

Setting up your Printronix Auto ID printer on SOTI Connect

Subject

This document will help you setup your Printronix Auto ID printers on SOTI Connect.

Printer Firmware Requirements

The minimum firmware required is:	
FILE,PRGM,PTX,T800,CMB-MGL	V1.20D P301002
FILE,PRGM,PTX,T4000,CMB-MGL	V1.19C P301004
FILE, PRGM, PTX, T6, COMBO	V2.20D P301006
FILE,PRGM,PTX,T6e,COMBO	V1.13E P301008
FILE, PRGM, PTX, T8, COMBO	V2.32E P301018

The minimum PrintNet Enterprise software required is: PrintNet Enterprise (PNE) V5.05C P301010

SOTI Connect Information Needed

Before you start, you will need the follow information from SOTI Support:

- MQTT Server IP address
- MQTT Tenant ID
- Token
- Tenant ID
- Certificate file (as needed)

Check the Printer Network Connection

The printer needs to be connected to network to start. Verify the connectivity by either:

- Pinging printer's IP address, or
- Bringing up printer's webpage

Setup Methods

You can setup your printers in one of three ways

- Webpage easy to do but each printer is setup one at a time
- PrintNet Enterprise (PNE) convenient for large printer deployments
- Script best method when raw socket printing, LPR, or FTP is preferred



1. Webpage

To bring up printer's webpage, you can use any web browser and enter printer's IP address. It will ask for the ID and password. ID is 'root' and no password. On the CONFIGURATION page, select MQTT. On the MQTT page, enter MTTT parameters and Certificate as needed.

PR	NTRONI	•	
	auto id	Configuration	
Confi	guration		
To con	figure the Integrated PrintNet En	terprise fill out an	
	Printer:	Printer settings	
	Network:	TCP/IP network :	
	Print Path:	Destination, Mod	
	Print Model:	Shortcut to the p	
	Log Path:	Shortcut to the p	
	TN5250:	TN5250 configur	
	SNMP:	SNMP configural	
	MQTT:	QTT configurat	
	Administration:	Names and pass	
211	Log Path TN5250 SNMP MQTT		
E: These settings only take effect afte	r you reset the Integrated PrintNet Ent	erprise from the Syster	m page.
Connect	TLS Autoconnect		
Keepalive	10 (current value=10)		
Server:	52.0.135.167		(current value=52.0.135.167)
Topic:	SOTICONNECT/clients		(current value=SOTICONNECT/clients)
Port	8883 (current value=8883)		
MQTT Username:			
MQTT Password:			
File Store Password:			
Tenant ID:	02bfda5a55d15f29214b99287a4e62	3f]
omit Clear Form			
CA Certificate			
Install Certificate:	sc20-cert-200306.pem	Choose File No file of	chosen Install Remo
pfx File			



2. PrintNet Enterprise

Here is an excerpt from PrintNet Enterprise (PNE) User's Manual.

Overview

The purpose of this tool is to help users install MQTT configurations on multiple printers for SOTI Connect. This tool allows users to set MQTT configuration parameters such as the host address, port number, topic string, and tenantID. Users can also download the required certificate files to establish a connection with the server. Lastly, this tool allows you to view the current MQTT configuration for printers listed in the MQTT Printer List.

Instructions

- 1. To open the MQTT Setup tool click "Utilities > MQTT Setup".
- 2. Go to the main PNE window and select the desired printers.
- 3. Go back to the MQTT Setup window and click the add button at the bottom.
- 4. Confirm that your selected printers are displaying in the MQTT Printer List.
- 5. Under the MQTT Server Configuration section, enter the appropriate parameters for the MQTT server setup. Note: The host field and port field are required parameters.
- 6. Under the Certificate Files section, select the appropriate cert files for each cert that is needed.
- Note: To download the cert files, the ASCII Data port must be set to 9100.
- 7. Under the MQTT Printer List, select the desired checkboxes for each printer. You can double-click the column headers to select/unselect all checkboxes in a column.
- 8. Once you are satisfied with your selections click the Start button to begin the MQTT setup process. If any missing fields are found, make sure to fill them in, and click start again.
- 9. Once the setup process is complete for a printer, that printer will reboot so the changes can take effect immediately. After the reboot a success message will display to let you know the setup is done for that printer.
- Note: All printers must be online for the MQTT setup to work properly.

User Interface

🔇 MQTT Setup						_]	\times
MQTT Server Configurat	tion								
Host:		Username:			TenantID:				
Port: 1883		Password:			Auto Conne	ct 🗌	TLS		
Topic: SOTICONNE	CT/clients	Keepalive:	60		Enable MQT	т			
Certificate Files									
MQTT Cert File:						Brov	wse		
Use MQTT Cert Fi	ile For File Stor	e							
Printer Cert:						Brow	wse		
Private Key:						Brow	wse		
File Store Cert:						Brow	wse		
MQTT Printer List									
Printer		Status		MQTT Config	Cert File Print	er Cert	Private K	ey File s	Store
Add Remove	Clear Prop	perties						Start	Abort

Figure 1 MQTT Setup UI

The functionality for the user interface is broken up into three sections: MQTT Server Configuration, Certificate files, and MQTT Printer List.

