

Putting a Different Spin on Network Management

Grundfos Supports Global Expansion and Maintains Competitive Advantage with Entuity Network Analytics



Overview

Headquartered in Denmark, Grundfos Pumps is one of the world's largest manufacturers of water pumps and water systems for both commercial and home use. With over 40 manufacturing sites around the globe that produce more than 16 million pump units a year and 265 offices being managed by Entuity in 65 countries, ensuring optimum network services for their 18,000 employees is a massive undertaking. A network this large requires solid IT process and management strategies to ensure that the network itself is tuned properly for all of the services being run on it.

- ✔ Grundfos Details:
 - 18,000+ employees
 - 4,500 network devices
- ✔ Network Management Software:
 - Entuity Network Analytics
- ✔ Entuity Customer Since:
 - September 2010

The challenge--keeping up with Grundfos' growth

Grundfos has been using Entuity Network Analytics for almost ten years and during that time their network has expanded to approximately 4,500 devices. Supporting this growth and expanding into new technologies has kept the IT team busy adjusting management strategies to guarantee that end-user services are performing at their best. We will look at a few of their achievements and how Entuity Network Analytics (ENA) has played a role in reaching their goals.



Configuration Management adds a unique perspective for managing Grundfos' global network

Managing 4,500 varied devices takes a lot of best practice strategies and consistency in order for the whole network to work efficiently. From firewalls, routers, and UPS devices; to virtual routers and even air conditioners; keeping tabs on how they are all performing is just half of the story.

The Grundfos IT team needed a way to streamline and automate their configuration management process for all these devices. It was taking too much manual time to set up the parameters and then each IT team member was using their own configuration rules based on their own expertise. This individual style of configuration provisioning led to varied discrepancies. They realized that better performance and effective management could be achieved if everyone followed the same set of configuration rules.



Fred Wiest, Network Engineer and Global Network Architect at Grundfos, developed a set of configuration best practices for each device type and then using Entuity Network Analytics, automated the entire process. "ENA's Configuration Management functionality offers us extensive capabilities to really simplify configuring our network." Using the Configuration Management Module not only automates the configuration process, but it provides swift detection and understanding of any configuration changes that are made. It automates enforcement of configuration best practices across their global network. "We are a lot more efficient in handling new roll out deployments and can see any changes immediately before it impacts performance," states Fred. "For example, we can set up a virtual router in Azure in less than 5 minutes. We configure SNMP, add it to ENA, hit a button and the router is automatically configured to our specifications in the Azure cloud."

In addition, ENA has also been helpful in another part of the device management lifecycle—software upgrades, an IOS, or an HP system upgrade. Grundfos has automated the process of upgrades for switches, routers, firewalls, etc. There is a script that runs the upgrade and if there's not enough space for the image, it will automatically clean up enough storage space, delete the old images and download the new image. This automated process for release upgrades doesn't stop there, the configuration script starts the proper boot command and goes immediately into a reboot---the whole process is handled by ENA and saves so much staff time tending to these mundane but necessary tasks that never seem to be consistently taken care of. Keeping devices up to date with their latest software revision has never been easier and timely—this is especially indispensable for security purposes when relying on firewall devices that should be 100% current.

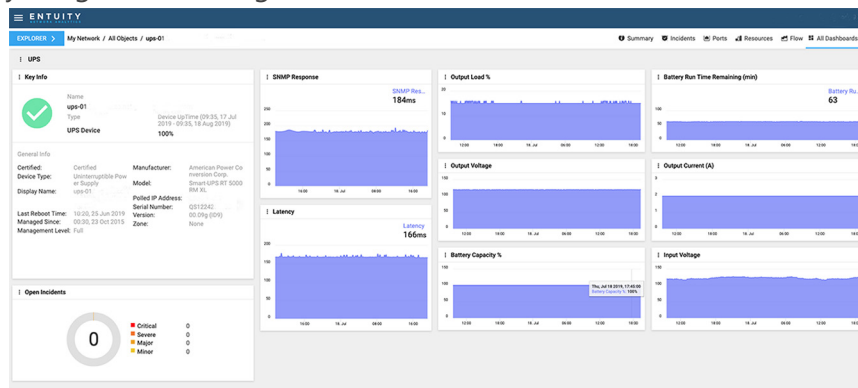
Service Monitoring---a better way to deliver services to end-users

Grundfos is in the process of migrating from a legacy phone system to a Microsoft Skype for Business VoIP communications platform. And the goal here is to create a phone system that performs as well as the previous system providing an excellent user experience. VoIP requires management of bandwidth utilization availability to facilitate first-rate phone quality. Grundfos has set up a Service Monitoring View that monitors IP-SLA metrics and will alert automatically if there is an issue. Service Monitoring allows for a faster diagnosis and problem remediation because it focuses on only parts of the network that the VoIP traffic travels on. Now, they can easily monitor the quality of the calls around any particular region with custom views. "In particular, we automatically watch for voice payload fluctuations and call signaling issues that will impact a user's voice/phone quality," said Wiest. "Alerts are sent when thresholds are exceeded and then we can make immediate adjustments reducing the potential for poor voice quality."

