



**Hewlett Packard  
Enterprise**

## **HPE Edgeline IoT Quick Connect Setup Guide**

### **Abstract**

This document is for the person who installs, administers, and troubleshoots servers and storage systems. Hewlett Packard Enterprise assumes you are qualified in the servicing of computer equipment and trained in recognizing hazards in products with hazardous energy levels.

Part Number: P22042-001  
Published: September 2019  
Edition: 1

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# Introduction

HPE Edgeline IoT Quick Connect enables industrial and manufacturing companies to perform the following:

- Easily connect new and legacy equipment in their facilities or plants
- Extract and correlate data
- Apply analysis to operational intelligence
- Generate the meaningful insights they require to modernize production lines, gain efficiencies, and tap into new revenue with existing equipment

HPE Edgeline IoT Quick Connect includes simple, out-of-the-box hardware (HPE Edgeline EL300 Converged Edge System) and intuitive software (HPE Edgeline OT Link Platform) plus Microsoft Azure. These features enable plant managers to quickly and cost-effectively identify the following opportunities:

- Improve the quality of manufactured goods
- Minimize defects
- Optimize equipment performance
- Streamline processes
- Increase profits

This guide explains the steps to quickly get up and running with your new Edgeline EL300 Converged Edge System HW, Edgeline OT Link Platform SW, and Microsoft Azure IoT Hub. Watch how a typical multi-day setup activity can be compressed to a mere 4 hours through the tight integration engineered by HPE and Microsoft. The Edgeline IoT Quick Connect solution bundle prices start at \$4700.00. Contact HPE sales for details.

## Setting up Edgeline IoT Quick Connect

Complete the following steps to set up Edgeline EL300 Converged Edge System HW, Edgeline OT Link Platform SW, and Microsoft Azure IoT Hub for IoT Quick Connect.

1. **Select Edgeline EL300 configuration**
2. **Installing HPE Edgeline OT Link**
3. **Activate the HPE Edgeline OT Link license**
4. **Activate the HPE iSM Advanced license**
5. **Purchasing and installing the Microsoft Azure license**
6. **Set up Microsoft Azure**
7. **Connect HPE Edgeline OT Link to Microsoft Azure**
8. **Verify data flow to Microsoft Azure**

# Select Edgeline EL300 configuration

The first step to becoming connected is understanding the equipment from which data is being gathered, and then selecting the appropriate hardware. The following questions can help you decide the correct configuration for your operations.

- What is the equipment that you are trying to connect and collect data from?
- What data will be collected and analyzed from the equipment?
- Is the data analog, discrete, or does it come from a communication protocol?
- Does the data transmit over RJ45, RS232, RS485, RS422, CAN, Analog, or DIO interface?
- What data that has been collected do you want to analyze locally or send to a private or public cloud?

The Edgeline EL300 is a high performance, rugged, enterprise-class system. As the central hardware for the IoT Quick Connect, it has a standard base configuration and four HPE Edgeline OT Link certified modules to select from based on the devices to be connected. Edgeline OT Link Platform SW has built-in support for several industrial devices, protocols, database, and cloud connectors. It also hosts local workflows and containerized applications. Edgeline OT Link Platform SW offers two base license choices depending on user preference for perpetual SW licenses or annual subscriptions.

## Step 1: Selecting the base unit



The Edgeline EL300 base unit contains all that is required to connect to Ethernet-based protocols. This base unit provides two RJ45 Ethernet ports and one standard RS232 to connect to industrial devices plus the opportunity to include one of four daughter card options. The following table lists a recommended configuration. To view the full list of system options that you can order from HPE, see [HPE Edgeline EL300 Converged Edge System QuickSpecs](#).

**Table 1: Base Edgeline EL300 Configuration**

Product Name	SKU	Quantity
HPE EL300 Converged Edge System	P06211-B21	1
HPE EL300 Intel Core i5-7300U FIO Kit	P04291-B21	1
HPE EL 8GB 2Rx8 DDR4-2666V-R FIO Kit	P09176-B21	2
HPE EL300 12VDC FIO Transfer Board	P08120-B21	1
HPE EL300 80W 12VDC Power Supply	P08641-B21	1
HPE EL 512GB SATA RI M.2 2280 WT DS SSD	P08540-B21	1
HPE EL WiFi/BT Intel AC9260 Opt Kit	P06088-B21	1
HPE C13- Nema 5-15P USA/CA 110V 10Amp 1.83m Power Cord	AF556A	1
HPE Edgeline EL300 iSM Advanced 3yr 24x7 Support and Updates E-LTU	R1P49AAE	1

## Step 2: Selecting the HPE Edgeline OT Link-certified daughter card (Optional)

Select **one** (1) optional daughter card depending on the device and protocol your device communicates with. All the modules are optically isolated to deliver the highest level of system protection when connecting to industrial equipment.