MQTT Server Configuration

The MQTT Server Configuration section allows users to specify the following parameters: host, port, topic, username, password, keepalive, tenantID, Auto connect, enable/disable MQTT, TLS. By default, the port number is set to 1883, the topic string is set to SOTICONNECT/clients, and the keepalive value is set to 60. In addition, auto connect is enabled and MQTT will be enabled. The host address and port number are required parameters for the setup process.

MQTT Server Configuration		
Host:	Username:	TenantiD:
Port: 1883	Password:	✓ Auto Connect □ TLS
Topic: SOTICONNECT/	clients Keepalive: 60	C Enable MQTT





Certificate Files

The Certificate files section allows users to specify which cert file, printer cert, private key, and file store cert they want included in the setup process. When browsing for a cert file, the file browser will display ".pem" files. The printer can take .pem or .crt certificate file. MQTT server may require either one certificate or 3 certificate files. MQTT Cert File is CA file. Printer Cert is client cert file and Private key is client private key file. For printer to access File Store it requires to have a File Store certificate.

Certificate Files		
MQTT Cert File:		Browse
Use MQTT Cert	File For File Store	
Printer Cert:		Browse
Private Key:		Browse
File Store Cert:		Browse

Figure 3 Certificate Files

The checkbox "Use MQTT Cert File For File Store" means that the MQTT Cert File and the File Store Cert file use the same certificate as seen below.

Certificate Files		
MQTT Cert File:	C:\P301010\sc20-cert-0306.pem	Browse
🗹 Use MQTT Cert	File For File Store	
Printer Cert:		Browse
Private Key:		Browse
File Store Cert:	C:\P301010\sc20-cert-0306.pem	Browse

Figure 4 Use MQTT Cert for File Store



MQTT Printer List

Printer	Status	MQTT Config	Cert File	Printer Cert	Private Key	File Store
-9079cd (192.168.1.17)	Idle	✓ ✓	V			V
-90a331 (192.168.201.197)	Idle	\checkmark	\checkmark			\checkmark

Figure 5 MQTT Printer List

The MQTT Printer List section is where users add the desired printers for setting up the MQTT connection. There are six buttons at the bottom of the window and the first four buttons are for manipulating the printer list. The add button allows you to add printer(s) to the list. This is done by going to the main PNE window and selecting the desired printers for the setup process. Once you have selected the printers, go back to the MQTT Setup window, and click the add button. All the selected printers should now be visible in the MQTT Printer List.

The remove button allows you to remove printer(s) from the printer list. This is done by selecting the desired printer(s) for removal from the list and clicking remove. The clear button is like the remove button and will remove all printers from the printer list. The properties button allows you to view the current MQTT configuration for a selected printer. A separate window will popup that shows the current MQTT Parameters set for the printer.

🚯 MQTT Config for	P-90a331	—	\times
list mqtt CURRENT MQTT PARAMET host. 52.0.135.167 port. 8883 topic: SOTICONNEC username: password: keepalive: 10 connect: tls = 1 MQTT certfile: sc20-cert- MQTT certfile: sc20-cert- MQTT certfile: goddroot- File Store certfile: goddroot- File Store certfile: goddroot- tenantID: 02bfda5a55 autoconnect: ENABLED	ERS 2T/clients 0306.pem sc15.pem id15f29214b99287a		

Figure 6 Current MQTT Config



The start and abort buttons are related to the actual setup process. The start button allows you to start the setup process and the abort button allows you to stop an active setup process. Before the process beings, we check to make sure that all the required fields have been provided. If not, then an error message will popup alerting the user to the missing fields.

💱 MQTT Setup Utility							\times
QTT Server Configuration							
Host	Username	e:		TenantID:			
Port: 1883	Password	:		🗹 Auto Cor	nnect 🗌	TLS	
Topic: SOTICONNECT/clients	Keepalive	60		🗹 Enable I	ΝΩΤΤ		
ertificate Files							
MQTT Cert File:	tore				Bro	wse	
	lore				Due		
Printer Cert:					Bro	wse	
Private Key:					Bro	wse	
File Store Cert:					Bro	wse	
File Store Cert:					Bro	wse	
QTT Printer List	Status		MQTT Config	Cert File F			File Store
2 TT Printer List Printer P-9079cd (192.168.203.83)	Idle				Printer Cert	Private Key	
2TT Printer List Printer P-9079cd (192.168.203.83) P-90a331 (192.168.201.197)			MQTT Config	Cert File F			File Store
2TT Printer List Printer P-9079cd (192.168.203.83) P-90a331 (192.168.201.197)	ldle Idle		✓ ✓	✓ ✓	Printer Cert	Private Key	
2TT Printer List Printer P-9079cd (192.168.203.83) P-90a331 (192.168.201.197)	ldle Idle	ΜΩΤΤ Co	X X	✓ ✓	Printer Cert	Private Key	
	ldle Idle		X X	V V	Printer Cert	Private Key	
2TT Printer List Printer P-9079cd (192.168.203.83) P-90a331 (192.168.201.197)	ldle Idle		v v ⊡	V V	Printer Cert	Private Key	

Figure 7 MQTT Config Error

Each list item contains the printer name and IP address, printer status, and 5 checkboxes. The printer status column provides messages that tell the user what is happening throughout the setup process for each printer. At the start of the setup process, we check to make sure that each printer is online. If the printer is not online or we cannot establish a connection, then the printer status will display a failure message ("Fail: Printer Offline"). If you get this message, check to ensure that printer is online and has a network connection. If everything works out and the printer has rebooted and established a connection, you will see a success message ("Success: MQTT Setup") letting you know the process completed without issue.

