# The Gateway OF Things

PYTHIA TECHNOLOGIES
discover - connect - deliver

Pythia Technologies at work for you

**CROSSING THE BOUNDARY BETWEEN FACILITIES AND IT**

Our business is uniquely built on three decades of combined hands-on experience in the world of data center equipment, network topologies, operations and security. This unique combination of experience assures our success since we understand the equipment and its function in the IT or Facilities arena—as opposed to a simple protocol converters which moves data from point A to point B.

Pythia Technologies offers a wide portfolio of products and services to meet your needs. Using the latest technologies available, Pythia Technologies can design, implement and manage the solutions that fit for your specific business requirements.
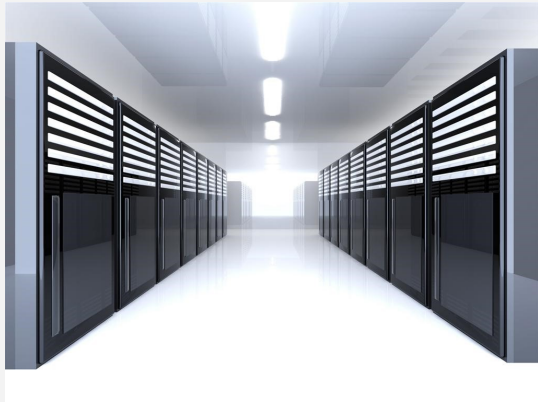
SOLUTIONS BASED APPROACH

