMP Logging Level Use value from config file ▼

Logs Since 11/1/2020

Retrieve

Available Logs 11/20/2020 - 11/23/2020 ▼

Download

⚠ Changing between sections will not save the values until the global Save option is selected.

Save

Close

Activity

Detailed

Logging Level

Details ▼

Logs Since

Off

Retrieve

Available Logs

Critical

Error

Warning

Details

Debug

Download

⚠ Changing between sections will not save the values until the global Save option is selected.

Note: You are also able to access the log files through accessing <http://localhost:31816> in a web browser (or through clicking View Logs in the DCA Service Tray Icon menu, on a Windows OS) while on the workstation/server where the DCA is active on and navigating to the Logs tab to access the log files.

If the DCA is not connected, you will have to access the log files through the local log folder to view them. Please follow the following steps for Windows OS:

- 1) Please open up a new File Explorer window.
- 2) Type in or copy and paste the following file pathway **C:\ProgramData\PrintFleet DCA Pulse\logs**. This will bring you to a date sorted file folder which contains all of the Text Log Files. In a fresh installation versus upgrade, this will be located in **C:\ProgramData\ECI DCA\logs**.
- 3) These can be used for internal troubleshooting or can be sent to our support team for additional assistance via <https://fieldservicesupport.ecisolutions.com/s/>.

Note: Please note that .zip files are not able to be received via email and so please send files via a shareable link or as individual log files to the support team.

For the ECI DCA on Mac OS or Linux, please follow the below steps (must have a text viewer such as less or a text editor such as nano installed on system):

- 1) Please open a new Terminal window (Mac OS or Linux).
- 2) Open the Log File pathway for the ECI DCA (/Library/Application Support/ECI DCA/)
- 1) **Mac OS:** `sudo less -w /var/log/eci-dca/1.4.0.x/`

Linux/Pi:

Open directory: `cd /var/log/eci-dca/1.4.0.x/`

Open list of files (optional): `ls`

Open log file (less or similar must be installed): `sudo less eci-dca.log` (Or any other log file)

- 3) Access and open log files in text editor.
- 4) Again, these can be used for internal troubleshooting or can be sent to our support team for additional assistance.

Note: For upgraded DCAs versus a fresh

Note: Please also note again that .zip files are not able to be received via email and so please send files via a shareable link or as individual log files to the support team.

NOTE: Before progressing to the next step, if there is an issue, it is critical that you please send the logs with the issue described into the Technical Support Team or to your ECi Account Representative, as if this is not completed, any issue that may have occurred will remain unknown to FMAudit Support and Development Teams, and any root causes will remain unaddressed. This is important even if the following two steps resolve the primary cause for concern.

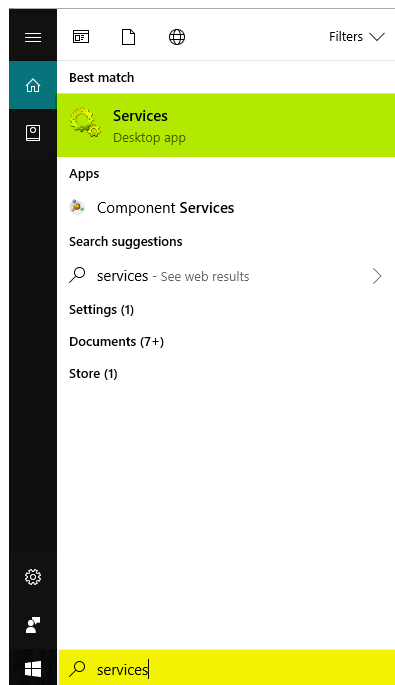
Step Two – Restarting the ECI DCA Service

One of the most commonly noticed issue is that a DCA service has gone down or become disconnected, where the user may notice that devices on the system have not reported in a significant amount of time.