**Table 2: Edgeline EL300 OT Link daughter card options**

Application	Product Name	SKU	Quantity
Ethernet based protocols over TCP/IP, with support for Time Sensitive Networking (TSN)	HPE EL300 1GbE 4-port TSN FIO Dau Card	P03456-B21	1
Serial protocols that communicate over RS232, 422, 485 interfaces	HPE EL300 2xRS232/422/485 FIO Dau Card	P03452-B21	1

*Table Continued*

8-bit configurable Digital I/O (DIO)	HPE EL 1x8 GPIO DIO FIO Dau Card Kit	P04060-B21	1
CAN protocols using CAN A/B/FD	HPE EL300 2xCAN Bus A/B/FD FIO Dau Card	P03448-B21	1



### Step 3: Selecting the HPE Edgeline OT Link Platform license

HPE Edgeline OT Link Software bridges the gap between data in the field or factory and business applications for companies looking to implement Industrial Internet of Things (IIoT) solutions and enable simple, fast, and predictable IIoT implementations. The different Edgeline industrial software and hardware components work seamlessly together to allow companies to access and exploit data previously trapped inside industrial equipment, no matter where or when it has been deployed. It also offers data and device management so companies can optimize both how their business is run and how the businesses of their customers operate.

HPE Edgeline OT Link simplifies deployment and management of OT converged with IT in a secure and reliable way.

- Fast: Rapid Converged OT+ IT deployment with one-touch provisioning.
- Simple: Orchestrate OT+ IT applications on edge optimized infrastructure in just a few clicks.
- Secure: Protect Converged OT+ IT with integrated security and enterprise-class reliability.

**Table 3: HPE Edgeline OT Link Platform SW license options - Select one**

Description	Product Name	SKU	Quantity
Annual OT Link License with 1 year of HPE support	HPE EL OT Link 1Sys 1yr Sup An E-LTU	R2E13AAE	1
Perpetual OT Link License with 3 years of HPE support	HPE Edgeline OT Link Platform 1 System 3yr Support Perpetual E-LTU	R2E10AAE	1

Licenses for additional endpoint devices and tags can also be ordered. HPE Edgeline Workload Orchestrator provides the means to manage the activities of multiple HPE Edgeline Converged Edge Systems running HPE Edgeline OT Link Platform software. For more information, see [HPE Edgeline OTLink Software QuickSpecs](#).

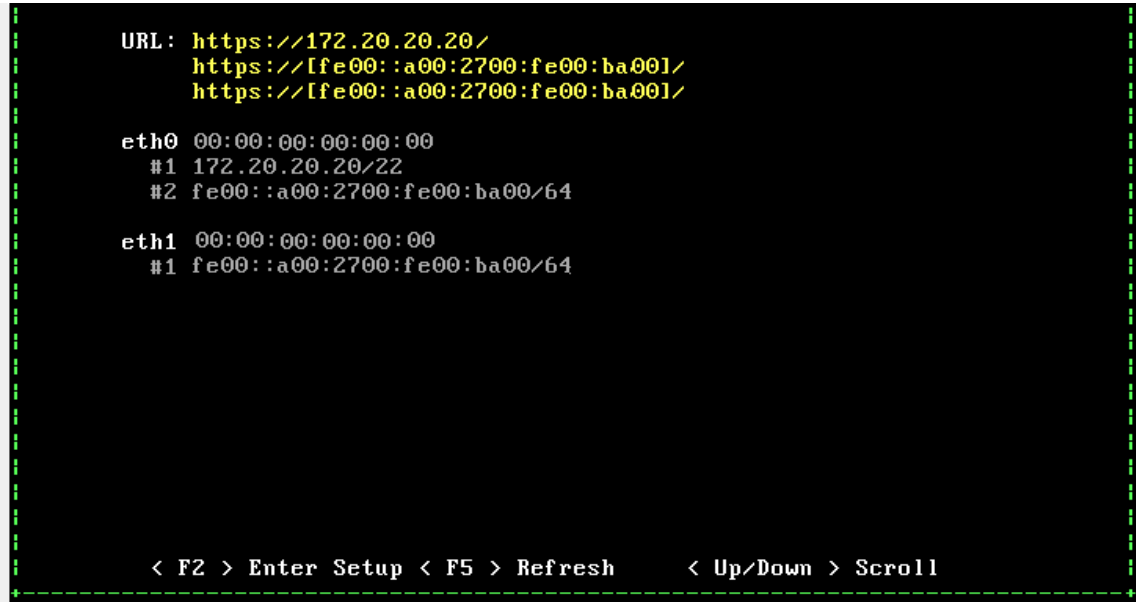
### Step 4: Ordering Edgeline EL300 iSM Advanced and HPE Edgeline OT Link licenses

