



DGnet Watchdog

watchdog.dgnet.cloud





PRODUCT OVERVIEW

From a single interface, DGnet Watchdog allows you to monitor the health of your equipment and integrated systems regardless of the controller running them.

DGnet Watchdog monitors and proactively notifies you of any problems, while a supplemental control component allows you to do simple things like ensuring your systems do not remain powered on overnight or during the weekend.

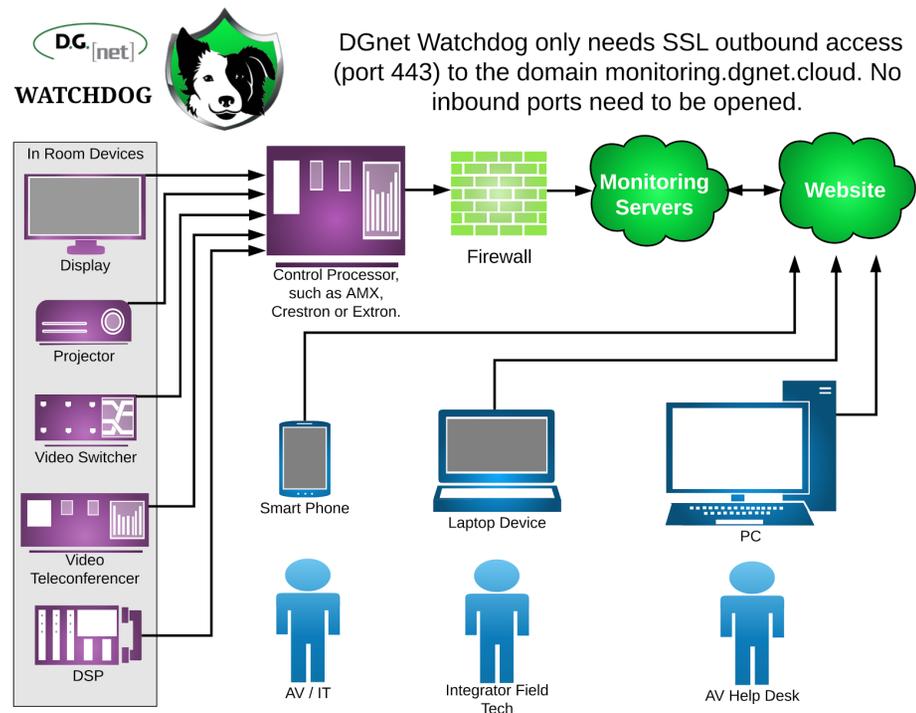
Most importantly, DGnet Watchdog helps keep you informed and responsive, alerting you to a problem with your systems before you go and try to use them.

For more information please write to us at info@dgnet.cloud.

To sign up for an account, please visit watchdog.dgnet.cloud.

DGnet Watchdog consists of a cloud-based database with a browser interface and mechanisms for rules-based notifications like email. Anything which accesses that database using the established API can log values for later use in notifications or analytics.

Devices which can deliver information to DGnet Watchdog exist as either a module within the control system program or as an edge device for more specialized applications. The delivery happens through a secure, outbound-initiated communication via the public cloud. The following chart illustrates the overall setup of the Watchdog.



DGnet Watchdog only needs SSL outbound access (port 443) to the domain monitoring.dgnet.cloud. No inbound ports need to be opened.



SOURCE DEVICES

As mentioned, DGnet Watchdog can take information from a variety of sources. In the typical AV control environment modules are included in the control program (Typ. Crestron, AMX, Extron) that receive attribute information from endpoint devices and relay it to the Watchdog cloud. Communications status, lamp hours, room occupancy, and modes are just a few examples of attributes one may wish to track and/or be alerted to. Limited control functionalities can be set allowing a variety of actions to be initiated such as device or room startup/shutdown. Mute functions, volume adjustment. All of this is up to the programmer and the user to determine.

Additionally, strings may be sent to and monitored from those devices for diagnostics and troubleshooting. A controllable PDU can allow the control and monitoring of power consumption on each outlet. This enables remote re-powers and advance failure warnings.