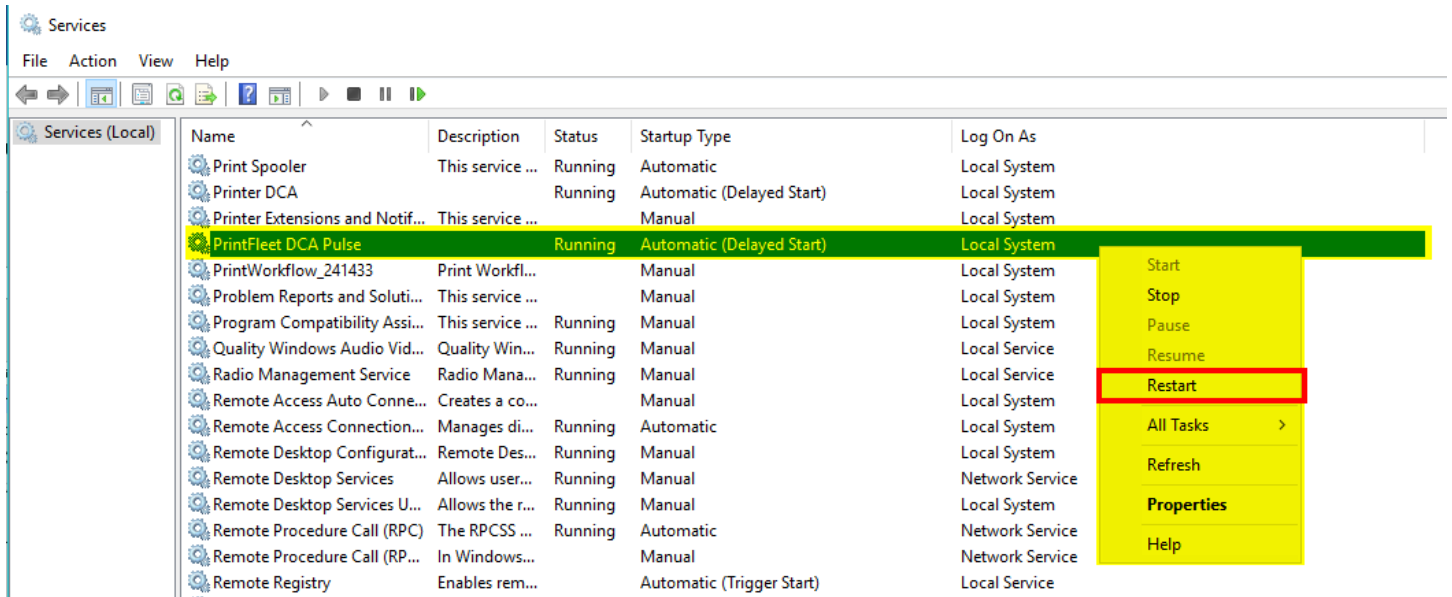
To be able to restart the DCA service, please follow the following steps as per the OS:

Windows OS (ECI DCA)

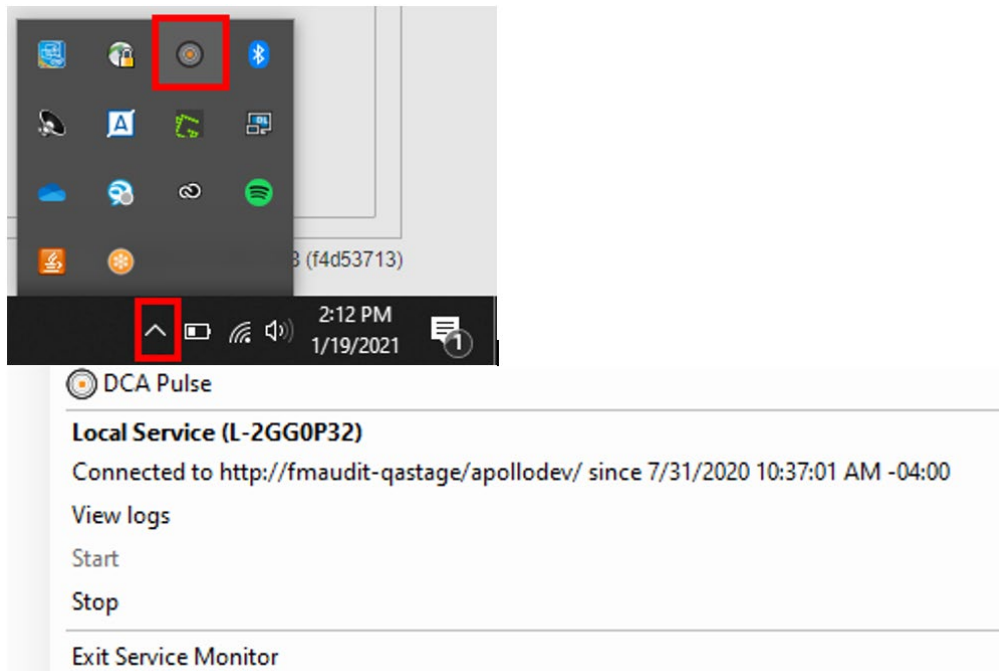
- 1) Navigate to Windows Services (type **Services** in the search bar on Windows or navigate to Control Panel > Administrative Tools > Services) and open the Services window.



- 2) Once within Services, please navigate to **ECI DCA** (name would be **PrintFleet DCA Pulse** in an upgraded version of the DCA), and right click the service. Once here, you can select **Restart**, or **Stop** and then **Start** from the drop-down menu.



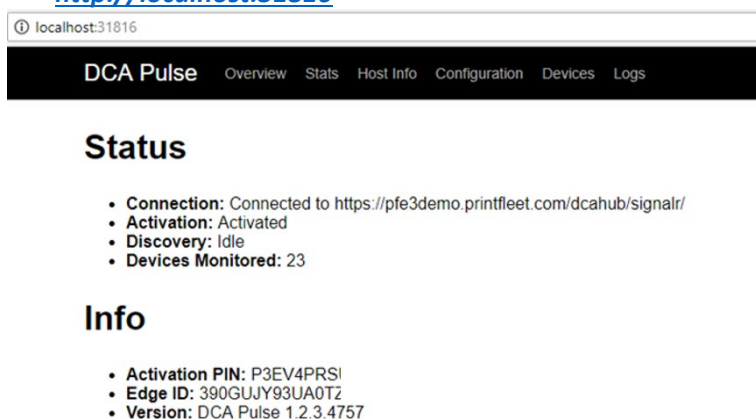
Note: With ECI DCA on Windows OS, you also have the ability to Restart the service through the **ECI DCA Service Tray Icon** which should be present in the bottom right menu of your desktop screen (may be named DCA Pulse if on an upgraded version of ECI DCA versus a fresh installation). This will allow for the user to access Logs, open the DCA Detail Page (if user has access to FMAudit Central) Start/Stop the Service, and open the DCA Embedded Web Page.