- PROTOCOL TRANSFORMATION
- DATA MONITORING
- ENGINEERING AND CONSULTATION
- PROJECT MANAGEMENT
- ON-SITE INTEGRATION
- EQUIPMENT VERIFICATION
- COMMUNICATIONS DIAGNOSTICS
- NETWORK AND SECURITY EXPERTISE
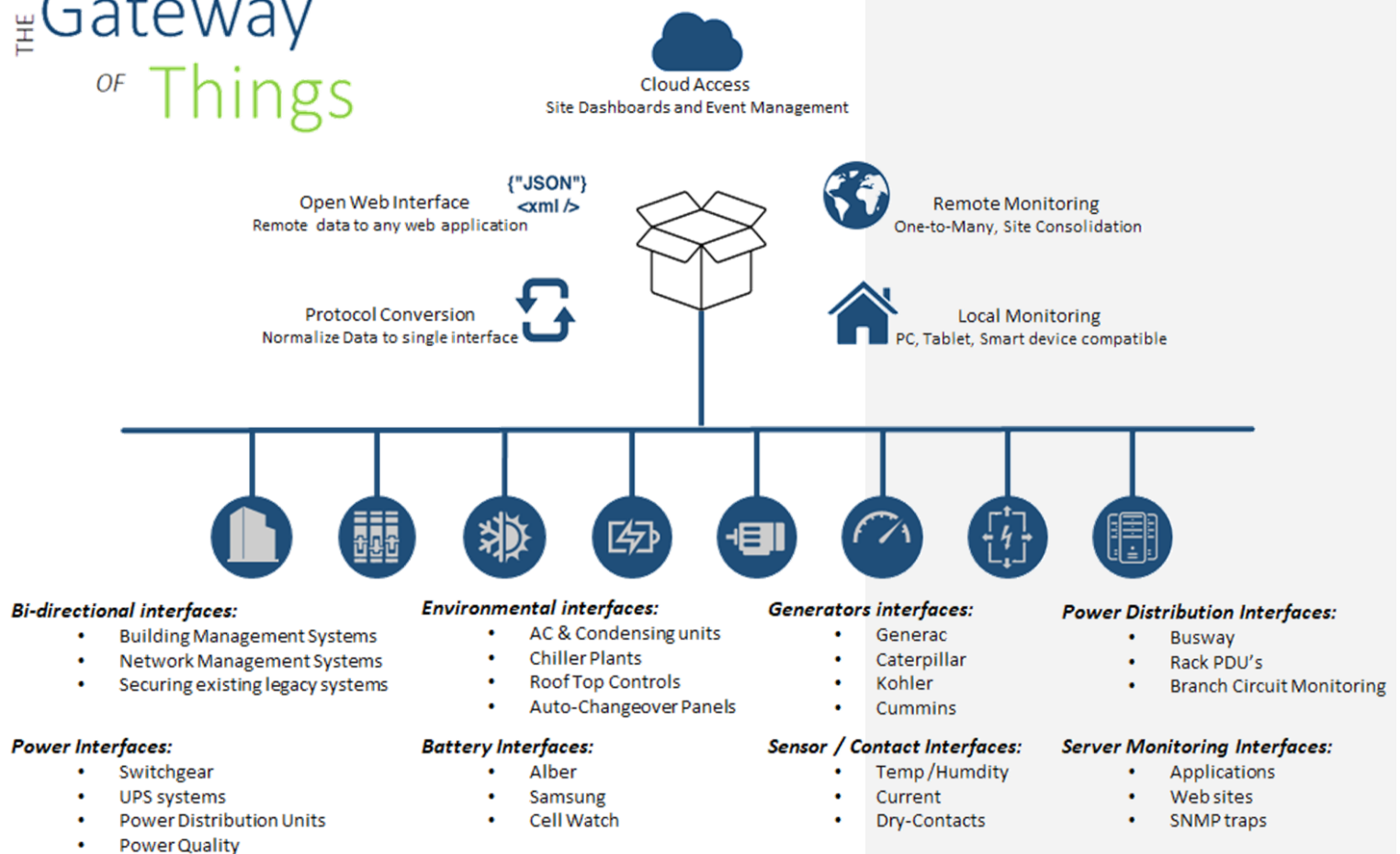- ROBUST PRODUCT LINE UP
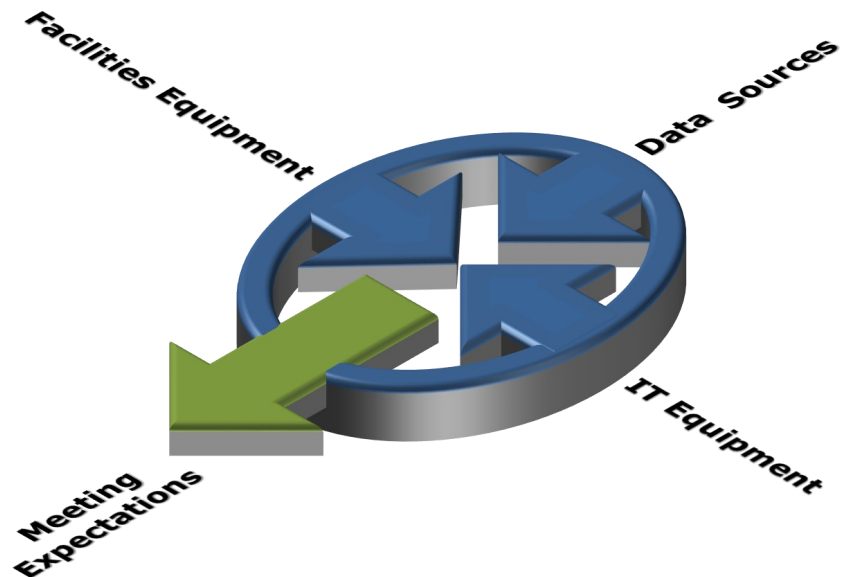
Gateway of Things Defined

SEAMLESS INTEGRATION WITH ALL CRITICAL DEVICES

One of the fundamental principles of effective data center management is knowing the state of the equipment supporting your critical operations and providing instantaneous notifications to personnel when events occur. Pythia Technologies GoT platform provides the primary components of data center management and is unique in the marketplace; **seamless integration to Facilities and IT equipment into a single system.** Smart phone , tablets and Cloud integration mean that you will never be out of touch with your operation.

Cloud Access
Site Dashboards and Event Management

Open Web Interface
Remote data to any web application

{"JSON"}

Remote Monitoring
One-to-Many, Site Consolidation

Protocol Conversion
Normalize Data to single interface

Local Monitoring
PC, Tablet, Smart device compatible

Bi-directional interfaces:
- Building Management Systems
- Network Management Systems
- Securing existing legacy systems

Environmental interfaces:
- AC & Condensing units
- Chiller Plants
- Roof Top Controls
- Auto-Changeover Panels

Generators interfaces:
- Generac
- Caterpillar
- Kohler
- Cummins

Power Distribution Interfaces:
- Busway
- Rack PDU's
- Branch Circuit Monitoring

Power Interfaces:
- Switchgear
- UPS systems
- Power Distribution Units
- Power Quality

