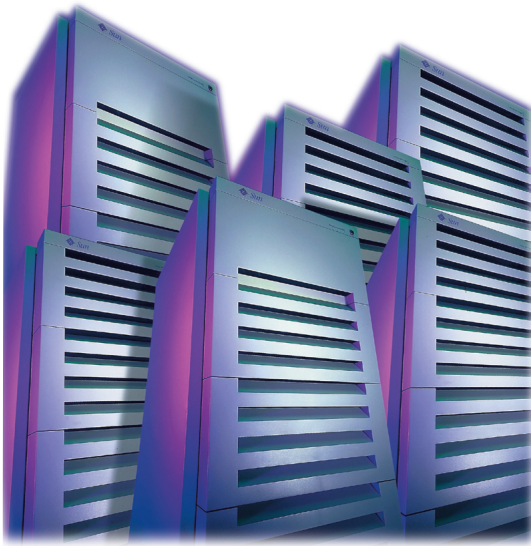


Scalable



Quantum Systems Integrators, Inc.

Quantum Systems specializes in solving complex technological problems with robust and efficient integrated hardware and software solutions. Quantum's staff has decades of in-house software development and systems integration experience.

Quantum is able to evaluate requirements and recommend the best possible solution for each customer project. Quantum's engineers stay abreast of the latest developments in hardware and software engineering through ongoing training, company R&D initiatives and our strategic partnerships with our vendors.

Quantum's keen awareness results in the most cost effective and reliable software and hardware combinations for our customers that not only satisfy requirements, but also adapt to an evolving computing and network infrastructure

Quantum takes special pride in its ability to provide high performance solutions that are orders of magnitude faster than competing products. We understand the benefit, and the necessity, in a highly competitive marketplace, for customers to quickly and efficiently perform complex tasks and get concise, decision-driving results. Quantum develops performance-enhancing technologies in the areas of Data Warehousing, Data Caching Techniques, Database Interfaces, Self-Updating Software, and Graphical User Interfaces.

Quantum is a proven leader in reliable data collection, distribution, and management systems. Customers trust Quantum software to collect, archive, and distribute their critical data, such as cellular billing records, in sites all around the world. Quantum's solutions are designed as mission-critical applications, working reliably without the need for administrative care, ensuring critical enterprise information is not lost.

CROME

Cell Reporting and Object Management Environment

A data mining application written in JAVA™ provides a high-end decision support system custom crafted for solving the diverse reporting needs of service providers in the telecommunications industry.

Performance Reporting

The CROME tool solves the needs of real-time and long term trend analysis of analyzing statistical performance data for large wireless and wire-line networks. CROME systems have been deployed and are in continuous operation in the United States and worldwide since 1998. CROME measures trends and identifies problems down to an individual radio in an operator's network, providing invaluable assistance to RF engineers and system planners. The true power of CROME is seen in its ability to efficiently roll up and quickly report on low level raw data, utilized by engineers, into comprehensive, concise regional and national level reports used by top level corporate executives.

Reporting on Demand in Seconds

The CROME system offers orders of magnitude performance over traditional RDBMS solutions and delivers its data in a multitude of useful formats to any desktop or WebTop within the enterprise. The competition takes hours to generate batch reports, while Quantum's CROME solution allows full custom reporting and analysis across thousands of network elements in a few seconds.

Whether using basic math functions or built in Erlang and GOS functions to determine which network elements need a capacity increase to grade of service targets, your report is complete in seconds. And each report provides the ability to quickly drill down or drill up to see the same report at different network levels.

CROME optimizes all data sources for high speed and secure access across your Intranet or the Internet. CROME eliminates both the need for, and the delay from, the traditional data analyst by providing easy to use exploration, reporting and publishing tools to every individual within the organization.

Without timely information, yesterday's wireless vendors made far reaching decisions based on intuition because of slow and inflexible reporting systems incapable of meeting special requests. Today's organizations avoid this problem using the CROME system. Executives and operation managers are able to quickly formulate special requests and access information directly on demand. CROME also automatically generates simple to access Web content.

Geographic Mapping Displays

CROME contains a built-in powerful geographic mapping system to analyze data over detailed street maps, aerial or satellite photo maps, topographical maps, or any arbitrary map. CROME can overlay any geo-

graphic-based data onto the map, including cell sites and sectors, drive test data, T1 links, “polygon” groups of sites, etc. Map features include real-time displays to “light up” cell sites with critical performance issues, on-the-fly threshold analysis of any CROME report via sites, sectors or carriers, neighbor-cell linkages, color and hex coding, site location lookup, address lookup, arbitrary panning and zooming, JPG export, and the ability to select sites on the map for use in CROME reporting (by either clicking on network elements or grouping them via built-in polygon drawing tools).

Integration with Configuration Management

CROME automatically integrates with the network’s Configuration Management (CM) system to analyze the parameters that can affect performance. CROME includes various configuration parameters from a multitude of network elements and makes these parameters available for integration with performance statistics in CROME reports. In addition, CROME displays full configuration information for cell sites, sectors, base radios, and automatically shows special interconnectivity such as “neighbor-cell” linkages based on the CM data.

Open, Generic, Adaptable and Extensible

CROME is an open solution able to acquire data from new equipment and legacy systems. CROME works across a broad range of network manufactures (Motorola, Nortel, Lucent, Ericsson) and technologies (CDMA, TDMA, GSM, iDEN).

The CROME client offers active analysis in either graphical or spreadsheet form and can also export data and reports at the push of a button into traditional PC office productivity suites (such as Microsoft Excel™) for distribution or refined presentations.



