



frequently asked QUESTIONS

Belden Horizon™



What is Belden Horizon™?

Belden Horizon helps users make the most of the Industrial Internet of Things. It is a secure, cloud-native platform that allows you to monitor connected industrial automation devices from anywhere in the world. As more applications for the Industrial Internet of Things develop, we will add more features to the service to help you realize the full value of the IIoT in your operation.

Which ProSoft Technology products are required to use this platform?

Belden Horizon currently supports ProSoft Technology's ICX35-HWC Industrial Cellular Gateway and PLX35-NB2 Wired Network Bridge.

How can I be sure Belden Horizon is secure?

The platform is extremely secure. It does not require user-installed software, a component in other systems that hackers can exploit. Instead, two-factor authenticated users access the service through a Web browser on any computer. App-based two-factor authentication complying with RFC 6238 and RFC 4226 allows Belden Horizon users to avoid weaker verification methods such as text-message codes. Industry-standard HTTPS access ensures that your connection stays secure. The service runs on Amazon Web Services, utilizing state-of-the-art cloud security technology. In addition, Belden Horizon uses certificates and one-time-use keys to authenticate the gateways you add to the platform. This reduces the possibility of rogue gateways, compared to when only one type of authentication is used. With these precautions, you can be sure that your devices and communications network are kept private. We use on-going third-party white-hat testing on the cloud service and gateway products to ensure the entire system stays secure. Please refer to the product datasheet for more information on the multiple security features available in Belden Horizon.

What if my remote location does not have wired internet access? Can it still be monitored through Belden Horizon?

Absolutely. Our ICX35 Cellular modem uses 4G LTE cellular technology with 3G fallback, ensuring a longer service life and the broadest coverage areas around the world. In the USA, ProSoft Technology can activate your gateway to connect to the Verizon or AT&T network out of the box. This helps you avoid carrier delays and ensures your gateway is ready for immediate use!

How long does it take to set up Belden Horizon for the first time?

Setting up Belden Horizon is a fairly painless process. Just go to www.belden.io, where you can take a tour of the system and/or chat with our experts. This tour takes you through the process of creating an Organization (administration set up) and adding devices and team members to your organization. The intuitive interface is based on interviews conducted with over 100 customers.

How do I use the service to connect to my remote automation devices?

Belden Horizon uses our EasyBridge™ technology to create a Layer 2 VPN connection to your devices. This makes your remote connections work essentially the same as when your computer is connected to a local switch. Your PC gets an IP address on the remote network, allowing standard PLC programming software tools to work without dealing with network routing.

What is the difference between cellular and EasyBridge data?

Carrier Cellular Data Plan – Anyone using a cellular device of any kind needs a data plan with a carrier. We offer such plans for our U.S. customers on either AT&T or Verizon networks. The plans we offer can be used for any purpose.

EasyBridge Data Limits – Within our Belden Horizon service, customers can use the VPN feature that we call EasyBridge to connect to their remote locations. We limit the usage of this cloud-based VPN to a certain amount of data per gateway per month, since data transfer through the cloud costs money. The EasyBridge data limit is independent of whatever carrier service plan the customer has.

Differences – The EasyBridge data limit ONLY applies to usage of the VPN service. The carrier data applies to all data that cellular devices transfer to and from the carrier network. These two values will almost never be the same for a given month.

What do I do if I have questions about Belden Horizon?

Belden Horizon features an intuitive user interface with help tutorials to guide you through most tasks you will perform. If you ever get stuck, there is also a built-in Support chat function that lets you ask questions directly to ProSoft Technology technical support from within the Belden Horizon user interface.

Do you have a list of compatible PLC models and software?

Our innovative EasyBridge connection technology in Belden Horizon eliminates the need for special software drivers or compatibility checks that other remote access services use. If you can connect the software to a PLC when you're on the same switch, you will be able to connect the same software to that PLC over the Belden Horizon EasyBridge connection!

The Support function in Belden Horizon is really convenient, but does that mean ProSoft Technology is monitoring my account?

The Support function in Belden Horizon is a powerful communication tool designed to deliver the best possible user experience, and make sure you can get the most out of Belden Horizon. Some actions you take in the Belden Horizon service will trigger notifications from the communications tool, but ProSoft Technology does not have access to any of your process data. In fact, we store only a minimal amount of user data to manage the account, such as user name and email.

How much data will I need for Belden Horizon? Is 1GB of VPN data enough?

Your data requirements depend on your application and how you use the service. The Belden Horizon Standard plan includes 1GB of EasyBridge VPN data per month, although you will still need a cellular data plan if you are using ICX35-HWC cellular gateways. You should consider your data requirements in three components: idle device usage, VPN overhead, and application data. Your device will use a small amount of data in idle as it maintains its connection with the Belden Horizon service. This "keep alive" function will use approximately 25MB per month, and does not count against your EasyBridge VPN usage. When you open an EasyBridge VPN connection to your remote PLC system, the VPN protocol requires some data to maintain the encrypted, secure connection to the device. This protocol overhead consumes an average of 16.8kB per minute while the EasyBridge connection is open. Finally, you will transfer data back and forth over the EasyBridge connection. This is your application data, such as your PLC program or HMI application. The amount of this type of data required depends on your application. To estimate your monthly cellular and EasyBridge VPN data usage, consider how often you expect to connect to your remote equipment, how long you typically need to be online with the equipment, and the size of the application files that you typically monitor and transfer to your remote equipment.