Battery Interfaces:
- Alber
- Samsung
- Cell Watch

Sensor / Contact Interfaces:
- Temp /Humdity
- Current
- Dry-Contacts

Server Monitoring Interfaces:
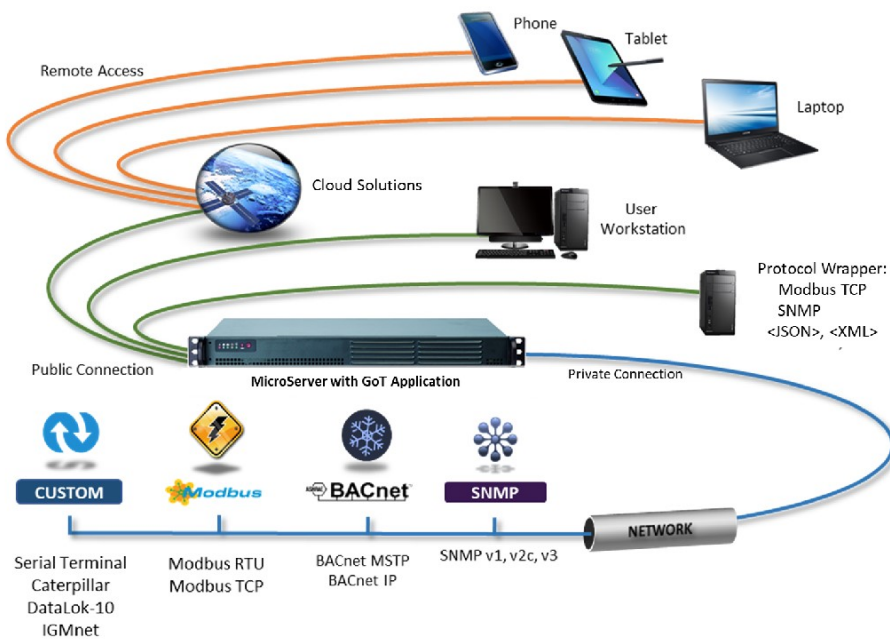- Applications
- Web sites
- SNMP traps

Simplistic Design—Built for Speed and Flexibility

CROSSING THE BOUNDARY BETWEEN FACILITIES AND IT

MICROSERVER and VIRTUALIZATION: The GoT Application resides on ultra resilient network appliances called the MicroServers. MicroServers scale from simple Intel Atom based processors to Xeon processors for the ultimate in performance. The GoT application is also ready to run in your Windows Server 2019 virtual environment— please contact us for more details.

USER INTERFACE: The GoT Application is fully web-based. No additional software, tools or licensing is required to view and control your environment. Being web compliant means that GoT is compatible with all high-tech devices that support a web browser—smart phone, tablet and PC ready.

CONNECTIVITY: For the best performance, GoT systems are designed with the network in mind. All serial devices can be converted to the network—and multi-threaded polling allows the system to compensate for slower responding devices.

The GoT application is capable of spanning multiple networks; the application is not bound to a single IP address or single network interface. The MicroServers provide (2) network interfaces. Additional network interfaces can be added as needed.

PROTOCOL WRAPPER: While the GoT Application is a stand-alone product, the system is also configured to expose any monitored data and alarm points to the industry standard protocols Modbus/TCP, SNMP (*including v3 with add-on application*) JSON and XML.

LICENSING: The number of devices or points that you can monitor with GoT software is unlimited. Performance is based on the virtual server or MicroServer you select.

MicroServer Foundation

MICROSERVER AND GoT APPLICATION: The GoT Application is available on ultra-reliable network appliances called MicroServers; or, can be customized to fit your existing virtual environment. Each MicroServer is a contains a solid-state drive to eliminate "spinning" drive failures. The assembly is focused on reliability for the critical nature of the Data Center monitoring business.

The MicroServer comes in rack mount and panel mount configurations. Custom configurations are available.

By default, each MicroServer comes with (2) network interfaces allowing the network appliance to span multiple networks. This is useful when users want to separate the equipment from the backbone of their network, while maintaining connectivity to the web interface. Additional network adapters can be added for additional flexibility in order to connect to multiple networks.

VIRTUALIZATION: GoT software is ready to deploy in your Windows Server 2019 environment. Please call for more information.

