



SOTI Connect

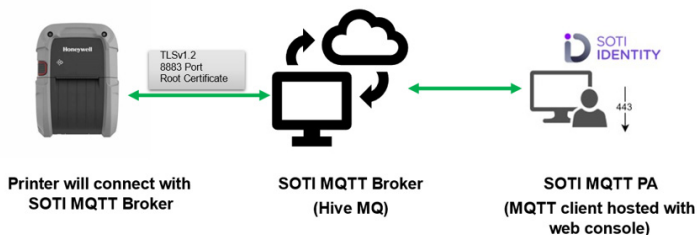
Printer Onboarding Over MQTT

Onboarding Guide

Overview

This guide provides instructions for setting up a printer to establish a connection with SOTI Connect over MQTT using the Printer Discovery Tool, HCC Gateway application or SOTI Cloud application.

The printer firmware uses an agent that connects to MQTT Broker to publish/subscribe to specific topics.



Prerequisites

The following prerequisites must be met before establishing a connection with SOTI Connect.

Download Latest Firmware

Download the latest firmware version for your printer from honeywell.com/PSSsoftware-downloads.

XML Files

The following XML files are required:

- SOTI_AGENT_settings.xml
- Enable_SOTI_AGENT_settings.xml

See [Sample XML](#) on page 11 for sample code to create the files.

Printer Settings

Use the printer web page or PrintSet to configure the following settings.

- Sleep Timer - Go to **System Settings > General > Power** and set **Sleep Timer** to “Disable.” If the Sleep Timer setting on your printer model is set as a numeric range, set the value to 0.
- Time and Date - Go to **System Settings > General** and set the current **Time** and **Date**.
- FTP or SSH - Go to **System Settings > Manage Services** and set **FTP** or **SSH** to “Enable.”

Refer to the user guide for your printer available at automation.honeywell.com for more details on printer configuration. To locate the product page for your printer model, click the Search icon and search by the model number or select **Products > Productivity Solutions > Printers** then select the type of printer.

MQTT Broker Details

The settings in **Configuration > Network Services > SOTI Agent** must be set to the following values. These will be updated when the BundleSoticonn.zip file is pushed to the printer.

- **MQTT Broker Hostname:**
If there is a DNS server in your network, enter the MQTT server as: scp000750.soticonnect.cloud (hostname)
If there is no DNS server in your network, enter the IP address of the computer or server where MQTT is running (not the printer IP address).
- **IP address:** 40.71.116.24
- **MQTT Port Number:** 8883

- **MQTT QoS:** 1
- **MQTT TLS Communication:** One-Way
- **MQTT Keep Alive:** 60 Seconds
- **MQTT Broker Username:** connect
- **MQTT Broker Password:** connect
(Default for cloud application. For on premise, the password is set while installing the application.)

SOTI Cloud Details

The SOTI team will provide the required details for access. To onboard printers, you will need:

- SOTI Identity
- Username
- Password

Onboard Printers

Choose the method you want to use to onboard printers then follow the steps in the appropriate section:

- [Onboarding Printers to SOTI over MQTT using Printer Discovery Tool or HCC Gateway Application](#) on page 4
- [Onboarding Printers to SOTI Connect Over MQTT](#) on page 5
- [Onboarding Printers to SOTI over MQTT using SOTI Cloud Application](#) on page 7

Onboarding Printers to SOTI over MQTT using Printer Discovery Tool or HCC Gateway Application

After verifying the printer configuration, follow these steps.

Note: For information on using Honeywell Cloud Connect (HCC), refer to the Honeywell Cloud Connect User Guide available at automation.honeywell.com.

1. Use the HCC Discovery tool to onboard all printers to HCC.
2. Use HCC to upgrade the firmware on all onboarded printers to the latest version.
 - a. Open the HCC UI.
 - b. Select the **Manage Devices** tab then select the printer model on the top right.
 - c. Select the printers then click **Upgrade**.
 - d. For the **File Type**, select “Firmware”.
 - e. Update version details.
 - f. Browse to the firmware file and click **Apply**. The firmware will download and install to the printer.
3. Update the SOTI Configuration Settings file on all of the pilot printers using HCC. The file is called SOTI_AGENT_settings.xml.
 - a. Open the HCC UI.
 - b. Select the **Manage Devices** tab then select the printer model on the top right.
 - c. Select the printers then click **Upgrade**.
 - d. For the **File Type**, select “Config”.

