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Proactive versus Reactive Database Management for the City of Fort Collins

REVIEWERS: Michelle McDonough, application services manager; Maria Freytag, systems analyst; Janet Larsen, systems analyst; and Pam Daubersmith, systems analyst; members of the Application Services Division for the City of Fort Collins. This team is responsible for application and database maintenance and support for enterprise and departmental systems throughout the city.

BACKGROUND: The City of Fort Collins is located in Colorado approximately 55 miles north of Denver with 2,000 employees. The population of Fort Collins is 125,000. Fort Collins was founded as a military fort in 1864 and incorporated as a town in 1873. It is the home of Colorado State University.

PLATFORMS: Platforms for Bradmark Technologies NORAD products are servers running HP-UX, Red Hat Linux Advanced Server and Microsoft Windows NT. The City is running Oracle on HP-UX, Red Hat Linux Advanced Server and Microsoft NT. Microsoft SQL Server runs on Microsoft Windows NT. The NORAD Surveillance OS and NORAD Surveillance DB Modules are running on all of the identified servers. The NORAD DB Control is running on HP-UX servers and Microsoft NT Server with Oracle.

PROBLEM SOLVED: The City is quickly adding new applications with databases utilizing Oracle and Microsoft SQL Server. The Application Services Division needs to support more databases with fewer resources. This requires more staff time being spent on database administration tasks such as monitoring log files, archive logs, data file sizes, fragmentation and backups. The City wanted a tool that could automate some of these functions. There was also an issue with the ERP system needing to be available every weekend. The City needed a product that could do some of the typical maintenance tasks such as reorganizing tablespaces while the database was still online and available. Finally, the City of Fort Collins wanted to take a proactive approach to application and database maintenance and support.

PRODUCT FUNCTIONALITY: The NORAD Surveillance modules allow proactive monitoring and management for our mission critical servers, applications and databases. Using the Surveillance OS module, the City will be setting up monitoring for disk space, memory usage, CPU usage, application processes and other server attributes. If thresholds are exceeded, people in the IT organization will be alerted via e-mail or pager to the situation. The City will also be using the trending reports for capacity planning so that it isn't a surprise

when more disk space and memory need to be acquired. The Surveillance DB module will be used to monitor both Oracle and SQL Server databases and send an alert when thresholds are reached or exceeded. The DB Control Module for Oracle will be used to conduct maintenance such as reorganizing tablespaces or rebuilding indexes while the database is still online and available.

STRENGTHS: There is a lot of functionality out of the box, and there is also the flexibility to customize rules and data collection for your environment. Bradmark Technologies was able to accommodate issues with servers that were in the DMZ network segment off of the firewall. Utilizing Crystal Reports 9 for reporting will make it easier for personnel already familiar with that product.

WEAKNESSES: Bradmark Technologies does not yet support the NORAD DBControl for Oracle on the Linux platform. The company is in the process of porting that module to the Linux platform. There is a lot of functionality to this product and it would help if there was a pre-implementation process or tool to assist with the management design. Not all of the setup is intuitive.

SELECTION CRITERIA: The City of Fort Collins required a product that could monitor and manage database, application and servers in a heterogeneous environment and would fit with the budget of a mid-sized entity. The review team followed the City's request for proposal process. NORAD was the only product that included the operating system and application monitoring and alerting, with the database monitoring, management and alerting.

DELIVERABLES: The NORAD set of modules will provide notification of potential problems or trends that City personnel can respond to proactively. The trending reports will also allow for capacity planning to be done in a proactive manner.

VENDOR SUPPORT: Bradmark Technologies has been very responsive to our questions and issues that are forwarded to their support organization. They have also provided some informal training for database administrative staff via WebEx.

DOCUMENTATION: Bradmark Technologies provides comprehensive documentation for each of the modules, although the review team has not had to use it much because the support and training personnel walked us through most of the implementation.

