DGnet Watchdog | Executive Summary

info@dgnet.cloud

Product Overview

DGnet Watchdog is an enterprise IoT monitoring platform that oversees the health of your equipment and integrated systems from a single interface, regardless of which controller is running them.

DGnet Watchdog is accessed using a web browser and features mechanisms for rules-based notifications like emails and daily reports. DGnet Watchdog logs device status information, so you can analyse and troubleshoot issues.

A supplemental control component allows you to diagnose and possibly resolve issues remotely. Common issues can be configured to resolve themselves by enforcing device states such as a display's power and source input.

DGnet Watchdog keeps you informed and responsive, alerting you to potential problems with your systems before users report them or are affected.

For a free consultation, contact info@dgnet.cloud.

Architecture

DGnet Watchdog can run as a module within a control system or on an edge device. Information is delivered through an SSL encryption protocol, the same method used to secure banking transactions. Only outbound port 443 access to domain monitoring.dgnet.cloud is required; no inbound ports need to be opened. The following chart illustrates the flow of data through DGnet Watchdog.
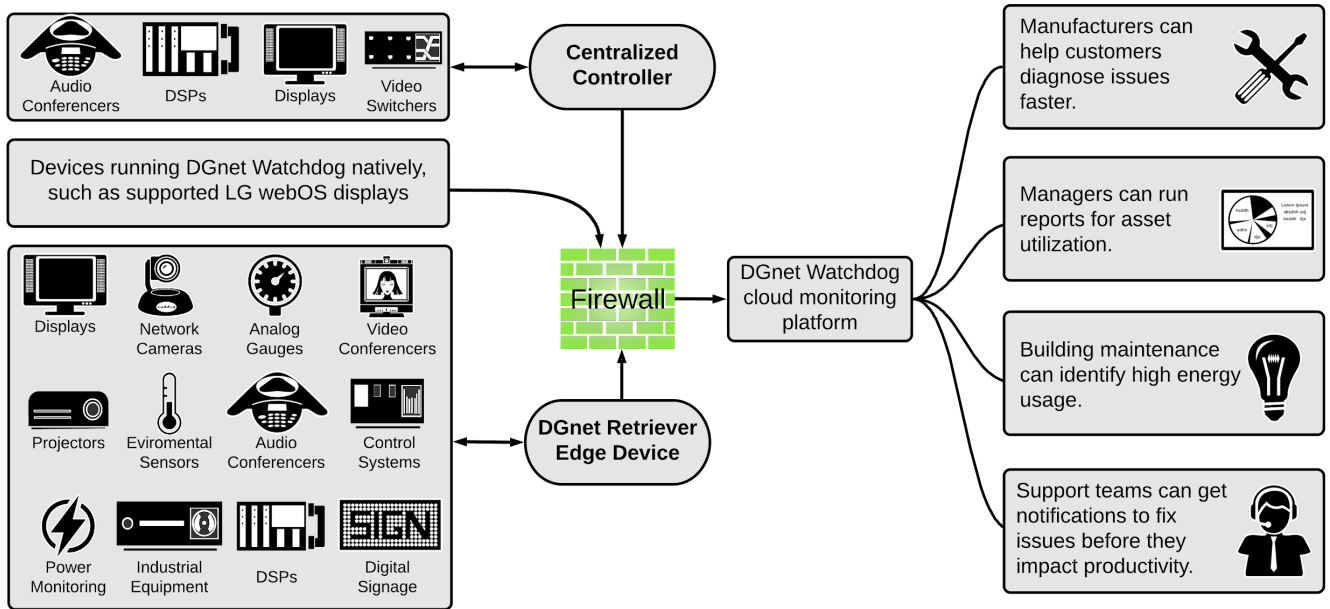

Figure 1: *DGnet Watchdog architecture overview*

Source Devices

DGnet Watchdog gathers information such as communication status, room occupancy, system utilization, and runtimes directly from devices or through traditional centralized controllers and monitoring-specific edge devices.

Directly from Devices

A direct connection to the DGnet Watchdog platform can be achieved in two ways:

- It can be built into the firmware of any device capable of SSL communication.
- It can be integrated into devices that feature custom development tools such as LG's webOS.

Traditional Centralized Controllers

In a traditional centralized control environment (like AMX, Crestron, and Extron), extra modules are integrated into the control programming (see examples below). Information received from endpoint devices is processed locally in real time, and relevant data is sent to the DGnet Watchdog platform.