- e. Browse to the SOTI_AGENT_settings.xml file then click **Apply**. The configuration file will download and install to the printer.
- f. Browse to the Enable_SOTI_AGENT_settings.xml file then click **Apply**. The configuration file will download and install to the printer.

Note: *When the SOTI agent is enabled, the connectivity agents are disabled as per design.*

4. The SOTI_MQTT_CA certificate is generated while setting up SOTI on prem. The file is named “root.pem” and can be found in /C:/hivemq. Rename “root.pem” to **SOTI_MQTT_CA.pem**. Use the FTP client to copy it to the printer in: **/home/user/certificates/public**.

Note: *You will need to manually upload certificate files for each printer. HCC supports pushing certificate files with .pfx and .cer file types.*

5. Reboot the onboarded printers using HCC.
All Printers should be onboarded to SOTI.

Onboarding Printers to SOTI Connect Over MQTT

Follow these steps to onboard printers to SOTI Connect over MQTT.

1. Configure the current date and time in the printer using the printer web page or PrintSet.
2. Enable the FTP or SSH service in the printer under **Configure > System Settings > Manage Services**.

3. Disable the sleep timer in **Configure > System settings > General**.
4. The SOTI_MQTT_CA certificate is generated while setting up SOTI on prem. The file is named “root.pem” and can be found in /C:/hivemq. Rename “root.pem” to **SOTI_MQTT_CA.pem**. Use the FTP client to copy it to the printer in: **/home/user/certificates/public**.
5. Manually configure the SOTI Agent settings if required. See [MQTT Broker Details](#) on page 2 for details.
6. Go to **System Settings > Manage Services > SOTI Agent**. If **SOTI Agent** is set to “Enable,” set it to “Disable,” save the settings, then re-enable the agent by setting it back to “Enable.”
If **SOTI Agent** is set to “Disable,” set it to “Enable” and save the settings.
When the SOTI Agent is enabled or the printer is rebooted, the printer will connect with the broker, publish the Enroll packet, and respond to other API requests if **Date, Time** and **Root Certificate** are properly configured.
7. Open the following link and enter the Username and Password for SOTI Cloud connect. Credentials will be provided by the SOTI team.
 - SOTI Identity: <https://honeywellglobal.identity.soti.net/>
8. For new device onboarding, allow the device in SOTI Connect. From the navigation menu, select **New Device** then click the Approve button at the bottom of the window.

9. The device will be listed in the dashboard when you select **Devices** in the menu. Select the printer to check the parameters.

Notes

- If you miss any steps, you will need to restart from step 1.
- If you modify the agent by making changes from the printer web page or PrintSet, you must disable and enable the SOTI Agent to utilize the latest configuration.
- When the device disconnects, it will try to reconnect to the broker with an exponential back-off (1 min, 2 min, 4 min, 8 min, 16 min, 32 min, 1 hour).

Onboarding Printers to SOTI over MQTT using SOTI Cloud Application

After verifying the printer configuration, follow these steps.

This procedure is applicable for devices that are already onboarded over HCC to SOTI. If printers are not onboarded, use the HCC Discovery tool to onboard all printers to HCC.

1. Use the HCC Discovery tool to onboard all printers to HCC.
2. Upgrade the printers with the latest firmware using SOTI cloud application.
 - Firmware can be downloaded from honeywell.com/PSSsoftware-downloads.
 - a. Open the SOTI cloud application.
 - b. Upload the firmware file to file store.

- c. Select and push the latest firmware that supports SOTI agent/SOTI Direct Connectivity firmware to all pilot or Honeywell printer models via the SOTI application.
- 3. Update BundleSoticonn.zip. This file contains both MQTT configuration and certificate files that will help to install both to all the pilot printers or Honeywell printers using the SOTI application.
 - a. Locate the BundleSoticonn folder on your computer.
 - b. Navigate to **BundleSoticonn > _homeuser**.
 - c. Create a folder called **certificates**.
 - d. In the certificates folder, create a folder called **public**.
 - e. Copy the file SOTI_MQTT_CA.pem from /C:/hivemq to **public**.
 - f. Go back to the BundleSoticonn folder and create a folder called **config**.
 - g. Copy the SOTI_AGENT_settings.xml file to **config**. Refer to [Sample XML](#) on page 11 if you need to create the SOTI_AGENT_settings.xml file.
 - h. Compress the BundleSoticonn folder to a zip file called BundleSoticonn.zip.