What is included in the free Standard Belden Horizon Plan?

The Standard Belden Horizon Plan allows you to add an unlimited number of remote gateways. You can add up to 12 team members, as well. Each gateway includes 1GB of EasyBridge data per month, and two team members per project can open EasyBridge connections at the same time to different gateways. Gateways and team members can be grouped into two Projects, providing a better way to segment which team members can see which gateways.

Is Two-Factor Authentication available as part of the standard plan in Belden Horizon?

Yes, two-factor authentication (2FA) is available as part of the free standard plan in Belden Horizon.

Two-factor authentication is via a one-time-use 6-digit alpha-numeric code sent to the registered email address. Belden Horizon will ask for the 2FA if the user is logging in for the first time or using a new browser. Advanced app-based 2FA is available as part of the Power User Plan.

What is included in a Power User Plan?

Standard Plan (Free)	Medium PUP (1 or 2-year Subscription)	Large PUP (1 or 2-year Subscription)
1GB per gateway per month	3 GB per gateway per month	6 GB per gateway per month
2 standard projects	10 standard projects	25 standard projects
25 Users per project	25 users per project	25 users per project
2 Concurrent connections to different gateways	3 Concurrent connections to same or different gateways	6 Concurrent connections to same or different gateways
Email-based 2-Factor Authentication	Token-based Two-Factor Authentication	Token-based Two-Factor Authentication
	Single Sign-On (SSO)	Single Sign-On (SSO)
	User-configurable password policy	User-configurable password policy
	Virtual Lockout-Tagout (vLOTO™)	Virtual Lockout-Tagout (vLOTO™)

ProSoft Technology offers subscription-based Power User Plans for those users who want to do more with Belden Horizon. Power User Plans are available in Medium or Large, and 12- or 24-month terms. The plans offer advanced security features such as token-based two-factor authentication; EasyBridge data limits that increase with each plan option; concurrent connections, including to the same gateways; and the ability to invite team members, including those who belong to different Belden Horizon Organizations.

As a machine builder, I have seven technical support employees that support our customers globally – what PUP plan do I need?

It is recommended to get the 6x6 Power User Plan. The features of the plan are listed earlier in this document.

A Power User Plan is more than just additional data. With a 6x6 plan, the user will have 6GB per gateway per month. However, the other advantages such as multiple concurrent connections to the same gateway, advanced 2FA, multiple projects, and vLOTO are what will make the 6x6 plan attractive to the machine builder. And, for the low annual cost – ROI will be a single support call!

What happens when you reach the monthly data limit?

At 75% of data usage, the user will get an email notification and a popup in Belden Horizon informing them of their data usage limits.

A second warning is displayed/sent at 100% of monthly data usage.

At 125% of monthly data usage limit, access to the gateway will be terminated for the remainder of the month.

If a customer has a 3x3 plan and needs more data, what options are available?

The customer can either purchase the 6x6 (PSC-PUP-LRG-1Y/2Y) plan or upgrade to a 6x6 plan. If a 6x6 plan is purchased in addition to the existing 3x3 plan, the data is accumulative – that is, the customer will now have 9 GB per gateway per month.

How do I purchase a Belden Horizon Power User Plan subscription?

Power User Plans are available from through ProSoft Technology authorized distributors. See our website to find the distributor in your area. Here are the plans available:

Part Number	Description
PSC-PUP-MED -1Y	Power User Plan, 3x3, 1 Year
PSC-PUP-MED-2Y	Power User Plan, 3x3, 2 Year
PSC-PUP-LRG-1Y	Power User Plan, 6x6, 1 Year
PSC-PUP-LRG-2Y	Power User Plan, 6x6, 2 Year

What is an Organization in Belden Horizon?

When you use the console for the first time, you will create an Organization. An Organization is the highest level in Belden Horizon. The Organization is maintained by the Organization Owner, typically the first person to set up Belden Horizon. The Owner can grant other team members the ability to manage the Organization settings as well. Organization ownership can be changed later.

What is the difference between an organization and a project in Belden Horizon?

The organization in Belden Horizon is the owner. There can only be one owner. For example, there is only one Belden or one soda manufacturer or one Indus Machine Tools Ltd.

The project in Belden Horizon is like a customer. Taking the above example, the soda manufacturer or Belden® is the organization and they may have several facilities – these are like customers to the main organization – in other words, the “project” within the Belden Horizon environment.

Indus Machine Tools Ltd is a machine builder – they are likely to have several customers that they build machines for and service. Their customers are projects within the Belden Horizon environment.