Figure 2: AMX NX-4200

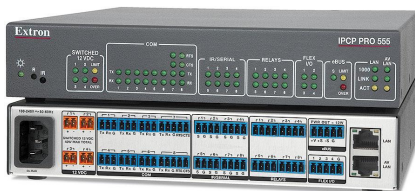*Figure 3:* Crestron PRO3

Figure 4: Extron IPCP Pro 555

Monitoring-Specific Edge Devices

Monitoring-specific edge devices running DGnet Watchdog Retriever software can integrate equipment not connected to a traditional centralized controller (see examples below).

Figure 5: Compulab fitlet2

Figure 6: Raspberry Pi ZeroW

Figure 7: PMU1 USB

Figure 8: Revolution Pi

A DGnet Watchdog Retriever edge device enables enhanced device monitoring, offering a simple, expandable, flexible, and adaptable solution to analyze and report data from individual or groups of devices. If a device produces a real-world event that can be sensed, DGnet Watchdog Retriever can monitor it.

DGnet Watchdog Retriever simplifies reporting of various attributes, including maximum, minimum, and average network latency (see figure 9). The ability to analyze the history of a device's latency can rapidly decrease troubleshooting time.

Click here to see a demo.

Cisco Codec	
Call Status	Disconnected
Communication Quality	100 %
Communication Status	Online
Content Share to Clients Enabled	Disabled
Device Power	Halfwake
Do Not Disturb Setting	Inactive
Firmware Version	"ce9.7.1.30bff6140aa"
IP Address	192.168.1.104
Latency Average	2 ms
Latency Maximum	2 ms
Latency Minimum	2 ms

Figure 9: *Example of DGnet Watchdog Retriever monitoring a Cisco SX-20 video codec*

Monitoring and Notifications

Access DGnet Watchdog through its intuitive web portal (see figure 10), where you can:

- Get real-time status.
- Troubleshoot remotely.
- Receive notification of device conditions in the web portal and via email.
- Manage user access and permissions within the web portal.
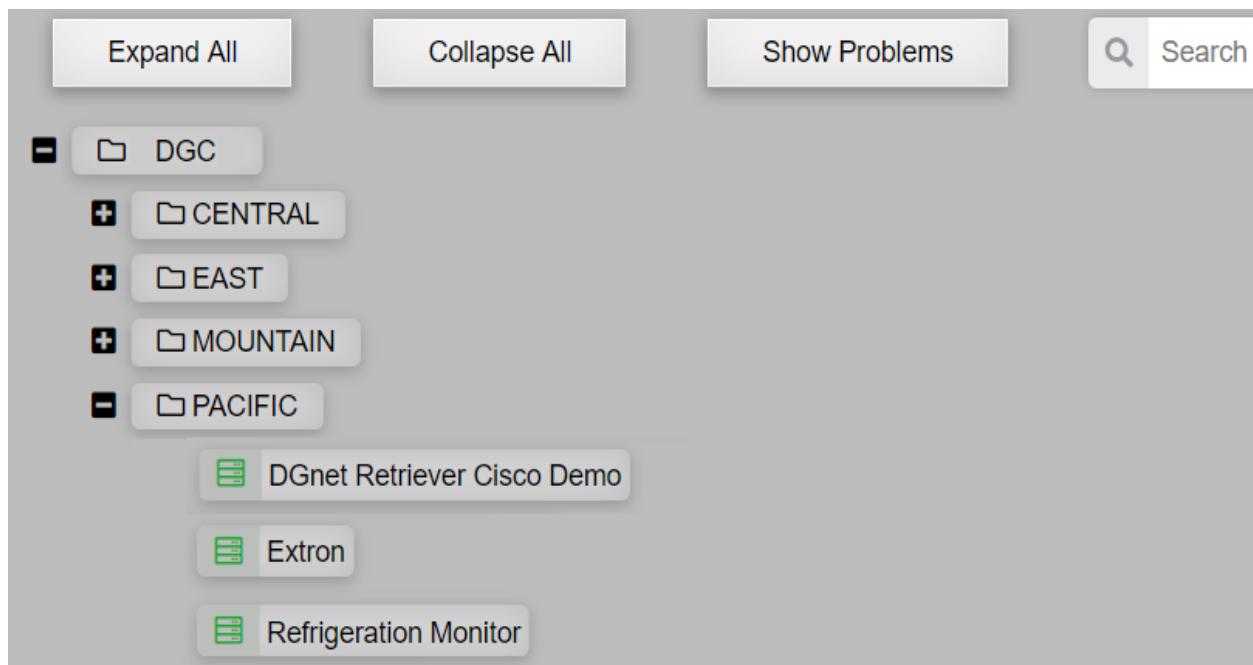- Apply filters to dynamically organize information and narrow focus.