Beyond the conventional AV control devices, DGC has created inexpensive 'edge devices' that can be custom configured to monitor equipment that is not connected to an AV control system. Utilizing computing platforms like the Raspberry PI, Arduino, Texas Instruments, etc. we can enable monitoring and control of a wide variety of equipment. An example for talking to a single display in a hotel room or building lobby is pictured below.





MONITOR & NOTIFICATIONS

The human interface for DGnet Watchdog is currently through the Watchdog web interface and email. The web interface allows real-time indication of status and events, interaction with the monitored equipment, notifications of alert or failure conditions, and management of users of the system. Intuitive filtering allows dynamic organization and focus to the exact device to be examined.

Watchdog Console
Always on patrol

Dashboard Account Download Sign-out

Home
Delete System
Dog House

Root > DGC > DGC Test Lab > DGCnet Watchdog Demo Rack > AMX >

Details

Description	NX-1200 In Demo Rack	Edit
Name	AMX	Edit
Online Status	Offline	Notify Me

When sending commands please allow for up to 15 seconds for commands to be executed.

System(s)

Select Devices To View
SHOW ALL HIDE ALL

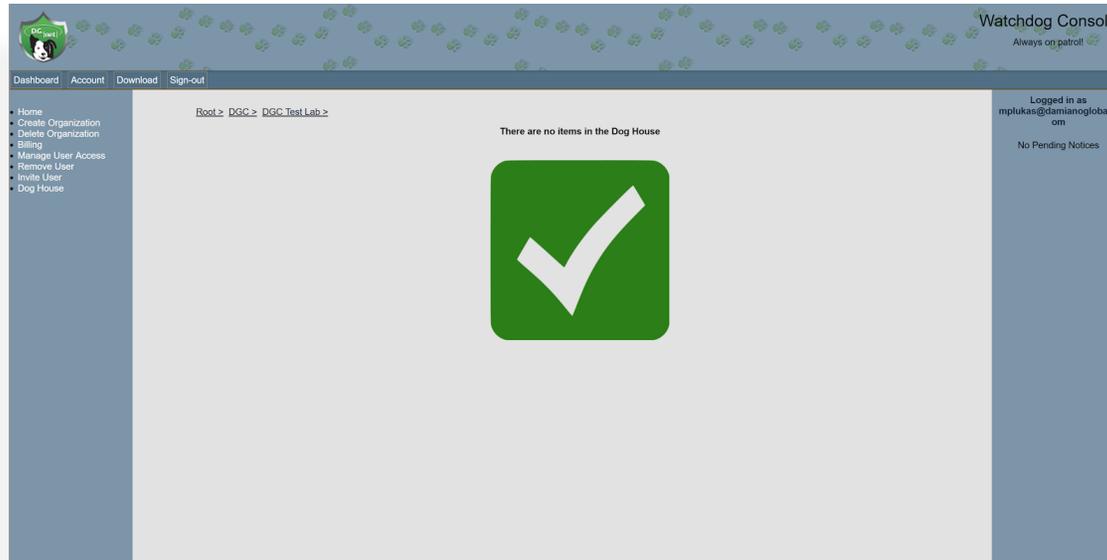
Select Attributes To View
SHOW ALL HIDE ALL

Level 1 Level 2 Level 3 Level 4 Level 5 Level 6 PDU 1 - AMX Camera
PDU 2 - Crestron Camera PDU 3 - Extron Camera PDU 4 - Marshall Monitors PDU 5 - Extreme Switch PDU 6 - Rack PC PDU 7 - PC Monitor PDU 8 - Extron IFCP Pro
Pig Sensor Sony EVI-D100

Device Online Device Power Mute State PDU Input Voltage Power Consumption Power Rack Temperature Receptacle Power Value