Each checkbox coincides with a specific part of the setup. The MQTT Config checkbox corresponds to the MQTT Server Configuration section. The Cert File checkbox is associated with the MQTT Cert File field under the Certificate Files section. The Printer Cert checkbox is associated with the Printer Cert field. The Private key checkbox is associated with the private key field and the file store checkbox is associated with the File Store Cert field.

Note: You can double-click the column headers in the printer list(MQTT Config, Cert File, Printer Cert, Private Key, File Store) and all the checkboxes will be selected/unselected.



QTT Printer List						
Printer	Status	MQTT Config	Cert File	Printer Cert	Private Key	File Store
P-9079cd (192.168.1.17)	Idle	V	\checkmark			v
P-90a331 (192.168.201.197)	Idle	\checkmark	\checkmark			\checkmark

Figure 8 Column Headers

3. Script File

The printer can be configured by sending a script file to the printer using raw socket printing, LPR, or FTP. The script is written in PTX_SETUP.

Non-secured MQTT Connection

- 1. Make a script file to setup SOTI. Below is the sample and explanation of the script file.
- 2. Send the script file to the printer using raw socket printing, LPR, or FTP.

!PTX_SETUP NIC_SETUP store mqtt server <IP address> store mqtt port 1883store mqtt topic SOTICONNECT/clients store mqtt connect -tls store mqtt tenantID <tenant ID> enable mqtt store net ntp add 129.16.15.28 store net ntp add 128.138.140.50 store net ntp add 204.62.12.123 store net ntp timezone -7 reset PTX_END END_NIC_SETUP

IP address is the MQTT broker IP address =1883 if non-secured port, =8883 if secured port Blank if no topic. = SOTICONNECT/clients If using SOTI =-tls if not secured connect, =tls if secured connect Tenant ID is provided by SOTI Turn on MQTT protocol. Internet time server 1 Internet time server 2 Internet time server 3 Setup Time Zone for the printer Reset the printer

NOTE: You will get the MQTT server IP address and port number from the IT person who sets up MQTT server.



Secured MQTT Connection

Because this is secured MQTT connection, you will need to load certificate first to start the setup. You will get the security certificate from the IT person who sets up MQTT server. Use PrintronixAutoID FileUtility.exe (download from Printronix Auto ID Support > Downloads website) to build a file to send to printer as a script. If you are using File Store to load files from, you will need certificate for accessing File Store. You can get File Store certificate from the IT person.

3. Run FileUtility.exe and click Actions -> SOTI Certificates



4. Navigate to the folder that holds the certificate file click Open followed by clicking Create button.

4 Soti Certificates							
< <optional>></optional>	MQTT Cert File						
< <optional>></optional>	File Store File						
< <optional>></optional>	Printer Cert File	Open	_	•	✓ Search I	Ainate	<u>× </u>
< <optional>></optional>	Private Key File	Organize New folder		•	· · ·	es -	
Cancel	Create	Favorites Favorites Complete Computer Computer Solution File name: File	Contacts My Documents Searches	Desktop Desktop My Music	Downloads Wy Pictures	Favorites Favorites My Videos	Links Saved Games
		inc nume.			Open		Cancel

- 5. Enter the file name for the output file.
- 6. Send the output file to the printer using raw socket printing, LPR, or FTP.
- 7. Make a script file to setup SOTI. Below is the sample and explanation of the script file.



- 8. Send the script file to the printer using raw socket printing, LPR, or FTP.
- !PTX_SETUP NIC_SETUP store mqtt server <IP address> store mqtt port 8883 store mqtt topic SOTICONNECT/clients store mqtt connect tls store mqtt tenantID <tenant ID> enable mqtt store net ntp add 129.16.15.28 store net ntp add 128.138.140.50 store net ntp add 204.62.12.123 store net ntp timezone -7 reset END_NIC_SETUP PTX_END
- IP address is the MQTT broker IP address =1883 if non-secured port, =8883 if secured port Blank if no topic. = SOTICONNECT/clients if using SOTI =-tls if not secured connect, =tls if secured connect Tenant ID is provided by SOTI Turn on MQTT protocol. Internet time server 1 Internet time server 2 Internet time server 3 Setup Time Zone for the printer Reset the printer

NOTE: You will get the MQTT server IP address and port number from the IT person who sets up MQTT server.