The structure of the BundleSoticonn folder will be:

```
BundleSoticonn
  _homeuser
    certificates
      public > SOTI_MQTT_CA.pem
    config > SOTI_AGENT_settings.xml
```

- i. Open the SOTI cloud application.
- j. Upload the bundle file to file store.

- k. Select and push the config file to all pilot or Honeywell printer models via the SOTI application. This Bundle file will download to the printer and install MQTT configuration settings. The certificate will install to the printer under **/home/user/certificates/public**.
4. Update the SOTI Configuration Settings file on all of the pilot printers using HCC. The file is called Enable_SOTI_AGENT_settings.xml.
Refer to [Sample XML](#) on page 11 if you need to create the Enable_SOTI_AGENT_settings.xml file.
 - a. Open the SOTI cloud application.
 - b. Upload the configuration file to file store.
 - c. Select and push the config file to all pilot or Honeywell printer models via the SOTI application. The config file will download to the printer and enable SOTI agent settings.

Note: *When the SOTI agent is enabled, the connectivity agents are disabled as per design.*

All printers should be onboarded to the SOTI application.

5. Open the following link and enter the Username and Password for SOTI Cloud connect. Credentials will be provided by the SOTI team.
 - SOTI Identity: <https://honeywellglobal.identity.soti.net/>
6. For new device onboarding, allow the device in SOTI Connect. From the navigation menu, select **New Device** then click the Approve button at the bottom of the window.

7. The device will be listed in the dashboard when you select **Devices** in the menu. Select the printer to check the parameters.

Notes

- If you miss any steps, you will need to restart from step 1.
- If you modify the agent by making changes from the printer web page or PrintSet, you must disable and enable the SOTI Agent to utilize the latest configuration.
- When the device disconnects, it will try to reconnect to the broker with an exponential back-off (1 min, 2 min, 4 min, 8 min, 16 min, 32 min, 1 hour).

Sample XML

You can use the following code samples to create the SOTI_AGENT_settings.xml and Enable_SOTI_AGENT_settings.xml files.

SOTI_AGENT_settings.xml

```
<?xml version="1.0" encoding="UTF-8"?>
<DeviceInfo Type="" Family="" Model="" Version="1.0">
<Subsystem Name="Printer" Version="1.0">
<Group Name="Printer Settings">
<Group Name="Network Services">
<Group Name="SOTI Agent">
<Field Name="MQTT Broker Hostname">SCP000750.soticonnect.cloud</Field>
<Field Name="MQTT Port Number">8883</Field>
<Field Name="MQTT QoS">1</Field>
<Field Name="MQTT Tenant ID"></Field>
<Field Name="MQTT TLS Communication">2</Field>
<Field Name="MQTT Keep Alive">60</Field>
<Field Name="MQTT Clean Session">2</Field>
<Field Name="MQTT Broker Username">connect</Field>
<Field Name="MQTT Broker Password">7vPZgOFNx88rVQv1Xi5xAQ==</Field>
</Group>
</Group>
</Group>
</Subsystem>
</DeviceInfo>
```

Enable_SOTI_AGENT_settings.xml

```
<?xml version="1.0" encoding="UTF-8"?>
<DeviceInfo Type="" Family="" Model="" Version="1.0">
<Subsystem Name="Printer" Version="1.0">
<Group Name="Printer Settings">
<Group Name="System Settings">
<Group Name="Manage Services">
<Field Name="SOTI Agent">2</Field>
</Group>
</Group>
</Group>
</Subsystem>
</DeviceInfo>
```

Support

Go to automation.honeywell.com and select **Support** to search our knowledge base for a solution or to log into the Technical Support portal.

Documentation

Product documentation is available at automation.honeywell.com.

Limited Warranty

For warranty information, go to automation.honeywell.com and then select **Support** > **Productivity Solutions** > **Warranties**.

Patents

For patent information, see www.hsmpats.com.

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