Device Name	Attribute Name	Value	Value To Send
Level 1	Mute State	UNMUTED	Toggle Mute Send
Level 1	Value	93	Send
Level 2	Mute State	MUTED	Toggle Mute Send
Level 2	Value	0	Send
Level 3	Mute State	UNMUTED	Toggle Mute Send
Level 3	Value	37	Send
Level 4	Mute State	UNMUTED	Toggle Mute Send
Level 4	Value	22	Send
Level 5	Mute State	UNMUTED	Toggle Mute Send
Level 5	Value	40	Send
Level 6	Mute State	UNMUTED	Toggle Mute Send
Level 6	Value	9	Send
PDU 1 - AMX Camera	PDU Input Voltage	119.5 V	-
PDU 1 - AMX Camera	Power Consumption	4.7 W	-
PDU 1 - AMX Camera	Rack Temperature	78.9 F	-
PDU 1 - AMX Camera	Receptacle Power	ON	Toggle Power Send
PDU 2 - Crestron Camera	Power Consumption	4.7 W	-
PDU 2 - Crestron Camera	Receptacle Power	ON	Toggle Power Send
PDU 3 - Extron Camera	Power Consumption	4.7 W	-
PDU 3 - Extron Camera	Receptacle Power	ON	Toggle Power Send
PDU 4 - Marshall Monitors	Power Consumption	8.5 W	-
PDU 4 - Marshall Monitors	Receptacle Power	ON	Toggle Power Send
PDU 5 - Extreme Switch	Power Consumption	27.4 W	-
PDU 5 - Extreme Switch	Receptacle Power	ON	-

The monitor panel has two major functions. An over-all filterable view of all systems being tracked and the Dog House where critical alerts and alarms are singled out for attention.



The **Dog House** is a convenient place to keep track of critical events. When no notifications are pending, the screen simply displays a large check mark on a green background.

When a defined notification is present, the checkmark is replaced with a list that allows the attendant to drill directly to the problem.





The **account management panels** let the user manage access to the various system features, create notifications (Dog House) conditions, and manage the billing and financial aspects. Further, the user can organize all the monitored attributes by organizations etc. to make navigation easy and intuitive.

The screenshot shows the Watchdog Console interface. At the top right, it says "Watchdog Console" with the tagline "Always on patrol!". Below this is a navigation bar with "Dashboard", "Account", "Download", and "Sign-out". On the left is a sidebar menu with options like "Home", "Create Organization", "Delete Organization", "Billing", "Manage User Access", "Remove User", "Invite User", and "Dog House". The main content area shows the breadcrumb "Root > DGC > DGC Test Lab > DGnet Watchdog Demo Rack >" and the title "Manage User Access" for "DGnet Watchdog Demo Rack". The user is logged in as "mplukas@comcast.net". Below this is a table of permissions with checkboxes for each item. At the bottom of the table are "Submit" and "Cancel" buttons.

Permission	Checked
Owner	<input type="checkbox"/>
Modify Billing information	<input type="checkbox"/>
View Monthly Bill	<input type="checkbox"/>
Create Organizations	<input type="checkbox"/>
Manage Organizations	<input type="checkbox"/>
Delete Organizations	<input type="checkbox"/>
Manage Devices and Attributes	<input type="checkbox"/>
Delete Devices and Attributes	<input type="checkbox"/>
Invite Users	<input type="checkbox"/>
Manage Users	<input type="checkbox"/>
Remove Users	<input type="checkbox"/>
View Systems	<input checked="" type="checkbox"/>
Control Systems - Send Attributes to remote processors.	<input checked="" type="checkbox"/>
Invite Patron organization	<input type="checkbox"/>
Create Device Attributes	<input type="checkbox"/>
Manage Device Attributes	<input type="checkbox"/>
Delete Device Attributes	<input type="checkbox"/>
Enable Device RX / TX Realtime Monitoring	<input type="checkbox"/>
Send TX Data Directly To Devices	<input type="checkbox"/>



CAPABILITIES FOR EXPANSION

- **Edge devices** like Raspberry PI, Arduino, Texas Instruments, and desktops can all be pressed into customized service. Anything that can reach out to the internet on port 443 and be programmed to follow the WatchDog API can be used as a monitor point."
 - **Manufacturing** processes and equipment can be monitored and reported including links to plant security and facilities departments.
 - **Building management** systems watching HVAC, pump houses, parking systems etc. can be linked to DGnet Watchdog.
 - **Farming** indicators like soil moisture, incubators, pen heating and cooling, irrigation systems, hydroponics monitors can be tracked on a single screen.
- **Retail** spaces can link their critical equipment to watchdog. Refrigeration units, coolers, heaters, vending and gaming machines, photo printing kiosks...all can be added to Watchdog.
 - **Charts and Graphs** are in development and nearly ready for public consumption. The user can produce statistical analysis and graphical representations. Room usage, occupancy, power consumption, temperatures...any data being logged by Watchdog can be pushed through analytic engines.
 - **Data exports** from the monitored attributes will be built for insertion into client applications like spreadsheets and databases.