Order Edgeline EL300 iSM Advanced and HPE Edgeline OT Link licenses through your HPE sales representative until the Edgeline IoT Quick Connect is available to order in the HPE store in late 2019.

# Installing HPE Edgeline OT Link

## Procedure

1. Determine if OT Link Platform is installed on Edgeline EL300.
  - a. Connect the DisplayPort or HDMI cable to the Edgeline EL300.
  - b. Connect the power cord to the Edgeline EL300.
  - c. Power up the Edgeline EL300 by pressing the Power on button.
  - d. If OT Link Platform is installed, a screen similar to the following screen is displayed.



```
URL: https://172.20.20.20/  
      https://[fe00:a00:2700:fe00:ba001/  
      https://[fe00:a00:2700:fe00:ba001/  
  
eth0 00:00:00:00:00:00  
    #1 172.20.20.20/22  
    #2 fe00:a00:2700:fe00:ba00/64  
  
eth1 00:00:00:00:00:00  
    #1 fe00:a00:2700:fe00:ba00/64  
  
< F2 > Enter Setup < F5 > Refresh < Up/Down > Scroll
```

2. If a similar screen is not displayed, OT Link Platform must be downloaded from the HPE Support Center website and installed.
  - a. Go to **HPE Support Center**, sign in, and search for "OT Link Platform."
  - b. Download the OT Link Platform iso file from the appropriate download page.
  - c. Follow the installation steps found at **Install OT Link Platform**.



# Activate the HPE Edgeline OT Link license

To register, activate, and install the HPE Edgeline OT Link license, see *Registering and redeeming a license key* and *Installing an HPE Edgeline OT Link License* in the **HPE Edgeline IoT and Converged Edge Systems Licensing Guide**.

For additional information, review the following:

- **HPE Edgeline IoT and Converged Edge Systems Licensing Guide**
- **HPE Edgeline OT Link Platform License Key Installation Instructions**
- **HPE OT Link Platform and HPE Workload Orchestration Reference Guide**
- **My License Portal**

# Activate the HPE iSM Advanced license

To register, activate, and install the HPE EL300 iSM Advanced license, see *Registering and redeeming a license key and Installing an Edgeline iSM License* in the **HPE Edgeline IoT and Converged Edge Systems Licensing Guide**.

For additional information, review the following:

- **HPE Edgeline IoT and Converged Edge Systems Licensing Guide**
- **HPE Edgeline Integrated System Manager - License Key Installation Instructions**
- **My License Portal**

# Purchasing and installing the Microsoft Azure license

You must have a Microsoft Azure subscription to access the HPE Edgeline IoT Quick Connect cloud dashboards. HPE is an Azure Cloud Service Provider (CSP) and provides cost-effective and transparent pricing, with full enterprise class support, to get you enabled quickly.

## Procedure

1. Open the HPE Foundation Care for Azure IoT SOW document.



Document (2)

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[HPE\\_FOUNDATION\\_CARE\\_FOR\\_AZURE\\_IOT\\_SOW\\_R2E10-96001.PDF](#) (475.88 KB)

2. Go to the **Price and Payment** section and review the information and URLs to purchase and install Microsoft Azure.

# Set up Microsoft Azure

## Procedure

1. Get a Microsoft Azure Account.

Go to the **Microsoft Azure subscription page** and create a Microsoft Azure account.

2. Create an IoT hub.

- a. Log in to Microsoft Azure.
- b. Follow the steps to **create an IoT hub**.

3. Create an IoT device.

- a. Browse to **Home/All Resources** in Microsoft Azure.
- b. Click the IoT Hub that you created.
- c. Click **IoT Devices**.
- d. Click **Add**.
- e. Enter a name for the device and click **Save**.  
Your device must now be listed.
- f. Click the newly created device.
- g. Copy the **Primary Key** and save it.

The Primary Key is the access key required by HPE Edgeline OT Link to authenticate its connection.

