Modius® OpenData® v4.0

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Product Overview of Modius OpenData
for Unified Asset Performance Management

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Modius OpenData Provides Unified Device Monitoring

Modius provides the solutions for managing the availability, capacity, and efficiency of critical facilities. Their flagship product OpenData provides all the tools needed to manage the performance of mission critical infrastructure which includes seamless integration of disparate devices. OpenData has built-in integrated features for analytics, dashboards, graphical views, and more, all in a "single pane of glass".

The Challenge

Monitoring and analysis of connected infrastructure—servers, storage, sensor-based assets is now available thanks to the latest generation of Asset Performance Management (APM) tools. However, the devices connected to your network—often referred to as your physical topology—often lack this advanced visibility.

The diverse equipment deployed on your network, including power distribution, cooling, air management, sensor-based machines and environmental sensors, are usually monitored by a variety of separate, rigid and proprietary systems specific to their device category, or tracked manually on spread sheets with regular rounds and readings (i.e. 'sneaker power').

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The Modius Solution

Modius OpenData solves this problem by unifying real- time performance data from all the equipment and device data typically available via network communications, including a full range of out-of-the-box end-point device integration. OpenData is deployed to the edge on pre-validated industrial strength gateways, utilizing low cost or embedded sensors, and proactively monitors undesirable conditions before they become problems — while supplying the visibility needed during recovery.

OpenData natively monitors redundant systems, acting as a monitor of monitors for unified asset performance intelligence wherever your equipment resides.

The Modius OpenData solution provides core functionality for:

- Real-time unified event and alarm management of physical equipment with multi-vendor support for fast system integration

- Trended data for instant feedback of adds, moves, changes and rapid response to pending issues

- Multi-site data collection at the edge for low-latency remote monitoring of all network aware device assets, all from a single-pane of glass

- Comprehensive performance management health status 'Operational BI' for an entire network of devices

- Consolidated management dashboards and performance metrics with intuitive user configurable interface

- Robust support designed and integrated with intelligent alert routing and escalation

- Advanced analytics with normalization and time synchronization of all equipment data

- Robust predictive algorithms and advanced user-configurable machine learning models

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Modius offers a highly scalable, reliable and secure solution which can be deployed at 1, 10, or 10,000 locations with equivalent performance across all devices. The OpenData modules, together, provide a comprehensive solution to manage the performance of your mission critical infrastructure. OpenData can function as an end-to-end solution or work cooperatively with your current systems, so there is no need to rip and replace your existing infrastructure. Each OpenData module is optional with a series of uplifts to enhance their capability, so you only pay for what you need. The overarching goal is to provide flexible aggregation of all critical infrastructure with easy data access.
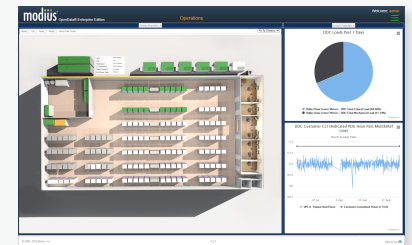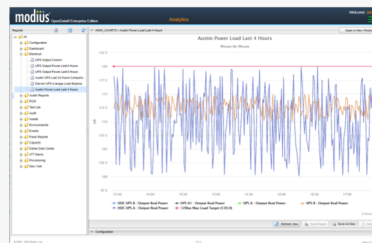
Modules

Remote Monitoring

Operations screens for alarm management, notification, and graphics. Uplifts to the Remote Monitoring module are available to further enhance capabilities.
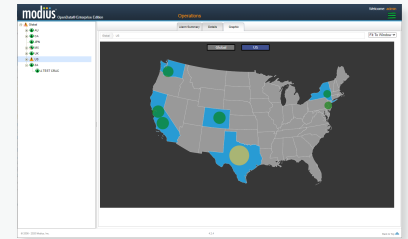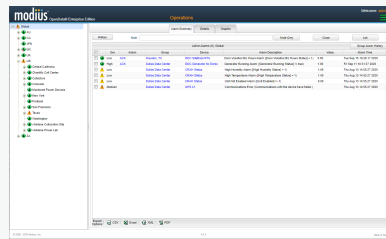
Analytics Management

Analytic screens for reporting, charting, and dashboards, all utilizing a standard analytics engine. Uplifts to the Analytics Management module are available.

Asset Management

Virtualize individual assets to manage closely location, space capacities, changeouts, and more. Uplifts to the Asset Management module are available.