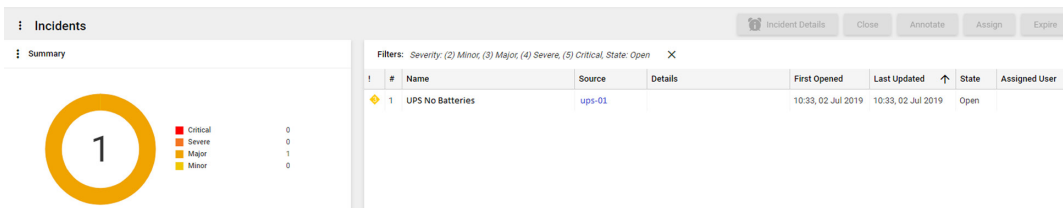
Service Monitoring delivers operational efficiency because it is very specific in terms of what is being monitored. Grundfos IT engineers spend less time searching for root cause and more time rectifying the issue which lessens the amount of outage time on a service or application. This, of course, lends itself to high end-user satisfaction and keeps the business running smoothly.

Far-reaching visibility and extensibility enhance end-to-end management

Entuity Network Analytics' flexibility and extensibility brings to network managers more valuable data by including a range of management capabilities for non-network products. It provides a more thorough look at what could be altering services. For instance, Grundfos adds several different brands of Uninterruptable Power Supplies (UPS) to ENA to monitor. "We do custom polling to these UPS systems that are specific to each vendor—how many batteries are still active, what is the battery life available, etc. It is another way to eliminate the unknown with accurate data to make intelligent decisions on when to replace batteries before they die." In the event of a power outage, an e-mail is sent to the operations team when the number of minutes of battery life goes below a given threshold.

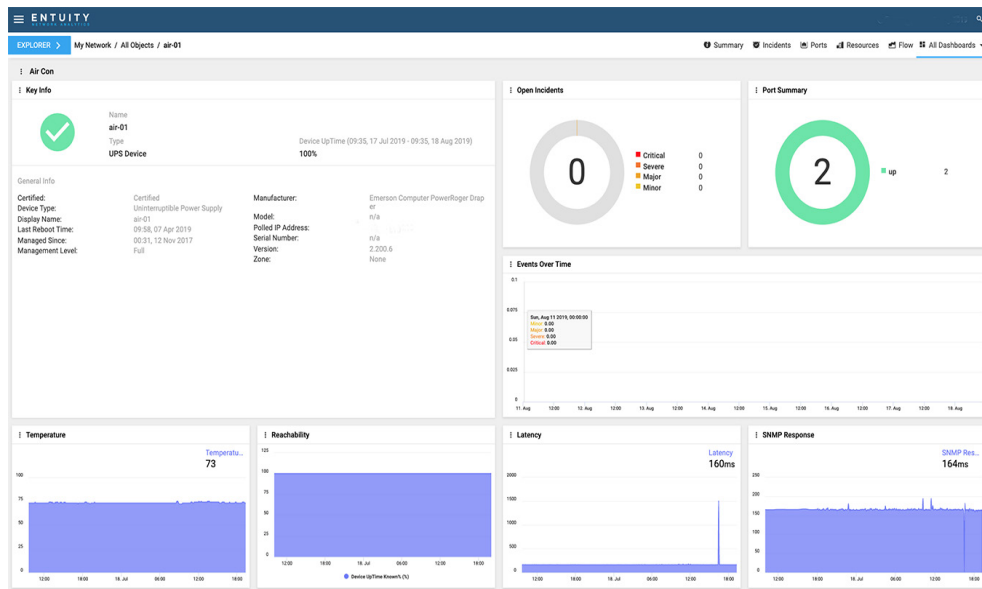


The dashboard above shows all the key metrics being captured for the UPS device-01. The incident notation below displays the open alert that the UPS device's battery is dead.



Fred also reports, “Even our air conditioners are now being monitored—for temperature, humidity, or whether the compressor is running. It is really helpful for us to keep an eye on offices or data centers that are in warmer climates.” It has been instrumental in ensuring correct temperatures are being maintained and this data has been utilized to avert literal meltdowns of devices.

Extensibility results in extending management capabilities beyond traditional network devices. Accommodating more diverse products that can be put under management allows ENA to deliver even more data and visibility for Grundfos to make better decisions and keep services running optimally.



This dashboard shows the summary metrics for an air conditioning unit taken under management in ENA.

Grundfos Results

- ✔ ENA meets Grundfos’ changing network requirements to support expansion and enables them to remain competitive as the leading pump manufacturer in the world
- ✔ Adds consistency for configuration management parameters, improves processes, streamlines and reduces the time needed to deploy new devices
- ✔ Provides better visibility for individual services lowering the time it takes to resolve any issues ensuring outstanding end-user experiences
- ✔ Delivers accurate, customized insights to drive better decisions, appropriate responses and actions.

Sustaining a fluid flow for the future

Grundfos leverages Entuity Network Analytics to improve processes and services rather than simply focusing on device management. “We look to Entuity as our partner in understanding the many ways Grundfos can take advantage of ENA to make our job easier and more refined,” states Fred. “We always need to be looking ahead while at the same time continue to offer reliable end-user services. It is a fine line to follow, but with better insight into our network we can remain the leader in the marketplace.” Grundfos is migrating to the cloud and will continue to add more digital applications like the expansion of VoIP company wide. Keeping a fluid flow of water is what they offer to the world; internally, Grundfos IT keeps a fluid flow of technology moving to their employees that maintains their corporate success.



For today's farmer, Grundfos supplies pumps that meet their critical irrigation requirements. Additionally, Grundfos' pump efficiencies significantly reduce energy costs for running irrigation pumps, one of the highest expenses in the agriculture industry.