ENERGY

GEORGIA POWER

HIGH-AVAILABILITY SYSTEM HELPS UTILITY WEATHER STORMS

Highlights

Company
Georgia Power, a unit of Southern Company

Industry
Utility

Applications/Solutions
- CES Configured Operations and Outage Management System
- Symon help desk/reporting application
- Veritas file management software
- Oracle 7.3 database

Products
- Sun Enterprise™ 10000 (30-way) server
- Solaris™ 2.6 Operating Environment

Key Business Results
- Automated trouble call management and outage analysis improves customer service through better, more timely information, helping the company to restore power faster
- Technology-based customer service solutions help prepare company strategically for rapidly changing competitive environment
- Sun Enterprise server delivers proven high-availability and reliability

"The Sun Enterprise 10000 server gives us exceptionally high reliability and uptime and as processing speeds continue to increase, it will allow us to better serve customers with increasingly detailed information."

Hamilton Hardin, project director
Southern Company/Georgia Power

Virtually everyone has found themselves without electrical power at one time or another; and when it happens, the need to know "when things will return to normal" is paramount. Should you stay home? Do you need to find somewhere else to stay? If you're a business, do you need to bring the next shift in or should you send everyone home?

Such are the questions that electric utilities such as Atlanta, GA-based Georgia Power, a unit of Southern Company, have to answer when outages occur. The ability to provide timely, accurate information while acting quickly to find and fix the source of the problem is key to keeping customers satisfied. In an era of utility deregulation, providing state-of-the-art customer service has become top priority in the nation's utility sector.

Georgia Power is implementing a powerful software solution from Configured Energy Systems (CES) that is changing the way utilities handle outages. The company is using the new software to better manage power and people in emergencies, more efficiently handle planned outages for construction and other regular operational activity, and give its customers the information they need when they need it. Backing up the CES solution is a Sun Enterprise™ 10000 server, which provides the necessary scalability and reliability to manage the company's response to outages throughout Georgia Power's 1.8 million-customer service area.

The Decision at Southern

Southern Company is a $36 billion electric utility that provides power for much of the Southeast United States. Georgia Power Company is Southern's largest subsidiary, serving a customer base spread across 57,000 square miles.

While the utility has a strong reputation for providing reliable power, it was looking to add value to its low-cost electricity service through better and more timely information dissemination and reduced restoration times-particularly in storms and other major disturbances. The company decided to automate the trouble call and outage analysis process to help meet these goals.

"Our customers were telling us that they needed better information on the nature of outages to support their decision making," said Hamilton Hardin, project director at Southern Company. "While an obvious need exists in the middle of a major storm, even routine operation of the network requires that we provide customers accurate information on outages and expected restoration times."

"We felt like outage and trouble calls could have a big impact," said John Robinson, member of the Distribution Management Systems, Power Delivery team at Georgia Power. The previous system had limited automation, with trouble calls being entered into the customer accounting system; but the resulting trouble tickets were still processed by hand. "We wanted to automate that process and utilize both our customer accounting system and digitized mapping system for information support and analysis," Robinson said.

A Georgia Power team evaluated potential solutions, and chose the Configured Operations and Outage Management System (also known as Operations Resource Management System [ORMS]), a package offered by CES. "In addition to rich functionality, the CES solution had the strongest technical architecture. It enabled us to draw information from other applications into the system, analyze that, input and create an effective outage management environment," Robinson said. "With CES, we didn't have to re-key information stored in other systems. It even allowed us to access proprietary applications and databases to get the information we needed," he added. Once the product was selected, Georgia Power created Team TCMS (Trouble Call Management System) to give the project team an identity and momentum leading into the critical implementation.

The Power of Sun

When Southern considered the sheer size of their requirements—millions of customers and thousands of network assets—it became apparent that the ability to scale reliably was critical to the success of the TCMS. Thanks to CES's multi-platform support, Southern Company could choose the best environment for its needs. "That steered us to Sun," Robinson said.

The platform decision was based on the company's considerable experience with operating systems in a variety of environments. For instance, Sun's Solaris Operating Environment delivered the best performance for the company's enterprise-scale networked applications. Additionally, from its experience with Microsoft platforms, Southern Company realized that NT had memory limitations, according to Larry Jenkins, a member of Southern's Technology, Strategy, and Engineering (TS & E) group.

"Outage systems are very graphical and require lots of on-line input from other systems," Jenkins said. "You really need a very efficient memory management to handle the thousands of simultaneous events that can occur."

Although Southern initially intended to base TCMS on a client/server environment, a feasibility analysis quickly identified network computing as a far more scalable architecture. It decided to implement the most scalable and reliable server technology, and that lead them to Sun.

"Because we must connect a large number of users, there was no other hardware available that allowed us to centralize the server and provide the necessary reliability and scalability," noted Jenkins.

Southern Company selected Sun Enterprise 10000 server as the central server for the TCMS. The 30-processor system currently has 64 gigabytes of memory. The system is divided into eight domains, which provide mainframe-like logical partitions that allow individual processors to execute unencumbered. As trouble calls come in, they are entered into Southern's mainframe, and are then directed to the Sun Enterprise 10000 server.