# Connect HPE Edgeline OT Link to Microsoft Azure

## Procedure

### 1. Connect to the HPE Edgeline OT Link GUI

Boot to Edgeline OT Link.

- a. Connect the DisplayPort or HDMI cable to Edgeline EL300.
- b. Connect the power cord to Edgeline EL300.
- c. Power up Edgeline EL300 by pressing the Power on button.
- d. On a different computer, open a web browser and browse to the following URL: `https:// 172.20.20.20/`

- Default username: admin
- Default password: otlink

If prompted, enter a new password that will be used whenever logging in.

### 2. Connect Edgeline OT Link to the data device

- a. Log in to Edgeline OT Link.
- b. Click **Device Hub**, and then click **Devices**.
- c. Click the **+** symbol to add a device.
- d. From the drop-down list, select the device to add.
- e. Enter the relevant information, and then click **Add Device**.

### 3. Create tags

- a. Click the **+** button at the top-right corner to add a tag.
- b. From the drop-down list, select the device that you created.
- c. Enter the relevant information, and then click **Add Tag**.

### 4. Add Azure Integration

- a. Select the Integrations icon.
- b. Click the **+** button at the top-right corner to add an integration.
- c. Select the appropriate provider.
- d. Enter the relevant information as follows:
  - Name: *<For example, the name of your Azure IoT Hub>*
  - Hostname: *<The FQDN of your Azure IoT Hub>*
  - DeviceID: *<The device ID of the Azure IoT Hub device>*

- Key: *<The device primary key from Azure>*
- Topic: *devices/<DeviceID>/messages/events*

e. Click **OK**.

## 5. Create Edgeline OT Link Flow

a. Select the flows icon from the menu and click **Go to Flows**.

A new tab with the flow editor is displayed.

b. Scroll down to **HPE\_Edgeline** and drag a **Databhub Connect** object to the flow editor.

c. Click the pencil icon.

The following information is auto-populated:

- IP: 127.0.0.1
- Port: 4222

d. Save the settings.

The state reported is "waiting for message..." After a message is received, the state changes to **Connected**.

e. Use nodes to manipulate data as required.

f. Scroll down to **HPE\_Edgeline** and drag a Databhub Publish object to the flow editor.

g. Double-click the Datahub node and ensure that the data hub connection matches the input hubs created earlier.

h. Enter the following parameters:

- Topic: *<This topic must match the value you created when setting up OT Link Azure Integration>*.
- Name: *<Required name>*

i. Save the flow.

# Verify data flow to Microsoft Azure

## Procedure

1. Download Microsoft Azure Device Explorer.
2. Open Device Explorer.
3. On the **Configuration** tab, enter the connection string from the IoT Hub and click **Update**.
4. On the **Management** tab, click **List**, and then click the device ID that you created.
5. On the **Data** tab, click **Monitor** to see data flowing to the IoT hub.

You have now successfully connected your Edgeline EL300 to your device.

For more information on EL300 and OT Link instructions, see the [\*\*OT Link Platform Getting Started Guide\*\*](#).

# Websites

## **General websites**

### **Hewlett Packard Enterprise Information Library**

**[www.hpe.com/info/EIL](http://www.hpe.com/info/EIL)**

### **Hewlett Packard Enterprise Edgeline Documentation**

**[www.hpe.com/info/edgeline-docs](http://www.hpe.com/info/edgeline-docs)**

### **Hewlett Packard Enterprise Edgeline Information**

**[www.hpe.com/info/edgeline](http://www.hpe.com/info/edgeline)**

### **Hewlett Packard Enterprise OT Link and Workload Orchestrator Information**

**<http://www.hpe.com/info/OTLink-WO-FAQ>**



# Support and other resources

## Accessing Hewlett Packard Enterprise Support

- For live assistance, go to the Contact Hewlett Packard Enterprise Worldwide website:  
<http://www.hpe.com/info/assistance>
- To access documentation and support services, go to the Hewlett Packard Enterprise Support Center website:  
<http://www.hpe.com/support/hpesc>

### Information to collect

- Technical support registration number (if applicable)
- Product name, model or version, and serial number
- Operating system name and version
- Firmware version
- Error messages
- Product-specific reports and logs
- Add-on products or components
- Third-party products or components

## Accessing updates

- Some software products provide a mechanism for accessing software updates through the product interface. Review your product documentation to identify the recommended software update method.