CROME is a complex, integrated data management and data mining environment that offers outstanding performance whether generating a national quarterly report or reporting on all available data across thousands of sectors for all hours of any given day.

CROME provides unsurpassed version control of your company’s critical reporting, yet still allows ad hoc analysis by any engineer in the organization. Thanks to CROME’s built-in version stamping and compatibility tracking system, you will never find yourself presenting the wrong data to your management due to an outdated formula or a system software/hardware upgrade to your network elements.

Cost Effective Deployment and Access

The CROME client software is written in JAVA, giving PC users the power of a true data mining application with the performance and flexibility previously only offered by expensive workstations. Installation onto any Win9X/NT/2000/XP PC or UNIX™ platform is done via a simple click from a Web page and all future client software updates are completely automatic.

No longer is there an analyst between you and your data. CROME frees the analyst from his typical role, an overtaxed interface between reporting tools and a multitude of report generation requests, to the proper role of designing and validating standardized formulas and reports. Every authorized user in your organization is free to run reports when they need them, across the time periods and granularities they require, and with their own custom element groupings.

Fault Tolerant and Secure

The CROME system is able to continue operation during faults, WAN outages, or system failures via its built in peer level fail-over mechanisms and selective peer level mirroring.

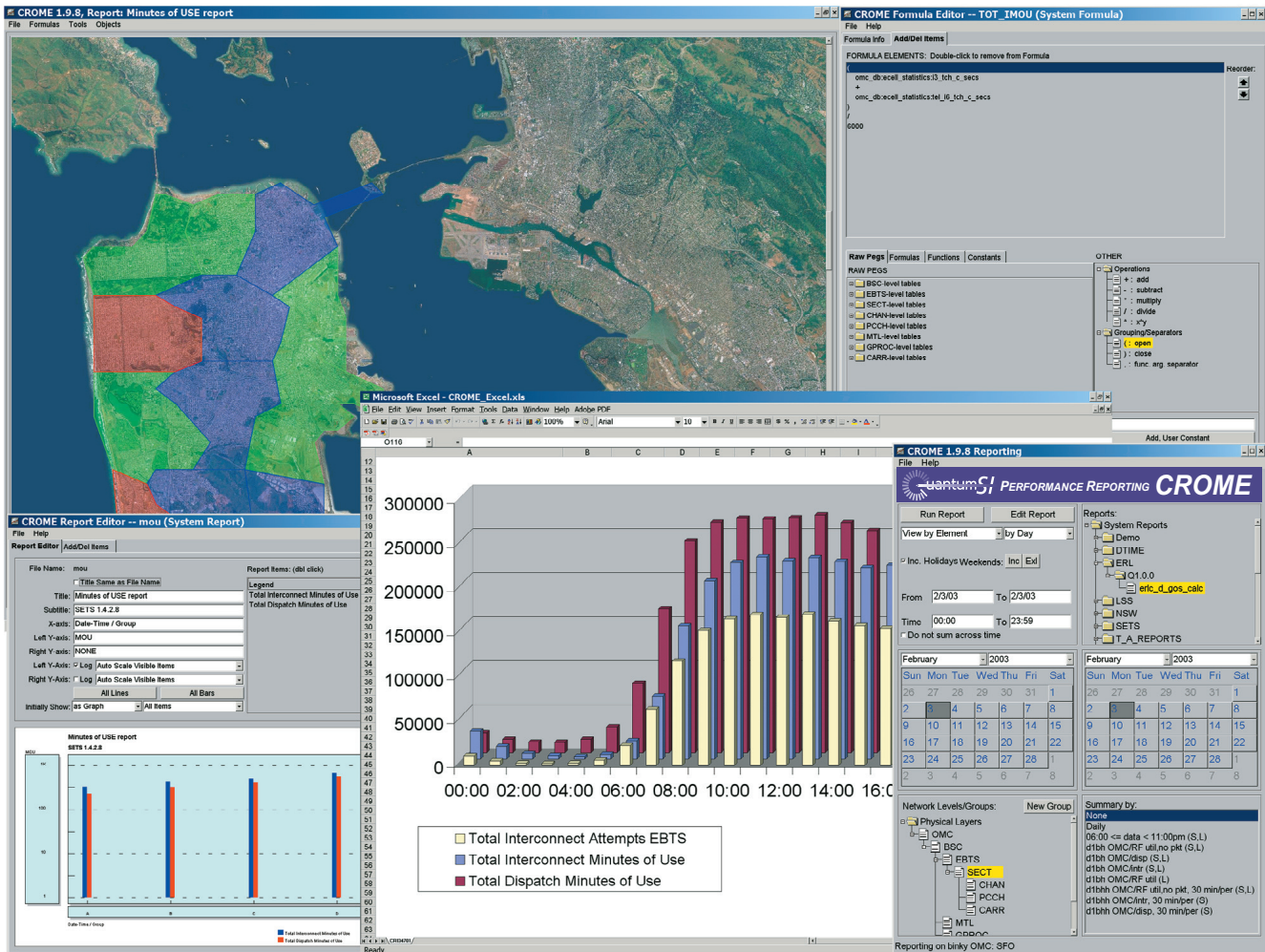
Your critical performance data is securely stored in one of the “big three” (Informix™, Oracle™, or Sybase™) relational databases to ensure security and portability of the raw low level data sets.



Availability

Now available in cost effective pre-configured systems for fast turn key deployments featuring:

- Server: Sun Enterprise V250, E280R, V480, V880, or V1280
- OS: Solaris 2.8 and 2.9
- RDBMS: Informix OWS/ODS version 7.3X and 9.3X
- Storage: SCSI hardware Raid (365 to 1,752 GB) or FC-AL hardware RAID (504 to 4,088GB)



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