Johnson Controls

OpenBlue
Services

Achieving peak building system efficiency through digitization

Optimizing BAS and controls performance

1. Solution overview

OpenBlue Services for Optimizing BAS and controls Performance feature tailored, AI-powered technology that enables remote diagnostics, predictive maintenance, compliance monitoring, advanced risk assessments, and more.
At Johnson Controls, we harness innovation to create connected solutions that maintain the health of critical equipment such as building automation systems, ensuring they last longer and perform better with our best-practice optimization strategies.

Increase uptime and reliability

Increase energy savings and sustainability

Reduce total cost of ownership

Increase staff efficiency

2. General cybersecurity features

Security is designed into all our products – Johnson Controls hardware, software and hosted services. We work with expert partners in government and industry to maintain our customers' compliance with regulations and build their resilience against the increasing number and range of cyber threats.

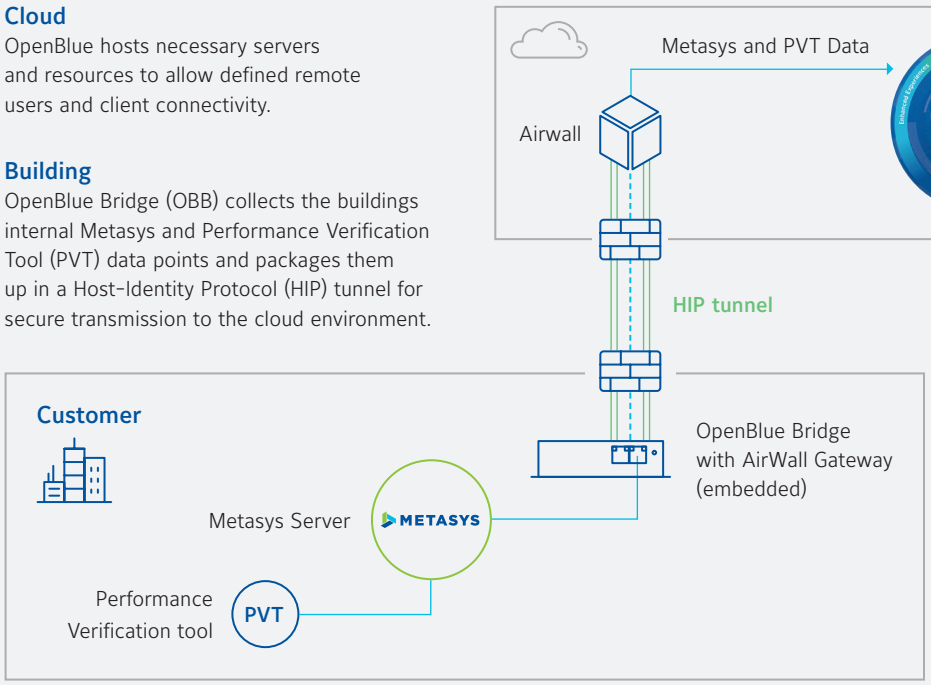
- **Encrypted communications:** Metasys data is sent encrypted from the OpenBlue Bridge (OBB) to the cloud using Transport Layer Security (TLS)
- **Zero-trust connection:** All messages are sent to cloud services using the tempered zero-trust solution which further encapsulates all traffic from the site using Host Identity Protocol (HIP)
- **Forced password change:** Default user account passwords must be changed when commissioning the OpenBlue Bridge
- **Hidden IP addresses:** The IP address for the OpenBlue Bridge is not exposed to the internet
- **Zero-trust policy-managed authorizations:** Only defined paths are permitted between the OpenBlue Bridge and remote services
- **Outbound communications only:** Only two outbound ports are required to initiate site-to-cloud data exchange
- **Remote updates:** OpenBlue Bridge gateway device automatic pulls in security updates and through the embedded ZTA HIP tunnel Bridge
- **Secure remote management:** technicians access to protected resources can be scheduled for specific dates and times based on authorizations

3. Architecture and data flow

The specifics of this flow depend on the components chosen by our customer and how we implement our solution in their facility.

Cloud
OpenBlue hosts necessary servers and resources to allow defined remote users and client connectivity.

Building
OpenBlue Bridge (OBB) collects the buildings internal Metasys and Performance Verification Tool (PVT) data points and packages them up in a Host-Identity Protocol (HIP) tunnel for secure transmission to the cloud environment.



OpenBlue Customer Access
Authorized users can view and report on metrics and diagnostics.

Airwall Gateway is a virtual air-gap solution that ensures that your device network traffic is invisible. It eliminates lateral movement from bad actors acrosss your network. Airwall uses Host Identity Protocol (HIP) to secure network communication between devices, enabling micro-segmentation and remote access at scale on any network.

4. ISASecure® Security Development Lifecycle Assurance (SDLA) program certified

All Johnson Controls global development locations were found to be in compliance with this security lifecycle development certification conforming with ISA/IEC 62443-4-1 and encompassing all associated brands. This certification reinforces our commitment to our customer to provide cyber-resilient solutions that follow best-in-class industry practices.

Future-proof your chiller with OpenBlue Services for Optimizing BAS Performance and discover technology that enables you to pinpoint problems before they occur.

Visit **www.johnsoncontrols.com/building-automation-and-controls/building-management/building-automation-systems-bas** today for more information.

About OpenBlue
OpenBlue is a complete suite of connected solutions that serves industries from workplaces to schools, hospitals to campuses, and beyond. This platform includes tailored, AI-infused service solutions such as remote diagnostics, predictive maintenance, compliance monitoring, advanced risk assessments, and more. A dynamic new space from Johnson Controls, OpenBlue is how buildings come alive.

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