A True Web Experience

A USER INTERFACE FOR TODAYS DEVICES
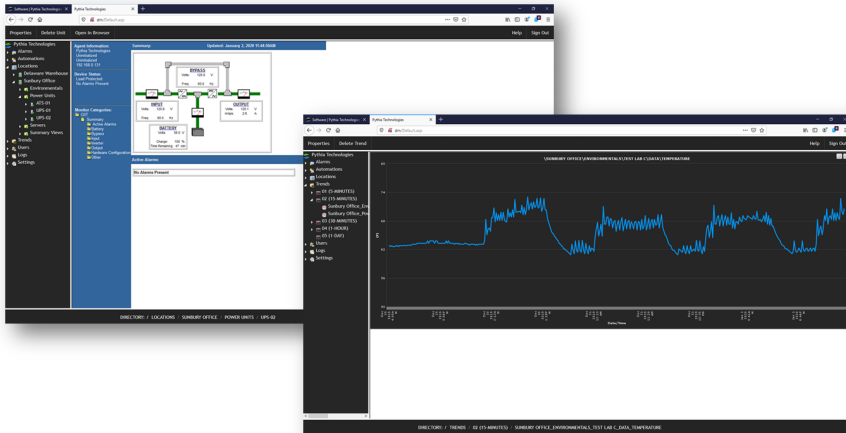
USER INTERFACE: The GoT Application is fully web compatible. A web browser is the only application needed for access. Unlike other applications where special web pages are required for remote devices, all you need are the tools you already own—Desktop, Laptop, Tablet, Smart Phone.

SMART DEVICES: Easy access and full-functionality are the main focuses of the user interface. It is designed to meet the requirements for all web browsers. The GoT application is designed to be compatible with all Windows, Apple and Android based systems to include Internet Explorer, Edge, Chrome, Firefox and all other browsers— Stay Connected.

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Simplified Usability
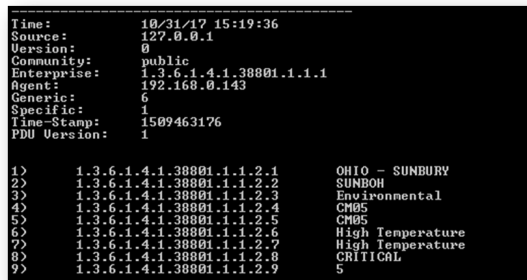
INTUITIVE FUNCTIONALITY FOR EASY DEPLOYMENT
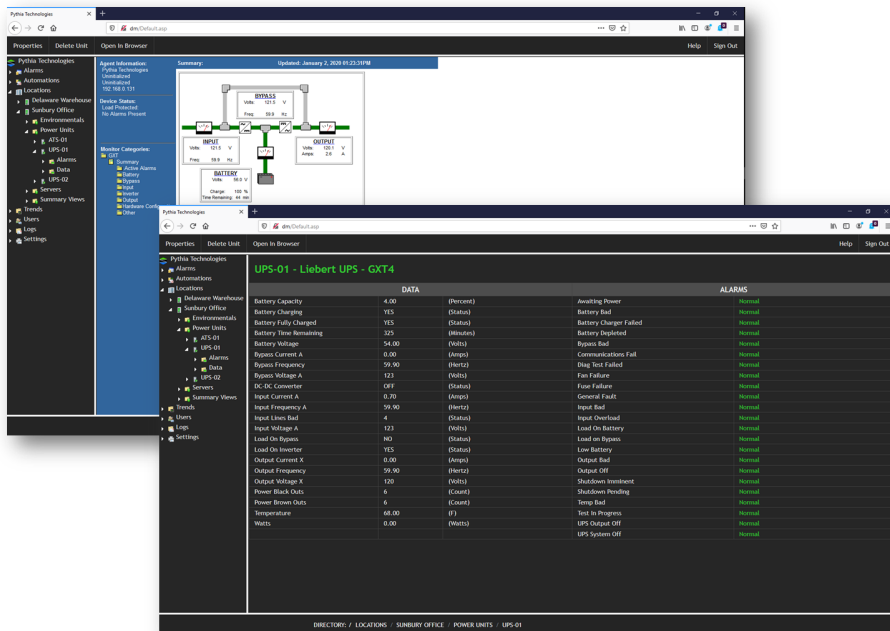
NAVIGATION: Simple Tree type navigation allows the user to access the functions of GoT including configuration, data and alarm viewing.   The NAVIGATION TREE allows users to easily manage devices and system functions in an orderly manner. The navigation tree under locations is site specific and is completely user configurable.

