Application Note

A new paradigm in Remote Monitoring
Netronix's IoT solution



Reference: AN0049

Introduction

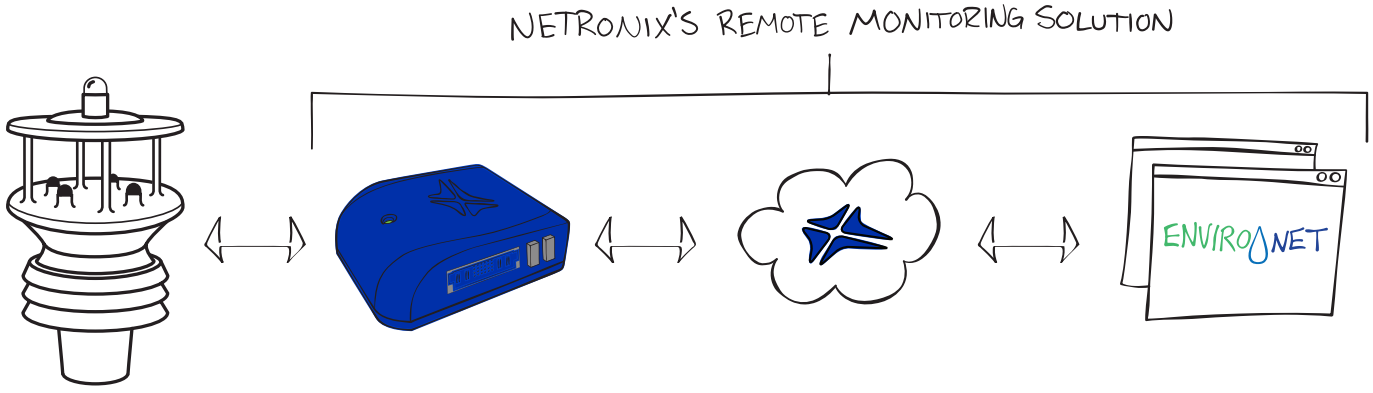
In our daily lives, we are experiencing the rise of connectivity with more and more devices having the capability of internet connection, which is a direct result of what has been called the "Internet of Things" Revolution. With the advent of IoT, any person has the opportunity to remotely connect to everything that is data, at any given moment in time.

One of the challenges of implementing IoT in the weather monitoring industry is having access to the data being measured, integration of this data, and data analysis, from different types of sensors distributed in various geographic points. Conventional methods of remote monitoring are by all definitions, outdated, given the current state of technology, resulting in expensive and overly complicated installation processes.

Netronix's IoT solution

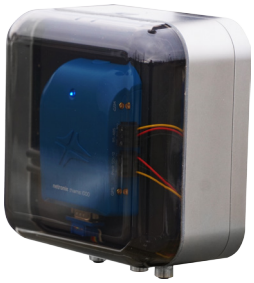
Netronix offers the most comprehensive turn-key solution on the market for monitoring 3rd party sensors – using measuring devices that include everything from weather instruments, to air quality sensors, water quality probes and etc. The Netronix IoT solution surpasses basic remote monitoring because it is NOT an integration of 3rd party hardware and software. There is no longer a need for the traditional extra steps that once included programming, datalogging, configuring devices or setting up networks. As a matter of fact, there is no need for any technical background…that is a thing of the past. Rather, Netronix's IoT solution incorporates hardware and software that have been developed with sophisticated in-house methods making data transactions through the Netronix IoT solution the most reliable and secure solution in the market.

The Netronix IoT solution is made of three key features. First, the all purpose-built hardware, "Thiamis," enables sensors to report and communicate directly to Netronix's cloud by way of various communication medium including 3G, WiFi, Mesh and other. Second, the data is captured and securely stored in the cloud. Third, the data stored in the cloud is now made available to the end-user through Environet - an advanced hosted web-based application. Environet provides the end-user with real time access to the data being monitored at anytime and from anywhere, in addition to data analysis and collaboration, because it is accessible from the user's wireless device (Smartphones, Tablets or the Web).

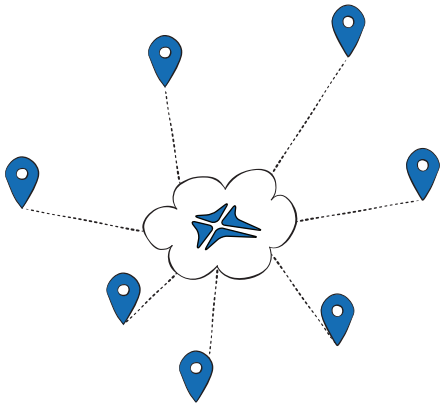




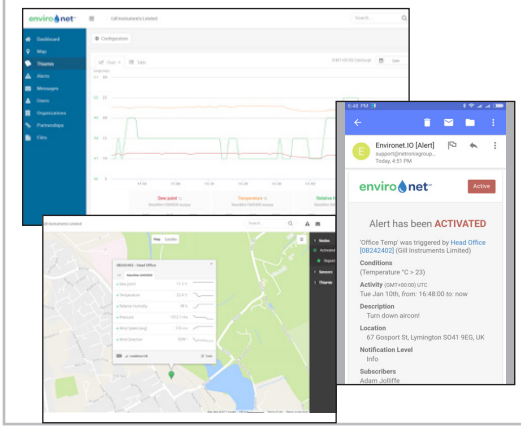
Thiamis 1000™ is a vital component of Netronix's IoT (Internet-of-Things) platform. It combines control, data logging, digital processing, global positioning and telemetry into one.