Figure 10: Main dashboard of the DGnet Watchdog portal

The DGnet Watchdog web portal contains a customizable 'Doghouse', which displays a consolidated view of all your rules-based notifications. The Doghouse is a convenient place to track critical events and quickly receive notifications of any issues.

Active notifications display as issues arise with a link to real-time information (see figure 11). As issues are corrected, they are automatically removed from the list. A checkmark indicates no active issues (see figure 12).
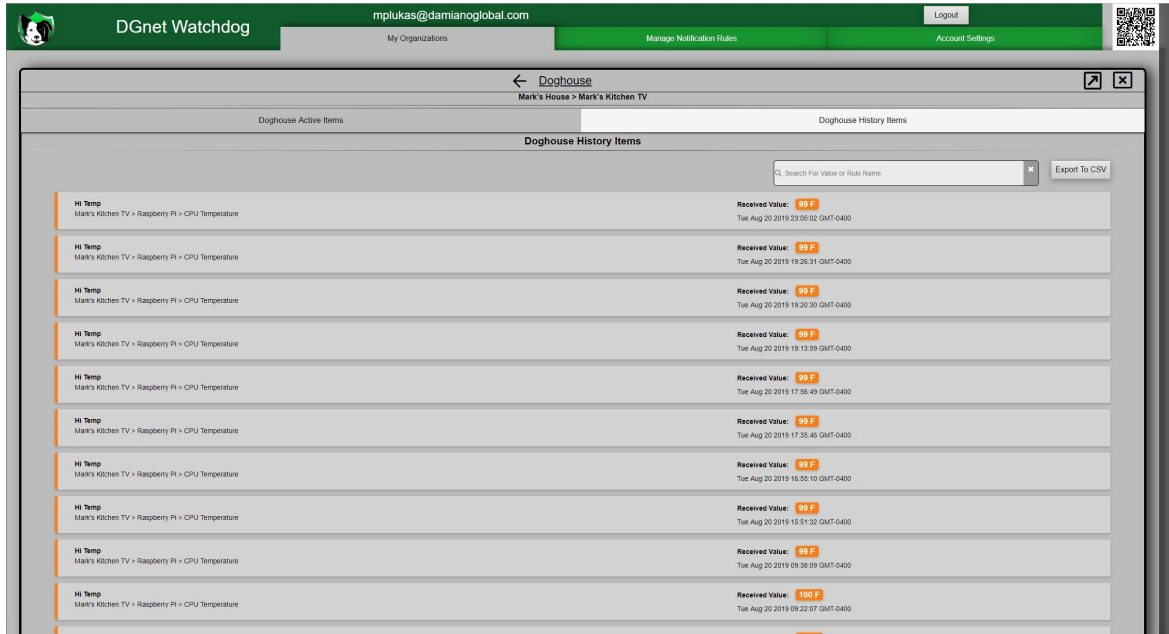
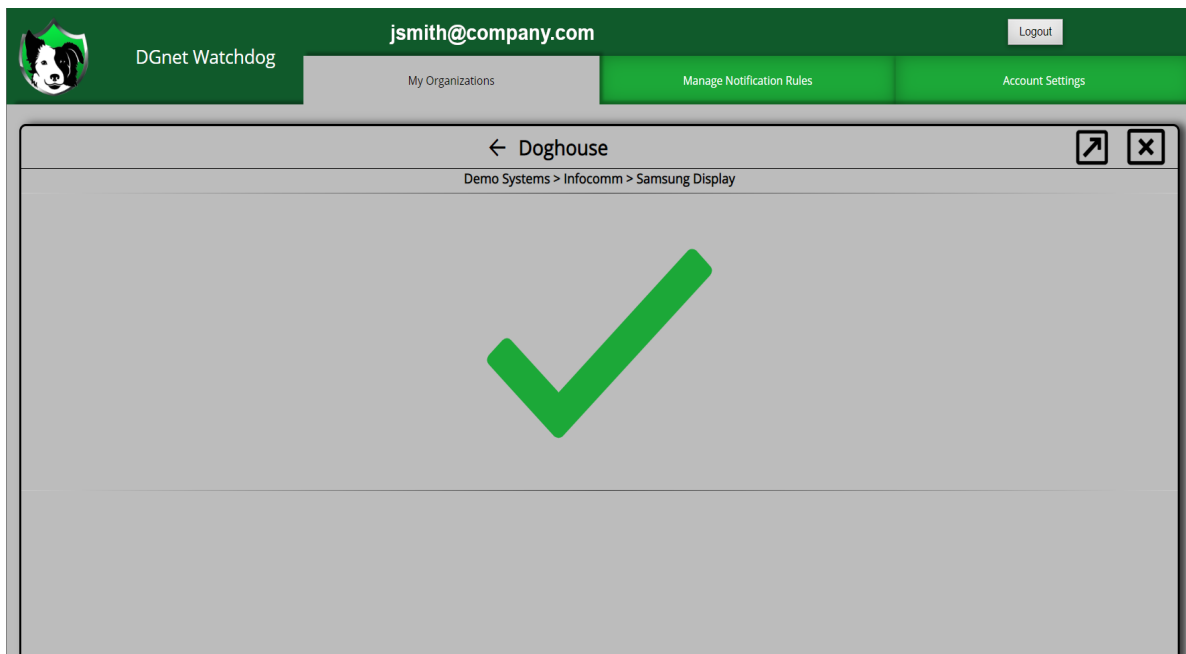*Figure 11:* *Example of active notifications listed in the Doghouse.*