DEVICE VIEWS: Device or unit data is integrated directly into the application for viewing and historical purposes. Users can elect to see the devices Data, Alarm and Control information in a table format as well as the option to launch the devices' web page into another tab. The "Open in Browser" feature will open a new session with the web enabled device.

CONFIGURATION MENU BAR: Users do not have to leave the application in order to make configuration changes. All of the application configuration properties can be accessed via the top menu bar. The buttons will change, based on your relation to the navigation tree.

Event Management & Automations

THE RIGHT INFORMATION AT THE RIGHT TIME

N   noreplies@pythiatech.com   319.208.4435 @txt.att.net

OHIO - SUNBURY - Environmental - CM05 - High Temperature - CRITICAL

Time = 10/30/2017 14:54:54:656
Location = OHIO - SUNBURY
Location Code = SUNBOH
Group = Environmental
Unit = CM05
Unit Code = CM05
Type = High Temperature
Severity = CRITICAL

High Temperature

11:31   1 (410) 100-003

MSG:Time = 10/30/2017 15:12:54:794
Location = OHIO -
(Con't) 2 of 3
SUNBURY
Location Code = SUNBOH
Group = Environmental
Unit = CM05
Unit Code = CM05
Type = High Temperature
Severity =
(Con't) 3 of 3
CRITICAL

type a message

```
Time:          10/31/17 15:19:36
Source:        127.0.0.1
Version:       0
Community:     public
Enterprise:    1.3.6.1.4.1.38801.1.1.1
Agent:         192.168.0.143
Generic:       6
Specific:      1
Time-Stamp:    1509463176
PDU Version:   1

1)   1.3.6.1.4.1.38801.1.1.2.1    OHIO - SUNBURY
2)   1.3.6.1.4.1.38801.1.1.2.2    SUNBOH
3)   1.3.6.1.4.1.38801.1.1.2.3    Environmental
4)   1.3.6.1.4.1.38801.1.1.2.4    CM05
5)   1.3.6.1.4.1.38801.1.1.2.5    CM05
6)   1.3.6.1.4.1.38801.1.1.2.6    High Temperature
7)   1.3.6.1.4.1.38801.1.1.2.7    High Temperature
8)   1.3.6.1.4.1.38801.1.1.2.8    CRITICAL
9)   1.3.6.1.4.1.38801.1.1.2.9    5
```

NOTIFICATION: When system events occur, it is imperative the users are notified of details of these events.

The GoT Application provide 3 primary notification methods:

- SMTP email messaging

- SMTP text messaging

- SNMP Trap notifications

ALARM CATEGORIES: The above notification methods are further defined by the associated alarm category. There are 20 categories for events to allow systems to be highly customized to fit your requirements.

TIME EXCEPTIONS: Notifications can be disabled during certain time periods. This is helpful when there are known events such as a weekly generator test; where the user wants the information logged, without notifying users.