We have to support systems at several different customer locations. How do Projects help me manage remote access across these different customers?

Projects let you segment your Belden Horizon organization better. You can create a Project for each of your customers, and assign the gateways at that customer’s locations to the Project. When you invite team members to that Project, they can only see the gateways, activity, and other team members that are a part of that Project. That way, you can invite a plant engineer from one customer to his Project, and an engineer from another customer to her project. Now you can provide valuable remote access to your customers, managed from your one Belden Horizon organization, without worrying that one customer might get access to another customer’s machines.

I am attempting to invite the end customer to my Belden Horizon account, but it is not working. Why?

This is because the end customer is an existing Belden Horizon registered user and an account owner. Only Administrators can invite existing Belden Horizon users to an account.

For example: Assume a machine builder has built a machine for his customer and has included the ICX35 gateway for remote access. After FAT and SAT, the machine has been handed to the end customer. The end customer now wants complete control over the machine and the gateway. He/She wants to control access to the gateway and who can be invited to securely access the gateway. In this case, the end customer will set up an account in Belden Horizon as an administrator and then invite the machine builder to the account so that they can continue to provide the after-sales remote support. If the end customer is not an administrator of their account, they will not be able to invite existing users.

What is vLOTO™?

vLOTO™ or Virtual Lockout-Tagout™ is a new paradigm for secure remote access. vLOTO provides an additional level of safety and security for remote access of industrial control systems – access has to be granted by authorized personnel prior to remote access. One has to be a Power User to access this feature. The authorizer does not have to be a Belden Horizon user, although this is recommended. An activity log is maintained for up to 30 days.

Once vLOTO access has been granted, can the gateway be accessed multiple times during the access period?

Yes.

What are some of the differences between an ICX35-HWC and a PLX35-NB2?

Feature	ICX35-HWC	PLX35-NB2
SMS Send/receive	Yes	No
NAT (network Address Translation)	No	No
IP Forwarding/Pass through	Yes	No
NTP (Network Time Protocol)	Yes	Yes
OpenVPN	Yes	No
vLOTO – Must be a Power User	Yes	Yes

On what PLCs is the SMS functionality supported?

SMS functionality is supported on Rockwell Automation® PLCs that use the EtherNet/IP™ protocol and any Modbus®-enabled PAC, such as Schneider Electric's M340.

Additional Information

Specification	Standard Plan	3 x 3 PUP	6 x 6 PUP	Comments
Gateway Data Limit per month	1 GB	3 GB	6 GB	This is per gateway. If a customer has 10 gateways and purchases a 6 x 6 PUP, then each gateway comes with a 6 GB Easybridge data usage limit.
Number of Gateways per Standard Project	50	100	150	If there are applications that exceed the stated number of gateways, please contact Product Management.
Number of Standard Projects	2	10	10	The concept of a project is like a customer - mainly useful for SI and OEM with many customers to manage. Example: OEM company HMT has multiple customers that they ship their machines to. Each customer can be a different "project" and each project can have different team members. In this case, HMT will be the owner.
Number of Team Members per Project	25	25	25	Each project can have different team members with different designations - Admin, Configure & Belden Horizon or Belden Horizon Only. <i>Project Admin</i> - has ability to make any changes within the project - can add/delete gateways, team members <i>Configure & Belden Horizon</i> - has ability to make changes to the assigned gateway, cannot invite additional team members <i>Belden Horizon Only</i> - has ability to create a tunnel to a pre-configured gateway
Activity Log	Yes - 30 days	Yes - 30 days	Yes - 30 days	Logs can be retrieved manually via the Belden Horizon platform.
Two-Factor Authentication	Yes - via registered Belden Horizon email account	Yes - via Authenticator app if enabled	Yes - via Authenticator app if enabled	For the PUP, advanced 2F authentication via the authenticator app needs to be enabled. Default is via email.
Concurrent Connections to Different Gateways	Yes – to a maximum of two different gateways, simultaneously	Yes – up to 3 different gateways, simultaneously	Yes – up to 6 different gateways, simultaneously	The max concurrent connections per gateway is 5 for performance reasons. If more PUPs are added, there will be more connections per project. For example, if a customer orders a 3x3 plan and then adds a 6x6 plan – they can have up to 9 concurrent connections to different gateways BUT will be limited to 5 concurrent connections to the same gateway.
Concurrent Connections to the SAME Gateway	No	Yes, up to 3 simultaneous connections to the same gateway	Yes, up to 5 simultaneous connections to the same gateway	

Active Directory with Single Sign-On	No	Yes	Yes	Single Sign-On allows users to access multiple applications with one set of credentials. With SSO, IT can manage user access, which improves security and productivity. SSO uses SAML 2.0. SSO works by sending the login request to a known federated identity provider (IDP) and the credentials are checked against the organization's active directory server. If the credentials are correct, the user will be allowed to access the application.
User-Configurable password policy	No	Yes	Yes	Allows customers to set their own password policy.
Invite Existing Belden Horizon Users	No	Yes	Yes	