Figure 12: *Example of a page displaying no notifications.*

Reporting and Analytics

DGnet Watchdog empowers you to analyse your data, spot trends, and diagnose problems. Data such as room usage, occupancy, power consumption, and temperature can be used to generate graphs that illustrate an issue (see figure 13).

You can easily share graphs by scanning the QR code, sharing the URL, or directly downloading the image. The data in the graph can also be downloaded in CSV format for further analysis.
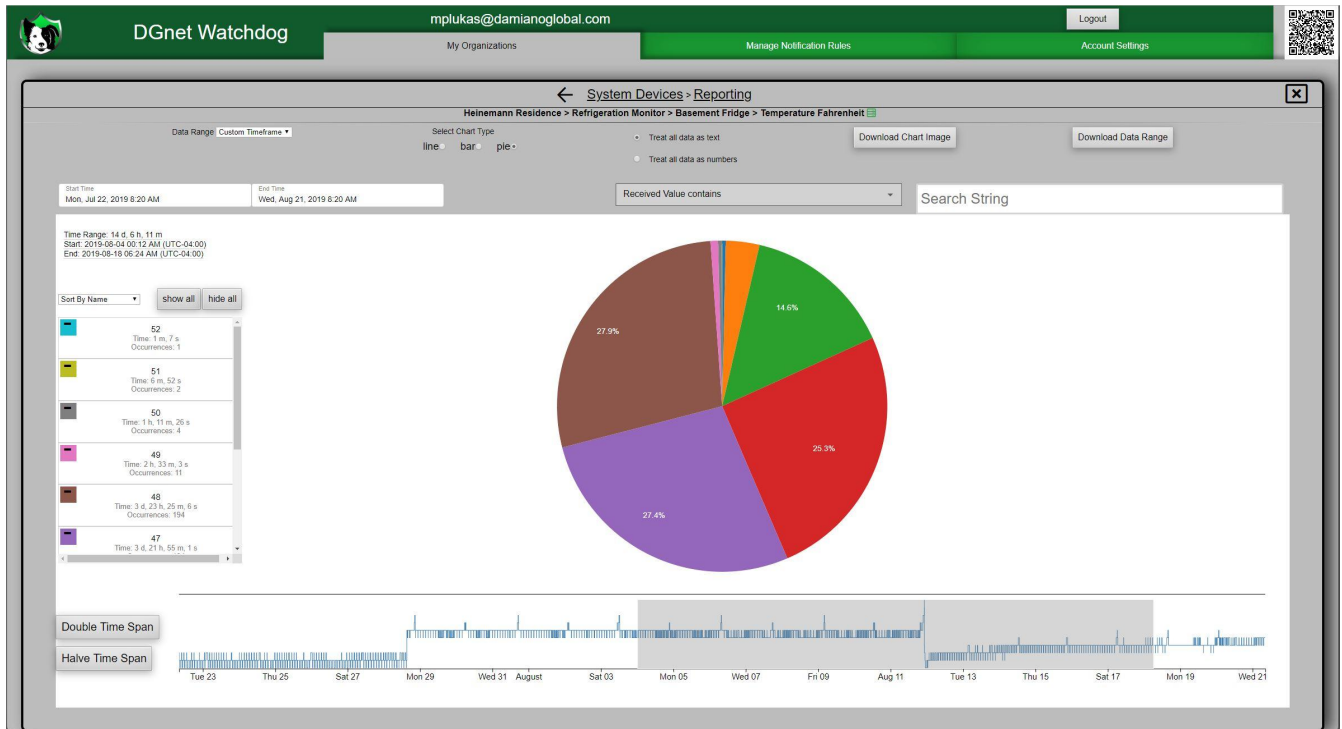
Click here to see a demo.