Trend and Historical Data

SHORT AND LONG TERM DATA VIEWS
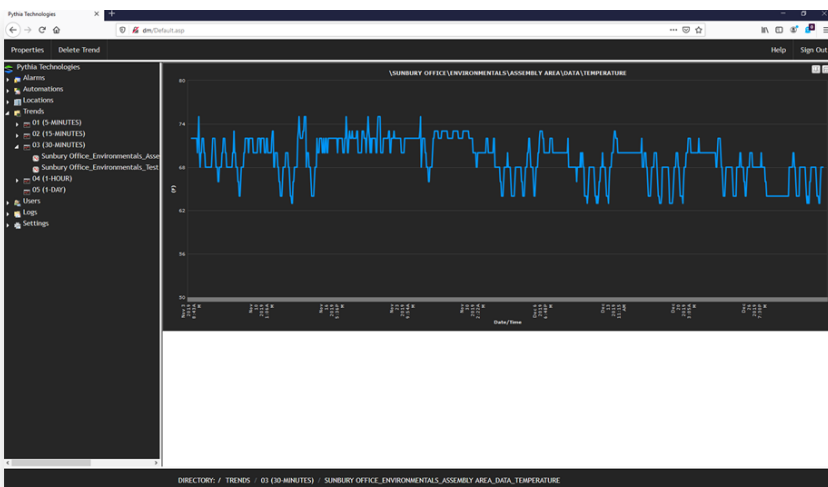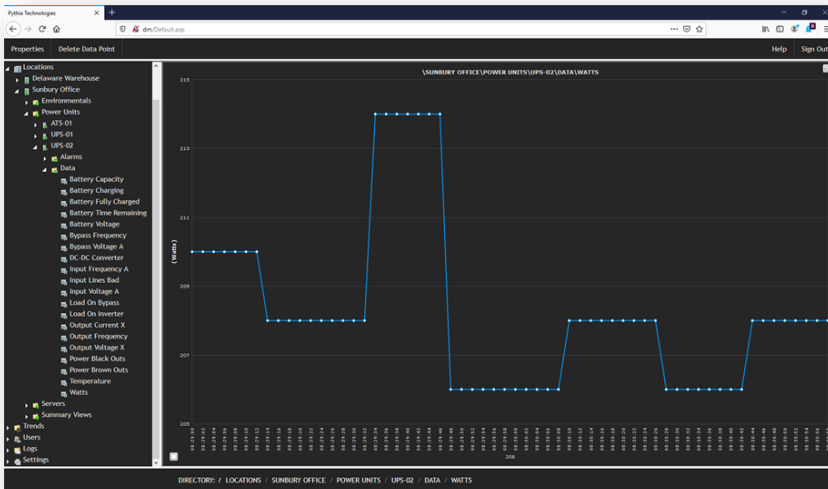
TREND DATA: Each monitored data point within the software has the ability to be viewed in 2 ways:

LIVE TREND GRAPHS: Each monitored data point has the ability to be viewed in a live trend graph. The live trend graph is comprised of 2 second samples, with a full 2 minute view of activity. The Y-axis auto-scales, and the x-axis provides a time stamp for easy viewing.
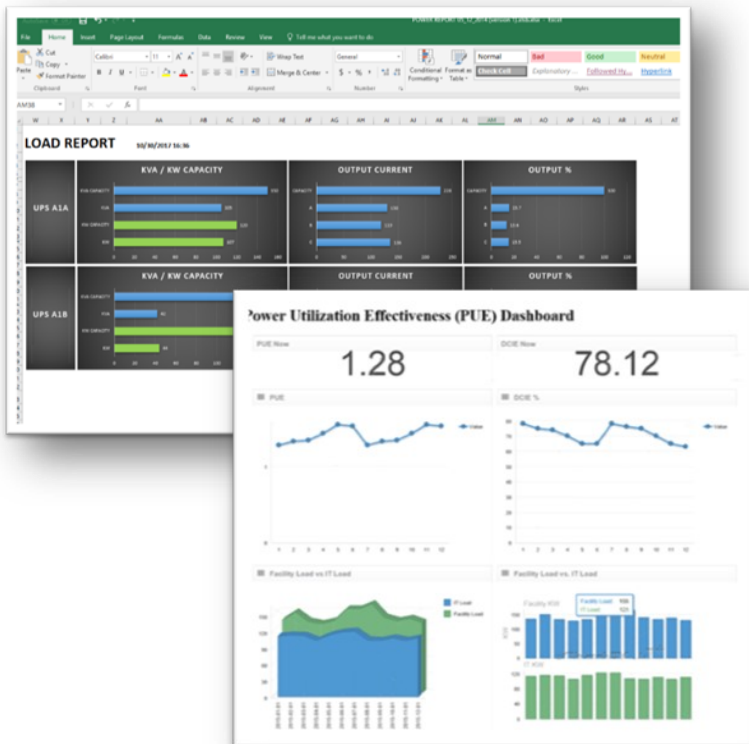

HISTORICAL TREND GRAPHING: Each monitored data point can be trended at a specific interval for viewing at a later time. Each historical trend graph will display up to 120-hours or 120-days according to the time interval selected.

For longer-term views of the data, the JSON and XML interfaces allow you to directly interface with MS Office and other web applications to customize the data presentation—see the next section for more details

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Open Access to System Data—XML

CREATE CUSTOM VIEW AND REPORTS

JSON / XML INTERFACE: The JSON / XML interface is intended to give users complete access to all of the data within the GoT application.

This would allow the user to create custom external web interfaces, integrate data into report writing tools and various applications.

The basic commands are:

GET Alarms Full History, specific number of days, specific start day and number of days can be obtained.

GET Unit Status: See the latest known alarm and communication status for desired units.

