

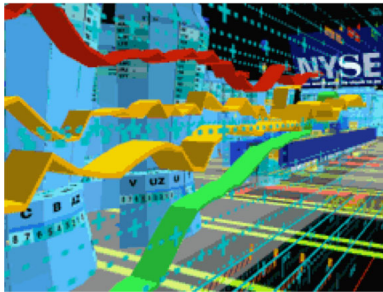
Custom Systems

Here are examples of systems that MCSA has developed for its clients:

Investments Systems Integration

Sometimes the best tools for information retrieval, financial analysis, presentation and accounting exist on different platforms. Having these tools work together is crucial, but often difficult to achieve.

MCSA helped direct the analysis, planning, and implementation of a project to upgrade and integrate the fixed-income systems of a major U.S. mutual fund.



We integrated PCs running spreadsheets and custom analysis applications (some of which were written by MCSA) with UNIX servers running Oracle and custom analytic programs, VAX/VMS servers running Oracle, and IBM mainframes containing the account and trade transactions. The systems ran on a variety of networks: Banyan, TCP/IP, and DECNET.

Real-time Market Information



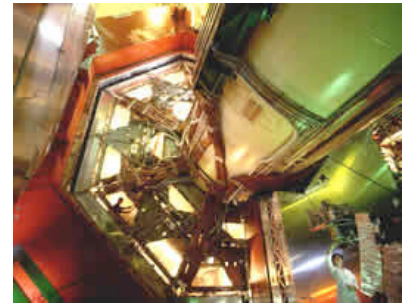
Trading environments require integrating multiple streams of information (quotes, news, internal bulletins and research, etc.) with systems for taking orders, recording transactions, monitoring positions and reconciling trades.

MCSA has acted as a prime subcontractor for market feed and trading systems used by major U.S. and European Banks.

Our work in this area included both the highly technical - such as the design and implementation of critical internal functions (queue, buffer, and memory management, data caching, communications protocols and index management) - and the coordination of development, operations and customer support teams to roll out new products and services.

Control Systems for High-Energy Physics

At the European Laboratory for Particle Physics (CERN), managing a large experiment requires about a dozen detectors and control systems, each with 5,000 to 20,000 control and sensor devices.



Controlling these devices, retrieving their data and coordinating the actions of the different systems in real time was becoming an expensive and increasingly difficult problem for those who ran the experiments.

MCSA aided in the analysis of this problem and helped design an architecture (CORTEX) to solve it.

MCSA led the analysis efforts, helping to extract information from the many experts involved, and we formalized the requirements for the various control systems. We trained the experts in analysis techniques and we evaluated cutting-edge commercially available technologies (primarily OO Databases and CASE tools). We authored most of the content of the technical reports resulting from these efforts.

FXNET

FXNET allows major money-center banks to confirm automatically their foreign-exchange deals and to net their outstanding balances, thus reducing their credit exposure. Originally installed in London, FXNET today has over 50 sites in New York, London, Tokyo and Zurich, and is used by all the major foreign-exchange banks.



MCSA designed and developed FXNET for the original London-based FXNET consortium.

FXNET is a completely distributed system based upon VAX/VMS, X.25, and DECNET. Each site has a node that performs local processing and communicates to other nodes via X.25. It supports various connections to a bank's internal systems (IBM 3090, AS400, VAX, and NCR) via DECNET, SNA, 3270, X.25 and 3780.