- 3) As ECI DCA works as a background service, it does not have a typical app GUI (User Interface Panel) to modify any settings on the computer or to troubleshoot any connection issues. The DCA however, does have an embedded web page which will allow for the user to view connection status and configuration settings in a read-only format from the computer where the ECI DCA was installed.

As mentioned, the website allows the user to view the current connection status, settings as well as to review the list of the discovered devices and attributes collected on each of them.

- a. To access the Embedded Web Page on a Windows OS workstation, please open a web browser and type <http://localhost:31816>



- b. Check if the DCA service is running that can be seen in the **Connection** Tab.
- i. Connection shows server URL, Activation Status, and other information as you can see above. You can also check which devices are being discovered by the DCA under Devices, as well as obtain the DCA logs in the **Logs** tab (referenced below with Logs).

- ii. If no Connection exists, it would be good to take a screenshot of this page for use by our technical team for troubleshooting, as well as engage in restarting the DCA Service.

Linux and Raspberry Pi (ECI DCA)

Note: The service *dcapulse* will be named *ecidca* on new installations. Please replace *dcapulse* below accordingly.

- 1) Once logged into the workstation or server which houses the DCA, please navigate and open Terminal.
- 2) Once here, please type in the below command to check the Service Status of **ECI DCA**. On the list which displays, '+' indicates the service is running, '-' indicates that the service is not running.

Check ECI DCA Service Status: `sudo launchctl list com.printfleet.dcapulse`

- 3) If the service is not currently running, discovered through either method, the next step would be to start the service. If the service is running currently but experiencing communication issues, stopping and starting or restarting the service may prove to remedy the issue.

Start ECI DCA Service: `sudo '/Library/Application Support/ECI DCA/ecidca' start-service`

Stop ECI DCA Service: `sudo '/Library/Application Support/ECI DCA/ecidca' stop-service`

Restart ECI DCA Service: `sudo '/Library/Application Support/ECI DCA/ecidca' restart-service`

Please note that with most modern distributions of Linux systems, the switch has been made to systemd init and so systemctl commands might be preferable. They are listed here:

Check ECI DCA Service Status: `sudo launchctl list com.printfleet.dcapulse`

Start ECI DCA Service: `sudo systemctl '/Library/Application Support/ECI DCA/ecidca' start-service`

Stop ECI DCA Service: `sudo systemctl '/Library/Application Support/ECI DCA/ecidca' stop-service`

Restart ECI DCA Service: `sudo systemctl '/Library/Application Support/ECI DCA/ecidca' restart-service`

Check if Service is Enabled upon System Boot: `sudo systemctl list dcapulse.service`

Note: The administrator password may be asked for here to be able to run the various commands. Please type the password in and hit **Enter** to allow for the command to process.

Mac OS (ECI DCA)

- 1) Once logged into the workstation which houses the ECI DCA, please navigate and open Terminal.



- 2) Once this has opened, please utilize the below commands to check the Service Status of the DCA as well as to Start, Stop, and Restart the DCA Service. As a reminder, to check status, you can also check the status through the Embedded Webpage within a browser window.

Note: The service `com.printfleet.dcapulse` will be named `com.ecidca` on new installations. Please replace `com.printfleet.dcapulse` below accordingly.

Check ECI DCA Service Status: `sudo launchctl list com.printfleet.dcapulse`

Start ECI DCA Service: `sudo '/Library/Application Support/ECI DCA/ecidca' start-service`

Stop ECI DCA Service: `sudo '/Library/Application Support/ECI DCA/ecidca' stop-service`

Note: Again, please note that to be able to perform these actions, ensure that you have the necessary administrative permissions to perform these commands as you will be prompted for a password.

Step Three – Reactivating ECI DCA

If the above step does not work of stopping and starting the DCA Service, again please first obtain DCA Logs prior to engaging in this as mentioned previously in this document. Reactivating the DCA is usually unnecessary unless there is an activation problem which the logs will show and should be reported to the FMAudit Technical Support Team.

The FMAudit Technical Support Team will assist with Reactivating the DCA and installing a new DCA installer file onto the workstation or server that it is installed onto.

1.10 Additional Information and Further Troubleshooting

To learn more about FMAudit, to obtain further documentation, or if you have any questions regarding the DCA use, setup, configuration, or further troubleshooting, please contact our helpdesk, visit <https://fieldservicesupport.ecisolutions.com/s/> or speak with your ECI Software Solutions Account Manager.