The Sun system is designed and configured to be highly available. Among other things, it includes five redundant power systems. The system will keep running even if four of the five units fail. The system also supports dynamic reconfiguration (i.e., when one processor fails, another processor fills in transparently to the user).

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Rapid Implementation

According to Ken Geisler, CEO of Configured Energy Systems, one of Georgia Power's key objectives was to rapidly implement the system. "Sun was definitely a positive factor in the implementation," he said. Geisler noted that at both Georgia Power and its sister business unit Savannah Power, it took only nine months from project start-up to the system going live.

“CES has been a tremendous partner in helping us through the implementation,” Hardin said. He noted CES worked closely with Sun, stating “that was critical in getting the application up quickly and out to more end users.”

According to Jenkins, Sun played a critical role in the requirements analysis, site assessment, and engineering review and configuration stage. “We worked very closely with Sun technical personnel to get the configuration just right,” he said.

The TCMS solution was well suited for phased implementation. The size of Georgia Power's customer base necessitated implementation over a two-year period. They began with metropolitan Atlanta, covering 870,000 customers, and are gradually expanding to cover the rest of the state. To date, they have gone live with 400,000 Atlanta-area customers, and will finish metro area implementation by July of 1999.

By the end of the year, 1.6 million of the state's 1.8 million Georgia Power customers will be served by TCMS, with the balance to be deployed in year 2000. Gulf Power, Southern Company's Florida-based unit, went live in December 1998 and now serves an additional 350,000 customers on a separate stand-alone system. In March of this year, Savannah Electric went live adding another 128,000 customers to the Sun Enterprise 10000 server. Additionally, Mississippi Power is scheduled to go into full production in the fall.

Raining Benefits

While deregulation has yet to fully impact Southern Company, the implementation of TCMS underscores the company's proactive stance in preparing for that possibility. “While customer service has always been a top priority at Southern Company, we are constantly looking for ways to improve our value to the customer,” Hardin said.

“Even through storm conditions, the application and Sun Enterprise 10000 server have run flawlessly,” Jenkins said. It has provided 99.995% availability to the users-a figure which translates to only four hours of downtime per year.

Customer trouble calls and planned outages are automatically mapped, outage tickets generated, and repair crews dispatched. “Customer service representatives are able to tell customers the nature of the outage and how long it will take to restore power, based on field updates, while they are on the line,” said Hardin.

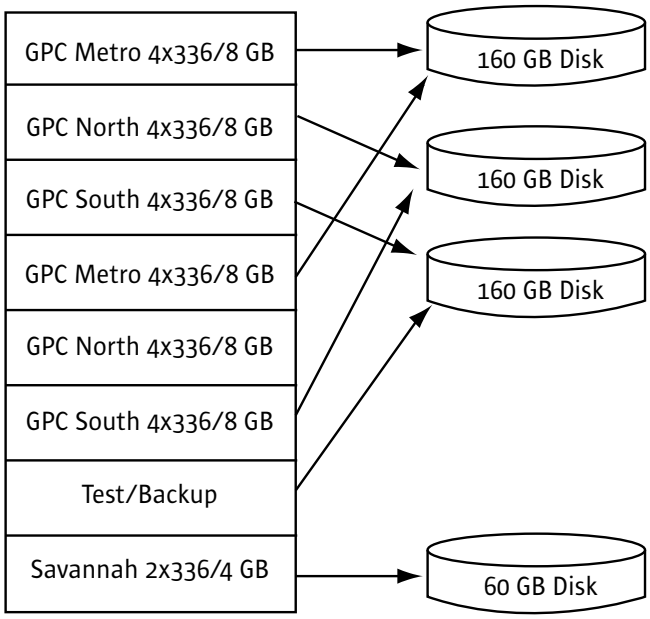
And, thanks to improved real-time information, Southern Company's operating units can update the media much more effectively, according to John Sell, media relations specialist for Georgia Power. “The information we provide to the media is critical in helping to manage the expectations of the community at large. TCMS provides accurate and instantaneous information about the outage to our operations center and that allows us to provide good data to the media. That's definitely a benefit, and one that will translate into higher satisfaction ratings from our customers.”

With TCMS, Southern Company allows information from multiple sources to be validated and managed in real time, a critical capability for outage response.

Part of Southern's excitement about TCMS comes from a feeling that they're just beginning to tap into its potential. For instance, TCMS automatically updates the database with customer information for ongoing analysis. Sophisticated analytical systems can access TCMS data to provide failure analysis, crew routing and activity-based management analysis-all of which will enhance the company's long-term ability to handle outages more efficiently.

For the person on the phone who’s experiencing an outage, that's a comforting thought indeed. His or her question will get a more immediate answer to shed some welcome light on when their power will be restored.

TCMS Sun Enterprise 10000 Server
Current Configuration (6/1/99)



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