# Your data center runs like a factory

## You can control it like one

*groov* EPIC—industrial edge control built for mission-critical data center infrastructure



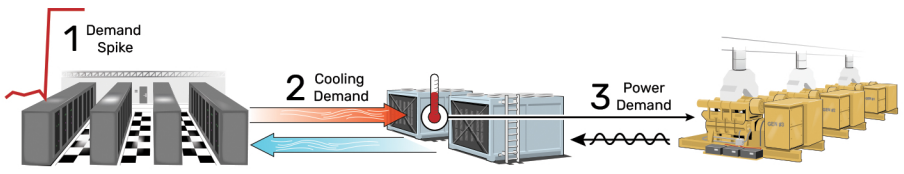

**groov EPIC** DATA CENTER SOLUTION

OPTO 22
Your Edge in Automation.™

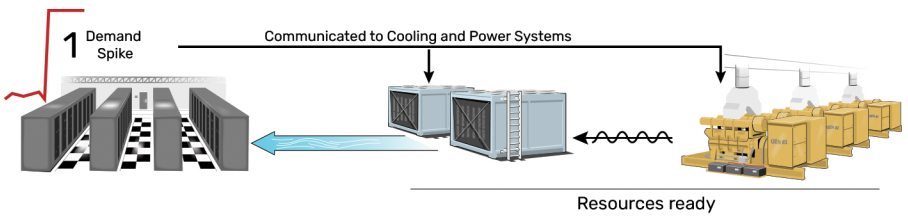


## Why Today's Data Center Control Architectures Fall Short

The control architecture most data centers rely on has a structural flaw: **IT systems, CDU controllers, and facility cooling operate as three separate domains with no real-time connection between them**. When a training job launches, the GPU power draw spikes in milliseconds—but your facility plant only reacts to what its own sensors read, not to the load that just hit. The only compensation is to run cold all the time. That inefficiency is baked into the facility from day one.




DDCs and BMS platforms don't close the gap. They poll on multi-second intervals—not fast enough for sub-second thermal events—and hit hard limits on point counts and integration scale. According to Inductive Automation®'s data center team, facilities are "trying to run a heavy industrial plant on systems that were never designed for this environment."




**"Monitoring is passive. Management is active."**

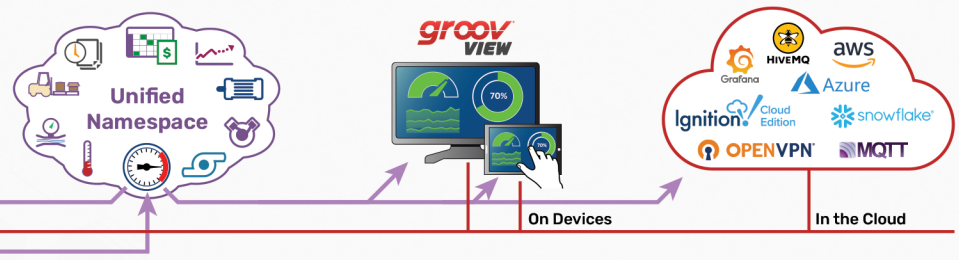
*- Christoper Markstein, Data Center Market Lead*
*Inductive Automation, April 2026*

groov EPIC™

## What does the *groov* EPIC bring to data centers?

### Local HMI and Alerting—No Separate BMS

Get real-time dashboards, historical trends, and automated alerts—no need for a separate BMS front-end or additional display hardware. Run *groov* View® or Ignition Edge®'s Perspective® on the controller's built-in touchscreen, a connected HDMI monitor, or any networked browser.




### Deterministic Industrial Control

Every *groov* EPIC processor includes a free CODESYS® runtime. Write real-time control logic in any IEC 61131-3 language—the same standard used in PLCs controlling manufacturing lines. That's deterministic control over your cooling loops, PDU sequences, and generator handoffs.

CODESYS · Ignition EDGE (INCLUDED) · Ignition READY · Sparkplug COMPATIBLE · OPC UA SERVER

### Edge-Native, Event-Driven Architecture

*groov* EPIC doesn't wait to be polled. When a valve actuates or a CDU reads a pressure drop, it publishes that state change into a Unified Namespace (UNS) via **MQTT** the instant it happens—giving your cooling systems, EPMS, and digital twin a single, real-time operational picture.