USE CASES

AV/IT Manager

AV and IT managers often have many sites and spaces of varying importance and would benefit from more timely reporting of issues. WatchDog can provide that comfort level and rapid notifications.

Help Desk

As either a paid feature add or simply a value add to warranty or help desk contracts, WatchDog can significantly improve responsiveness, often moving the help desk from a reactive mode to a proactive mode.

NOC/War Room

With the DGnet Watchdog Dog House screen occupying a place in a NOC or War Room display wall, the staff can immediately see conditions under their perusal as they occur.

Campus Alarm Annunciation

Campus security often is tasked with monitoring of building and facilities infrastructure. Gathering of conditions like pump houses, gates and doors, power plants, moisture/flood sensors etc. onto single screen can ease these tasks for the security staff including directly notifying the facilities dispatchers concerned with events.

IOT

The InterNet of Things is rapidly coming to the fore. DGnet Watchdog can be put to use in home appliances, automotive systems, and home theaters as examples.

Gaming

Monitoring of the internals of revenue producing devices like vending machines, video games, and slot machines provides nearly instantaneous indication of malfunctioning machines which directly impacts earnings.

Hospitality

Discreet device monitoring and limited control from the manager's or concierge's desk can provide a higher level of guest satisfaction. DGnet Watchdog can use a Raspberry PI Zero as the simple, tiny, inexpensive interface to in-room televisions, mini-bars, lighting, and heat.

RETAIL

DGnet Watchdog can monitor cooling houses, refrigeration cases, seafood tanks, incubators, live tanks...anything protecting assets alerting the staff to take rapid action."



FINANCIALS

At its core, DGnet Watchdog is a PaaS (Platform as a Service) solution. Like other PaaS offerings, it involves a dynamic monthly subscription based on usage. In the case of DGnet Watchdog, speaking in general terms, usage is measured by how many processors communicate with our servers, the frequency and volume of those communications, and how much interaction users have with the website.

Because usage is heavily dependent on how a processor is programmed, where DGnet Watchdog developers are not involved in the coding of processors, we cannot accurately estimate an application's usage, and because of the myriad of applications and customer operational requirements, we cannot offer fixed pricing. That being said, we can provide simple guidelines for estimating, and an assurance that we are available to work with programmers to help them code their systems as efficiently as possible to meet their specific needs.

As an example: one can expect that a typical integrated room system, or custom device application, will average a few (3) dollars, per system, per month. The regular check-ins of a processor with our servers alone accrue about one dollar per month. For most applications, efficient programming, combined with reasonable user website interaction, can easily keep the total usage costs for any given processor in the range of the above example.

The following account types are available. They require no contracts, are post pay, and can be cancelled at any time:

- **Standard Account**
 - usage charges or \$99 alternative minimum charge [whichever is greater]
 - Standard Accounts can be created directly from the DGnet Watchdog website
- **Patron Account**
 - usage charges plus \$19 patronage fee
 - Patron Accounts are only available through DGnet Watchdog reseller partners



CUSTOM DEVELOPMENT

DGnet Watchdog is intended to be a self-service platform which may be readily utilized by any developer. Our open API works with any device capable of secure communication (TLS SSL) with a web server. We also continually develop and refine modules which are available for free download to streamline integration of DGnet Watchdog functionality into established platforms and devices.

While all the above is well and good, it is important to note that DGnet Watchdog developers are available to provide free support to any programmer using the platform. If needed, our developers may also be contracted to provide turn-key custom development of DGnet Watchdog applications. We don't just offer software development either. The DGnet Watchdog team is able to assist with system design and prototype development.

These custom development services are funded either directly up-front with a fixed priced contract, or applied over time as a custom development and support fee for each processor connected to the platform.

DGnet Watchdog can be customized in countless ways to improve customer service, business process, 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.

D.G.[net]

WATCHDOG



Universal Cloud
Monitoring Platform

- Simple - Reliable - Scalable
- Plays Well With Others
- Doggone Secure

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