NuWave TECHNOLOGIES

Connecting NonStop to business everywhere™

CASE STUDY

Globalize IT: NuWave helps the US government reinvent the way they track maintenance

NuWave Customer Case Study:

Professional Services:
Application Development
Systems Integration

Industry:
Government

THE PROBLEM

A government agency deployed an application called the Maintenance Management System (MMS) at 23 geographically distributed facilities. This application was designed to schedule and track all maintenance activity that service engineers performed on over 65,000 pieces of equipment. The HP NonStop server that housed the application was lacking one key design element: a true distributed database–each of the 23 MMS sites maintained a separate database instance.

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There was common information that had to be manually updated and synchronized regularly on each database. More importantly, though, was that there was no way to get a global view of the maintenance data, and hence no straightforward way to do global analysis and decision making on it. It's not that the system designers were ignorant of the value of a centralized database–in fact, the NonStop file system supported this technology–but at the time, the agency was lacking the network bandwidth to support it.

THE SOLUTION

Rather than risk the problems inherent in updating the database–which by this time was beginning to show its age–to a proper distributed architecture, an alternative plan was conceived: consolidate the 23 separate ISAM databases through replication to form a centralized Operational Data Store (ODS). And, in order to lower costs, also implement COTS reporting and analysis tools and house the ODS in a clustered Microsoft SQL Server database.

PHASE I: CONSOLIDATE

This is where NuWave Technologies comes in. We employed a third-party COTS product, Golden Gate's Extractor-Replicator, to replicate each of the 23 separate Enscribe databases into a single consolidated database on the NonStop server. This included setting up online transactional replication to capture ongoing updates to each database.

Since the MMS databases were not designed for consolidation, some data transformation was required to prevent collisions in the consolidated database. Another problem was resolving conflicts in data that had been manually replicated across the 23 sites. To deal with this issue, we developed algorithms to identify and resolve the conflicts and defined replication rules to prevent them from recurring.

> "NuWave provides excellent customer service, great attention to detail, accessibility, and a professional approach."

The Operational Data Store streamlined maintenance tracking

PHASE II: REPLICATE

The goal of this phase was to replicate the new database on a Microsoft SQL Server hosted on a clustered Windows system. This task required further data transformations to map data from the non-normalized ISAM records to a relational schema. We also created some monitoring tools to ensure continuous operation.

PHASE III: CONVERT

The final phase of the project was to convert over 50 COBOL language report programs to Crystal Reports report definitions. This proved to be the greatest challenge due to the lack of documentation for the thousands of lines of report generation code and the complex business logic encoded in them. After successfully completing this task and finishing the project, we turned monitoring and operations over to MMS support staff.

OUTCOME

Not only has the ODS succeeded in keeping the agency organized throughout its 23 facilities, but the agency was thrilled with the overall experience. According to one of the client's managers involved in the project, "NuWave provides excellent customer service, great attention to detail, and a professional approach." Management can now more easily track past and upcoming maintenance, allowing the agency to budget and plan more efficiently.

To learn more, visit www.nuwave-tech.com