



Networking the 21st Century Home

With two locations, Lightwaves taps GroundWork Monitor Enterprise to assure uptime, connectivity

About LIGHTWAVES INC.

LOCATIONS

Cedar Rapids, Iowa
Austin, Texas

WEB SITE

<http://lightwaves.net>

BUSINESS

Microprocessors for home networking systems.

INDUSTRY

Technology

EMPLOYEES

12

DEVICES MONITORED

38 using 400 service checks.

BUSINESS DRIVER

Engineers' productivity—when systems are down, it hampers remote site collaboration, which requires constant data sharing.

PRIOR SOLUTION

Nagios and GroundWork Community Edition.

WHY THAT PRIOR SOLUTION?

Familiarity.

WHY GWOS?

Ease of use, powerful.

NEXT MONITORING IMPROVEMENTS

Integrating GWME with Splunk log monitoring to avoid manual checks.

FUTURE MONITORING

Create a plug-in to unify log, system, network and compute monitoring in one dashboard.

The networked home—with appliances, electrical and communication systems tied together for entertainment and energy management—is rapidly moving from futuristic to the mainstream. Home networking developer Lightwaves Inc. has tapped GroundWork Monitor Enterprise (GWME) to ease any systems risk on its journey to lead the emerging trend.

Operating from locations in Cedar Rapids, Iowa, and Austin, Texas, Lightwaves' engineers must collaborate remotely throughout the workday and utilize specialized equipment at one location or the other to advance their work. IT Director Daniel Wittenberg relies on GWME to keep the two research and development sites talking to each other and focused on innovation, not system management.

Lightwaves' engineers are fine-tuning the company's patented TimeFlux™ technology, an R&D task so critical in this early-stage market that disruptions from a shaky infrastructure could threaten the company's viability. To give him visibility to critical network issues, Wittenberg chose GroundWork Enterprise Monitor.

Lightwaves' vision is to allow home networks to connect via existing telephone, cable or electric power lines more quickly than any other home networking technology. That means guaranteeing bandwidth and consistent latency for every device on the residential network, including multi-

ple high-definition (HDTVs) and Internet Protocol televisions (IPTVs).

TimeFlux can support hundreds of kinds of Internet devices or services: computers, game machines, security systems, energy management, and home automation to name some popular selections. Lightwaves expects to deliver its revolutionary product as microprocessors to be embedded in home devices of all kinds.

In the competitive race to wire homes, one Lightwaves advantage lies in the collaborative design efforts of its distributed engineering team: Austin, meet Cedar Rapids. With GroundWork Monitor

"It was a problem just getting other admins to use Nagios. GroundWork streamlines the configuration process and lets people who are not familiar with Linux work in GroundWork instead of sending their problems over to me."

— Daniel Wittenberg, IT Director, Lightwaves

Enterprise, Lightwaves achieves the art of uptime so seamlessly that employees take for granted this rather rare accomplishment of continuous connectivity.



Monitoring System

PREVIOUS SOLUTION:
Nagios

ISSUES:
Windows techs sent new configurations to Linux guru, making Linux administration a process bottleneck.

EVALUATED:
Nagios, Zenoss, Hyperic.

SELECTED:
GroundWork Monitor Enterprise

REASONS:
Power, ease of use.

GWME DEPLOYMENT:
Server-based with GroundWork Monitor Enterprise 6.0 running on CentOS.

MONITORING COVERAGE:
38 devices with 400 service checks.

Wittenberg has significant experience with enterprises larger than Lightwaves' 12 employees, and he's been a fan of the open source project Nagios, which he used at Lightwaves before GroundWork Monitor Enterprise.

"We can make massive changes across the board with minimal effort."

— Daniel Wittenberg, IT Director, Lightwaves

"Nagios is powerful but confusing," Wittenberg said. "One of the best features of GroundWork Monitor Enterprise is that it gives you the power of Nagios but simplifies configuration and management—it's much easier to orchestrate through Enterprise's web interface than the command line of Nagios."

For Wittenberg, that means Windows administrators can do configurations themselves instead of turning to a Linux expert. Said Wittenberg, "GroundWork streamlines the configuration process and lets people who are not familiar with Linux work in GroundWork instead of sending their problems over to me. It was a problem just getting other admins to use Nagios."

When Wittenberg decided to upgrade from Nagios, first to GroundWork Community Edition and eventually to GroundWork Monitor Enterprise, GWOS' intuitive graphical interface helped GWOS win. He looked at other open source projects,

including Hyperic and Zenoss, but found GWME's monitoring algorithms "enterprise-robust." He particularly liked the ability to make changes using GWME's Web interface, then push them to all machines "almost in minutes. We can make massive changes across the board with minimal effort."

With GWME, Lightwaves monitors 400 services on 38 devices, tweaking configurations almost daily. Two Mac OSX servers, one at each location, are monitored by approximately 50 unique checks. Also on the monitoring list: Cisco IP phone system, switches, three separate VLANs at both locations, custom lab hardware in two locations, VPN, firewalls, printers, email and Web sites hosted by outside service providers, a QuickBooks server, MySQL and Oracle databases, wireless access points, and more.

Moving from Nagios to GroundWork took only half a day—"GroundWork Monitor Enterprise is so close to standard Nagios that it's easy to migrate configurations," Wittenberg said. All Nagios plug-ins run natively in GWME plus customers can create their own.

Wittenberg has written custom plug-ins for GWME and plans to do more. "The next thing I'd like to work on is better integration with Splunk log monitoring. Right now I manually look through the reports and I'm going to write a plug-in that could query the logs for anything bad," Wittenberg said. "I'd like to write a few other plug-ins, if I had time, to make all



log, system, network and compute monitoring done in one dashboard.”

For Lightwaves, monitoring means minimizing downtime and boosting engineers’ productivity as they race to bring the technology to market. “They’re constantly sharing data back and forth between Lightwaves’ two sites,” he said.

Wittenberg, a heavy user of GWME notifications, is driven by both fear and philosophy.

“If I don’t respond to an event, my boss knows. For my own self-preservation, even if I’m hit by a bus, somebody needs to know about any problem. No matter what it is, you can go to GWOS and you should have visibility very quickly. You can see at once the servers, VPN connection, switches, everything.”

GWOS also supports Wittenberg’s IT philosophy: “In IT, you support the company and keep everything out of the way of engineers and business people. When we have a problem, I can fix it before most people know about it. Downtime definitely hampers productivity.”

ABOUT GWOS

San Francisco-based GroundWork Open Source, Inc. (GWOS) is the market leader in commercial open source network and systems management software, delivering enterprise-class network, system and application management solutions at a fraction of the cost of proprietary solutions.

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