- To download product updates:

### Hewlett Packard Enterprise Support Center

[www.hpe.com/support/hpesc](http://www.hpe.com/support/hpesc)

### Hewlett Packard Enterprise Support Center: Software downloads

[www.hpe.com/support/downloads](http://www.hpe.com/support/downloads)

### Software Depot


[www.hpe.com/support/softwaredepot](http://www.hpe.com/support/softwaredepot)

- To subscribe to eNewsletters and alerts:

[www.hpe.com/support/e-updates](http://www.hpe.com/support/e-updates)

- To view and update your entitlements, and to link your contracts and warranties with your profile, go to the Hewlett Packard Enterprise Support Center **More Information on Access to Support Materials** page:

[www.hpe.com/support/AccessToSupportMaterials](http://www.hpe.com/support/AccessToSupportMaterials)

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-  **IMPORTANT:** Access to some updates might require product entitlement when accessed through the Hewlett Packard Enterprise Support Center. You must have an HPE Passport set up with relevant entitlements.
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## Customer self repair

Hewlett Packard Enterprise customer self repair (CSR) programs allow you to repair your product. If a CSR part needs to be replaced, it will be shipped directly to you so that you can install it at your convenience. Some parts do not qualify for CSR. Your Hewlett Packard Enterprise authorized service provider will determine whether a repair can be accomplished by CSR.

For more information about CSR, contact your local service provider or go to the CSR website:

<http://www.hpe.com/support/selfrepair>

## Remote support

Remote support is available with supported devices as part of your warranty or contractual support agreement. It provides intelligent event diagnosis, and automatic, secure submission of hardware event notifications to Hewlett Packard Enterprise, which will initiate a fast and accurate resolution based on your product's service level. Hewlett Packard Enterprise strongly recommends that you register your device for remote support.

If your product includes additional remote support details, use search to locate that information.

### Remote support and Proactive Care information

#### HPE Get Connected

[www.hpe.com/services/getconnected](http://www.hpe.com/services/getconnected)

#### HPE Proactive Care services

[www.hpe.com/services/proactivecare](http://www.hpe.com/services/proactivecare)

#### HPE Proactive Care service: Supported products list

[www.hpe.com/services/proactivecaresupportedproducts](http://www.hpe.com/services/proactivecaresupportedproducts)

#### HPE Proactive Care advanced service: Supported products list

[www.hpe.com/services/proactivecareadvancedsupportedproducts](http://www.hpe.com/services/proactivecareadvancedsupportedproducts)

#### Proactive Care customer information

##### Proactive Care central

[www.hpe.com/services/proactivecarecentral](http://www.hpe.com/services/proactivecarecentral)

##### Proactive Care service activation

[www.hpe.com/services/proactivecarecentralgetstarted](http://www.hpe.com/services/proactivecarecentralgetstarted)

## Warranty information

To view the warranty information for your product, see the links provided below:

#### HPE ProLiant and IA-32 Servers and Options

[www.hpe.com/support/ProLiantServers-Warranties](http://www.hpe.com/support/ProLiantServers-Warranties)

#### HPE Enterprise and Cloudline Servers

[www.hpe.com/support/EnterpriseServers-Warranties](http://www.hpe.com/support/EnterpriseServers-Warranties)

#### HPE Storage Products

[www.hpe.com/support/Storage-Warranties](http://www.hpe.com/support/Storage-Warranties)

#### HPE Networking Products

[www.hpe.com/support/Networking-Warranties](http://www.hpe.com/support/Networking-Warranties)

## Regulatory information

To view the regulatory information for your product, view the *Safety and Compliance Information for Server, Storage, Power, Networking, and Rack Products*, available at the Hewlett Packard Enterprise Support Center:

[www.hpe.com/support/Safety-Compliance-EnterpriseProducts](http://www.hpe.com/support/Safety-Compliance-EnterpriseProducts)

### **Additional regulatory information**

Hewlett Packard Enterprise is committed to providing our customers with information about the chemical substances in our products as needed to comply with legal requirements such as REACH (Regulation EC No 1907/2006 of the European Parliament and the Council). A chemical information report for this product can be found at:

**[www.hpe.com/info/reach](http://www.hpe.com/info/reach)**

For Hewlett Packard Enterprise product environmental and safety information and compliance data, including RoHS and REACH, see:

**[www.hpe.com/info/ecodata](http://www.hpe.com/info/ecodata)**

For Hewlett Packard Enterprise environmental information, including company programs, product recycling, and energy efficiency, see:

**[www.hpe.com/info/environment](http://www.hpe.com/info/environment)**

## **Documentation feedback**

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