Node is a weather proof enclosure accessory to the Thiamis. Together, a complete, self-contained weather monitoring system designed specifically for long-term operation in harsh environments. The Node enclosure has a built in 20 Ah battery and battery charger.



Netronix's Cloud is the mastermind of the entire operation. It is a state of the art network architecture that provides extreme security and system availablity at all times. The cloud controls all the devices on the field, while gathering information from all the sensors. The power of the Netronix cloud enables data to function in two ways. The first is collecting data, that is quantitative. The second function (setting apart the Netronix IoT solution in the market) is the data fusion and analytics capability, that converts the quantitative to qualitative. Finally, the cloud hosts Environet and similar types of applications that run on Netronix's IoT platform.



Environet™ is a fully-hosted, web-based application. The end user can set up alerts, perform real-time monitoring and historical analysis of captured data, as well as, collaborate with peers in an intuitive web-based environment. It is accessible anytime and anywhere from smartphones, tablets or any web-based device.

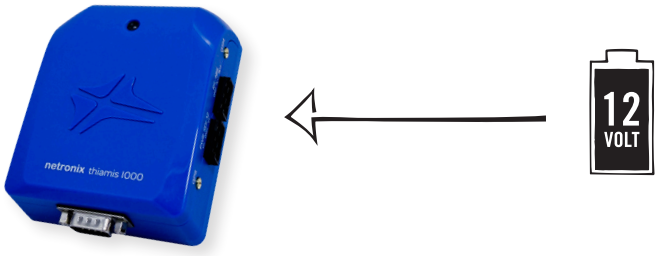


Gill Instruments allow users to take the flexibility of a compact weather station like MaxiMet or a configurable weather station like MetPak and provide a complete weather station solution covering wind speed/direction, temperature, relative humidity, pressure, rainfall, solar radiation and more. Netronix has incorporated the entire range of Gill's instruments into its IoT platform. As a result, any of the instruments can connect to the Thiamis in a plug-and-play fashion enabling the user access to the data and the ability to configure the devices directly from Environet.

Installation

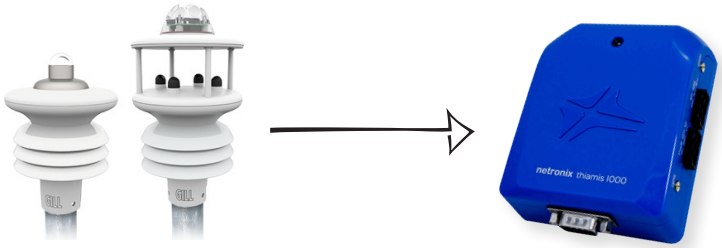
Step 1

Power up the Thiamis with a DC power source 6-12v ⎓ 1A.



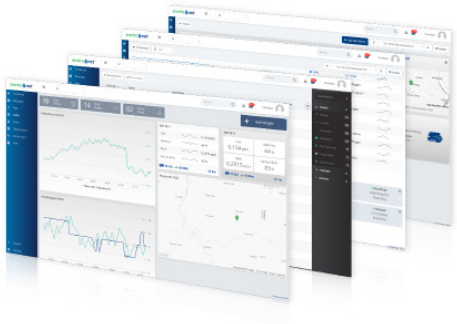
Step 2

Connect the sensor(s) to the appropriate communication port(s) on the Thiamis such as RS-232 port.



Step 3

Access your data directly on your smartphone, tablet or the Web via Environet.











Solution Highlights

- **GILL approved** The Netronix platform works seamlessly with all GILL weather instruments, as well as any competitors' instruments.
- **Plug-and-Play** The Netronix IoT solution works right out of the box—just connect the sensor to the Thiamis . . . and you are done. No need for a technical background.
- **Smart Alerts** The Netronix platform provides sophisticated cloud based alerts for different parameters and various sensors.
- **Data on the Go** Easy access to data directly from the end user's smartphone, tablet or the web from any location at any time the need arises.
- **Global coverage** Thiamis works in over 120 countries.
- **Secure and Scalable** The Netronix IoT solution offers the best security protection against hacking while the robust network architecture of Thiamis allows any number of units on the field to be monitored.
- **Cost-effective** One time purchase for the Thiamis hardware and a monthly subscription fee - unlimited users, unlimited alerts and unlimited data hosting.

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