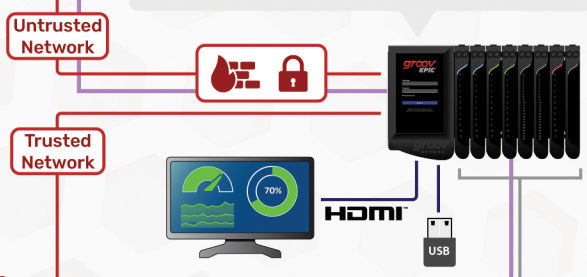
MQTT · Ignition READY · Ignition EDGE (INCLUDED) · Sparkplug COMPATIBLE · CODESYS · OPENVPN · Modbus · Node-RED · ssh · PAC Control · groov MANAGE · groov VIEW

### IT-Grade Cybersecurity, OT-Grade Hardware

Gain secure, remote access without exposing your infrastructure. *groov* EPIC gives you built-in OpenVPN®, TLS encryption, individual account authentication, on-device firewall, LDAP integration, and signed firmware—in a controller rated for industrial environments.

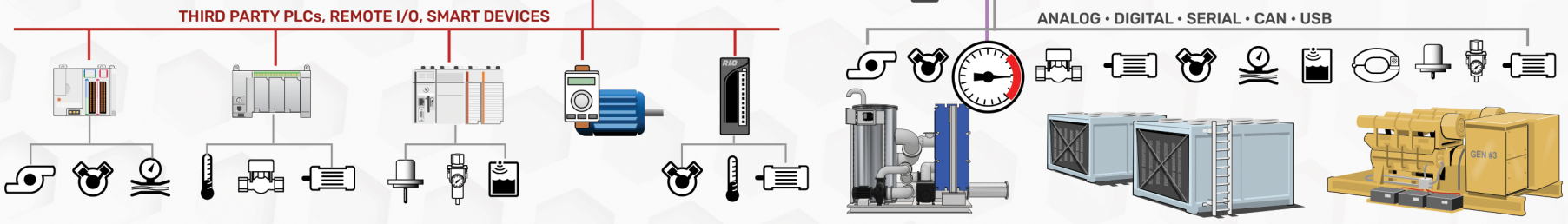
### Multi-Protocol Communication—No Gateways

Talk to cooling pumps, VFDs, smart sensors, power meters, and supervisory software without protocol converters or middleware. *groov* EPIC speaks Modbus® TCP, EtherNet/IP, BACnet, OPC UA®, MQTT/Sparkplug B®, and more—simultaneously, from a single controller.




### Hardware Flexibility for Advanced Cooling

A single *groov* EPIC chassis mixes and matches I/O modules: discrete inputs for safety interlocks, serial comms for VFDs, and multifunction modules for temperature, pressure, and flow. Everything your liquid cooling, CDU, and heat exchanger systems need—no external converters, no add-ons.




**Visit https://www.opto22.com/products/groov-epic-system to learn more!**

OPTO 22
Your Edge in Automation.™

groov EPIC™

MADE IN THE USA

## CUSTOMER: NAUTILUS DATA TECHNOLOGIES

NAUTILUS® DATA TECHNOLOGIES

Nautilus Data Technologies™ built one of the first large-scale liquid-cooled data centers in the U.S.—on the San Joaquin River since 2019. When they engineered their commercial liquid cooling product, the EcoCore FCD™, they chose *groov* EPIC as the control platform. The system runs two EPIC processors: one managing real-time control of pumps, valves, and safety systems; a second handling supervisory coordination, Ignition Edge® data collection, and OPC UA® communication between controllers. All I/O—digital inputs, serial VFD comms, multifunction modules for flow, pressure, temperature modules—resides within the *groov* EPIC chassis.




**"Working with Opto 22 was key to simplifying the whole system. We needed controls that were highly adaptable and configurable, and that's what we got."**

*- Augustin Roca, VP of Product at Nautilus Data Technologies*

## WHAT IS EPIC?

**Edge** – Collect, process, view, and exchange data where it's produced—at the edge of the network. Securely share data among databases, cloud services, Allen-Bradley® and Siemens® PLC systems, and other equipment, using tools like Ignition Edge® by Inductive Automation®, Node-RED, and MQTT. Visualize data on the integral touchscreen, an external HDMI monitor, or from any web browser or mobile device.

**Programmable** – Options for control programming include flowcharting with PAC Control™ or IEC-61131-3 standard languages with CODESYS. Secure shell access lets you build your own custom-developed applications with Python, C/C++, and other languages and run them on an open, Linux-based automation system.

**Industrial** – From plant floors to remote sites, the edge demands industrially hardened equipment—like a wide operating temperature range, solid-state drives, UL Hazardous Locations approval, and ATEX compliance.

**Controller** – Reliable real-time control—with flowchart, Ladder Diagram, Function Block Diagram, Structured Text, Sequential Function Charts, and custom programming options—plus guaranteed-for-life I/O provide the solid base for all other functions.

Learn more about *groov* EPIC. Speak to an application engineer at 800-321-OPTO, email us at systemseng@opto22.com, or visit us on the web at opto22.com.

## Technology Partnership

*groov* EPIC® is an Ignition Edge® - ready hardware platform. Opto 22 is a Premier Technology Provider with Inductive Automation—the team behind Ignition®, used in data centers worldwide.

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