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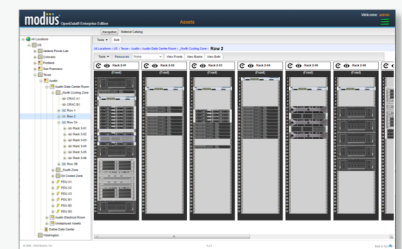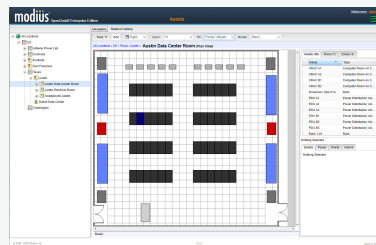
Integrated Workflows

Capture processes electronically to facilitate and encourage adoption of standard operating procedures (SOPs). Uplifts to the Integrated Workflows module are available.
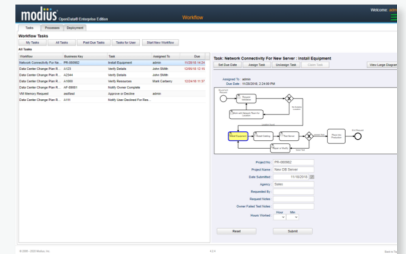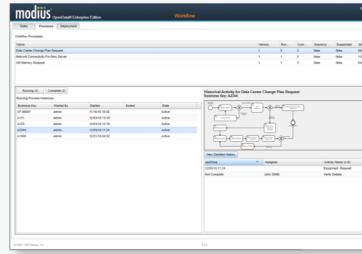
Power Capacity Management

Monitor where power enters building all the way through various distribution points. Provides precise visibility of power flow to expose problems and opportunities to improve over and under allocation. Uplifts to the Power Capacity Management module are available.
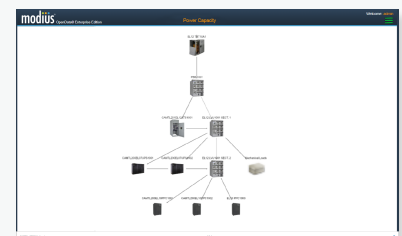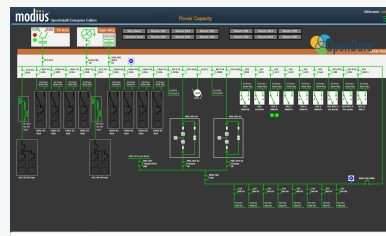
Environmental Management

Zone level analysis and monitoring of thermal gradients within the data center for better identification of hot/cold spots and cooling capacity. Support for psychometric charts. Uplifts to the Environmental Management module are available.

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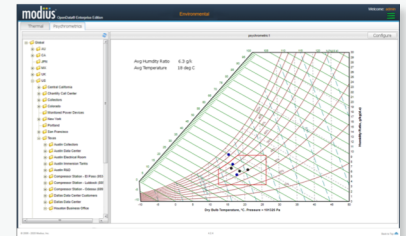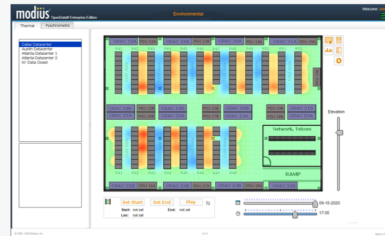
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Universal Device Coverage

The Modius OpenData solution is able to unify information by collecting data using any standard communication protocol at the physical layer, including:

• Modbus

• BACnet

• SNMP

• Proprietary protocols

• RESTful API

Because Modius OpenData works across all major device protocols, the solution is uniquely able to capture data from all major device categories and equipment vendors. For equipment that is not accessible on the network (via network communication cards), Modius provides a serial-to-network gateway to ensure that all
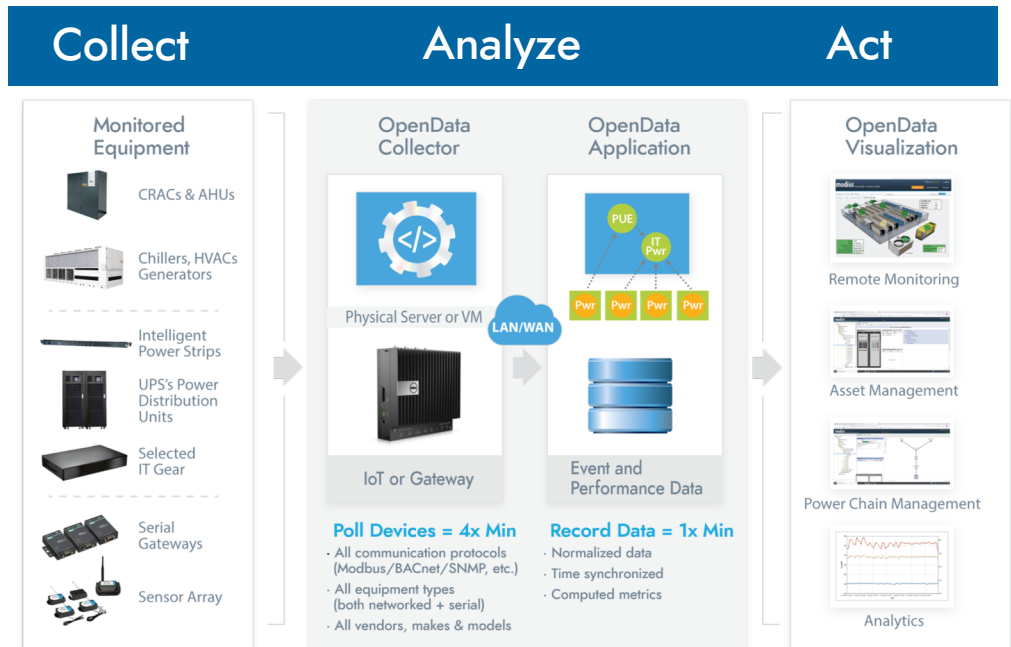
of your critical equipment can be monitored. Modius OpenData can also capture data from existing systems, such as a BMS, which allows operators to leverage the legacy systems that they already have in place.

Collect	Analyze	Act

Monitored Equipment
- CRACs & AHUs
- Chillers, HVACs Generators
- Intelligent Power Strips
- UPS's Power Distribution Units
- Selected IT Gear
- Serial Gateways
- Sensor Array

OpenData Collector
Physical Server or VM
IoT or Gateway

Poll Devices = 4x Min
· All communication protocols (Modbus/BACnet/SNMP, etc.)
· All equipment types (both networked + serial)
· All vendors, makes & models

OpenData Application
Event and Performance Data

Record Data = 1x Min
· Normalized data
· Time synchronized
· Computed metrics

OpenData Visualization
- Remote Monitoring
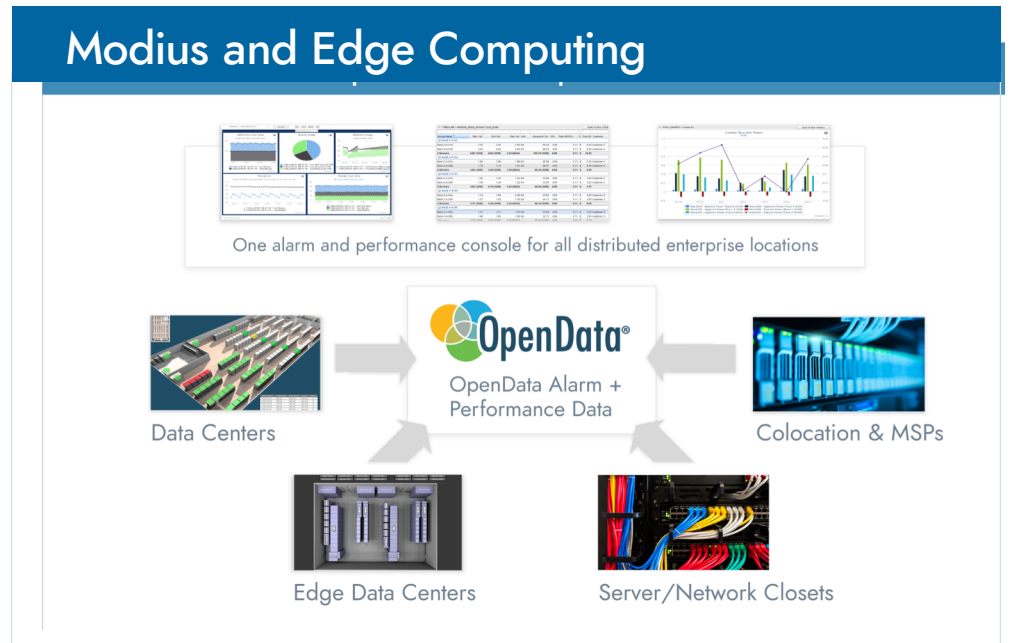- Asset Management
- Power Chain Management
- Analytics

Designed for Multi-site Remote Monitoring

The Modius solution is unique in the industry for being designed from the ground up for remote multi-site monitoring. The solution utilizes a flexible set of 'collectors', which are small, independent, intelligent software instances that can be installed at all remote locations.