GET Properties: This call is useful to see the current state of individual points within the system—ex. setpoints.

GET Values: See the latest analog and digital conditions.

Get View: The individual summary views with the GoT application can be called by XML.

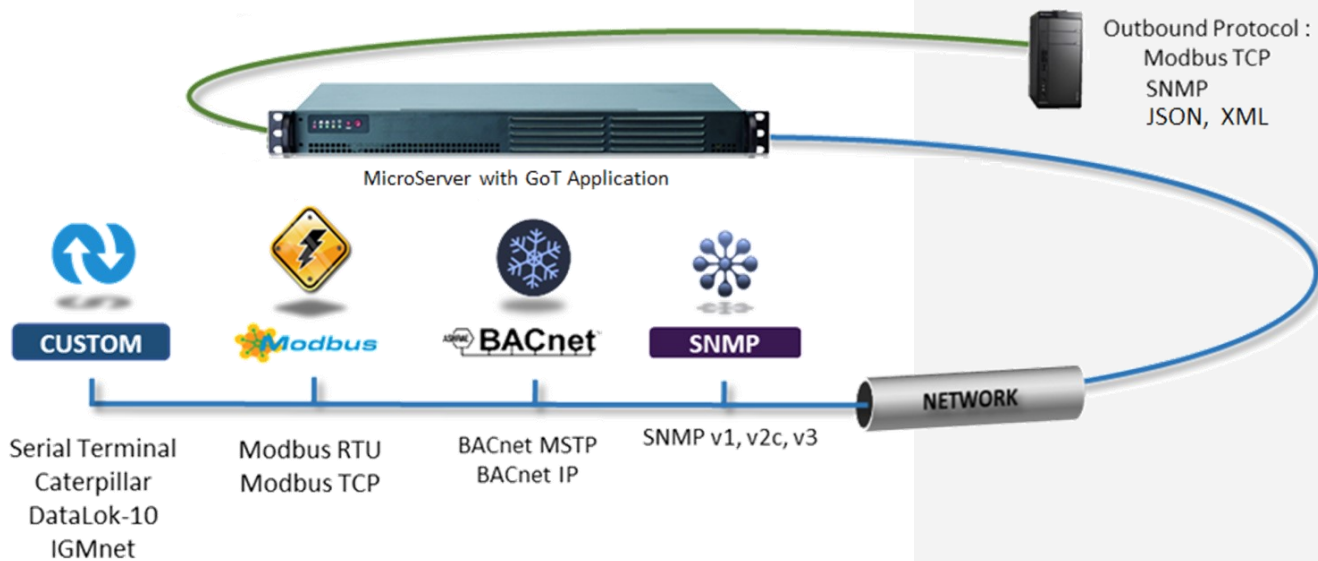*GET Trends:* Full History, specific number of days, specific start day and number of days can be obtained.

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Open Protocol Wrapper

MODBUS/TCP AND SNMP OUTPUT FOR EXISTING SYSTEMS

JSON AND XML DATA EXCHANGE PROTOCOLS

OPEN PROTOCOL WRAPPER: While the GoT application is a stand-alone monitoring application, the GoT application also provides protocol conversion.

Outbound Protocol :
Modbus TCP
SNMP
JSON, XML

MicroServer with GoT Application

CUSTOM Modbus BACnet SNMP

Serial Terminal
Caterpillar
DataLok-10
IGMnet

Modbus RTU
Modbus TCP

BACnet MSTP
BACnet IP

SNMP v1, v2c, v3

NETWORK

Any device supporting industry standard protocols Modbus/TCP, SNMP, JSON or XML can connect to the GoT application. The GoT application then becomes the place where data is "normalized" for consumption by another system.

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Available Services

Pythia Technologies offers a wide range of services to meet your needs. Pythia can design your solution, implement your solution and perform communications verification to ensure the solution meets your requirements.

Engineering and Design Services

Pythia provides engineering and design services for standard and custom data transformation solutions.

Onsite Implementation Services

Pythia Technologies offers implementation services for all standard and custom solutions. Pythia also provides implementation services for other manufacture's solutions.

Communication Verification Services

Pythia Technologies will come to your site and provide verification and documentation of your equipment's communications.

OEM and Relabeling Services

Pythia Technologies offers OEM services for existing and custom products.

PYTHIA TECHNOLOGIES
data transformation solutions

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