Figure 13: *Sample reporting available on DGnet Watchdog*

Account Management

Account management in DGnet Watchdog is simple, yet powerful:

- Easily add a user account by entering an email and setting permissions.
- Control who may create new user accounts and modify permissions (figure 14).
- Determine which users can monitor and control device settings.
- Manage billing and financial information as well as which users may change them.
- Separate systems into sub-organizations to control permissions at the system level.

Organization Menu > Manage User Permissions	
Company	
User	**Permissions**
ceo@company.com	Owner
cto@company.com	Owner
technician_manager@company.com	View Systems, Control Systems (Remote Access), Invite Users, Manage Users, Create Organizations, Manage Organizations
technician1@company.com	View Systems
technician2@company.com	View Systems,Control Systems (Remote Access)
accounting@company.com	Manage Billing, View Monthly Bills
manager1@company.com	Invite Users, Manage Users, Remove Users

Figure 14: *Sample DGnet Watchdog screen showing available user permissions*

DGnet Watchdog Use Cases

Most real-world events can be detected and monitored. Below are some potential use cases for DGnet Watchdog:

- **Revenue-producing devices:** Improve your returns from vending machines, arcade cabinets, and gaming machines by quickly detecting malfunctions.

- **Manufacturing:** Track production rates and implement predictive maintenance by monitoring critical systems and gathering PLC and tooling information.

- **Property management:** Create a secure virtual dashboard combining all building systems like HVAC, pump houses, and access control.

- **Retail:** Monitor critical equipment like refrigeration, tanks, kiosks, and other retail systems to protect assets, mitigate spoilage, and reduce downtime.

- **Education:** Support systems by tracking assets to prevent theft, enabling remote troubleshooting, and managing equipment service.

- **Help desk:** Introduce proactive troubleshooting by reporting device status in real time and remotely resolving problems via supplemental control.

- **NOC/War room:** Be aware of ongoing issues, which clear automatically when resolved.

- **Security:** Combine all your existing systems and supplement them with additional sensors.

- **Hospitality:** Offer discreet device monitoring and control from the manager's or concierge's desk by monitoring in-room televisions, mini-bars, lighting, and heat. Notify staff before an issue occurs without inconveniencing guests.

- **Farming:** Monitor indicators like soil moisture, incubators, pen heating and cooling, irrigation systems, and hydroponics.

Pricing

DGnet Watchdog applies a utility-style pricing model based on how much customers and their devices use the platform.

This post-pay pricing model gives customers the flexibility to economically deploy monitoring solutions for a variety of devices and environments. For example, the usage cost of a typical AV conference room is less than $3 per month.

DGnet Watchdog is contract-free, processed monthly, and can be cancelled at any time.

Standard Account	Patron Account
Ideal for larger volume customers	Ideal for initial deployments with the flexibility to grow as required
Platform usage only ($99 monthly minimum)	$19 monthly patronage fee plus platform usage
Available directly from the DGnet Watchdog website	Only available through DGnet Watchdog reseller partners

Custom Development

We created DGnet Watchdog from the ground up on an enterprise cloud infrastructure. This allows us to provide turn-key solutions, readily add features, and develop custom applications as customers need them.

Our open API allows third parties to create products and services that benefit from the features, scalability, and flexibility of DGnet Watchdog. Development can be accelerated using our publicly available code base, which provides a starting point for many established platforms and devices.

DGnet Watchdog can be customized to improve customer service, simplify business processes, and even create new revenue streams. Let us work with you to explore your options and discover what DGnet Watchdog can do for your organization.