The software can live on a PC, server white-space or the before mentioned gateway boxes. The collectors can be deployed in any quantity required to cover all sites, from remote network shelters to the edge data centers. Each collector then communicates with the central application to pass data securely so that it can be stored and accessed from a central repository. This unique architecture makes the solution infinitely scalable for even the largest of enterprises, MSPs, or colocation facilities.

Modius and Edge Computing

One alarm and performance console for all distributed enterprise locations

Data Centers — OpenData® Alarm + Performance Data — Colocation & MSPs

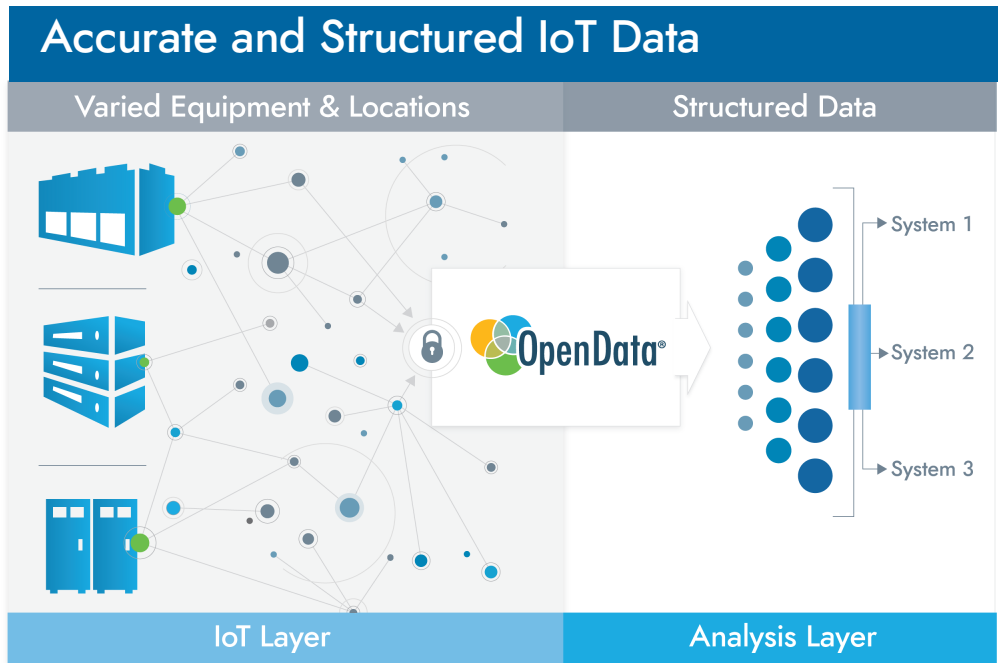Edge Data Centers — Server/Network Closets

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Integration Across the Network Device Ecosystem

In addition to being designed for multi-site monitoring, the Modius OpenData solution is also designed to integrate to a variety of other management tools on your network, including network management systems, asset management and planning tools, building management and controls systems, and virtualization management systems.

By using Modius OpenData to collect all the data from the physical layer of the connected devices, it allows the operator to "collect once and reuse many times" to minimize the high-cost of instrumentation and data access. This ability to federate data to other systems relies on the Modius OpenData approach to collect and completely normalize data so there is a "single record of truth" that the other tools can leverage.

Accurate and Structured IoT Data

Varied Equipment & Locations	Structured Data

OpenData

System 1
System 2
System 3

IoT Layer	Analysis Layer

Next Steps

Modius OpenData can either be installed comprehensively across the targeted critical facility, or tactically to address a single issue. Regardless, once the flexibility, scalability, ease-of-deployment and TCO are realized, incremental growth is unavoidable. In some cases customers can and will expand deployments themselves enjoying the independence of self-enabled management of their infrastructure.

If your goal is to achieve Real-time Operational Intelligence, please download our recent white paper, "Your Journey Along the Real-time Operational Intelligence Continuum" and we can help. Download the white paper here, https://modius.com/rtoi-white-paper/.

For more information or a free review of your application needs to determine if Modius is the right fit for your facilities, contact info@modius.com or call 888 323-0066.

About Modius

Modius Inc. is a world leading end-to-end solution provider for managing the availability, capacity and efficiency in the critical facilities of data centers, smart buildings, telecommunications and other IoT environments.

The Modius flagship offering, OpenData, provides all the tools needed to manage the performance of mission critical infrastructure, from integration of disparate devices, to analytics, to integrated dashboards, all in a "single pane of glass."