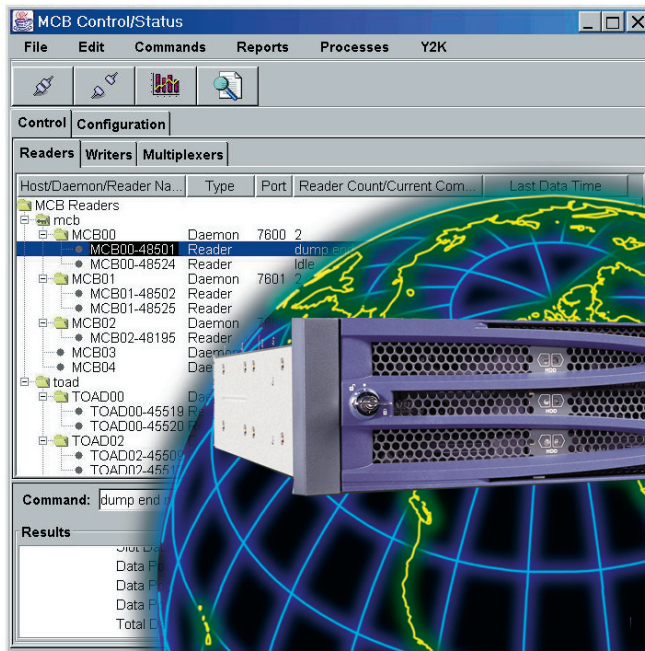


Generic Mediation for Data Acquisition and Distribution

Distributed Data for Enterprise Decisions



Solaris™

Sun Microsystems

Quantum Systems Integrators, Inc.



MCB™ Mediation Software

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. Customer's 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.



Multicast Buffer System™ (MCB)

Has your organization ever had the need to collect and share data from a critical data feed? This seemingly simple task typically raises many issues including reliability, accessibility, manageability, and political ownership. If your organization is looking to turn data sources into highly reliable, multi-user accessible, manageable feeds, take a look at Quantum's MCB product. The MCB is designed to read and buffer data feeds from a variety of data sources (Sockets, terminal servers, I/O ports, legacy binary applications, etc.) and make them more reliable, accessible to multiple consumers and provide management tools for administrative purposes.

The MCB System provides a stable and proven client/server layer between a data feed (or network element) and your Network Management software or other downstream data analysis software. Each MCB Buffer uses a high speed shared memory mechanism that allows the data to be analyzed in real-time or at the leisure of multiple consumer applications. The size of the buffer is configurable and limited only by your system resources.

The benefits of using an MCB over traditional direct connections are:

- Field Tested and Proven
- Reliability / Reduction in Critical Infrastructure
- Efficiency
- Accessibility / Multi-user Shared Data
- Increased Recovery Capability
- Internet / Intranet Compatible
- Flexibility
- Reduction in Network Management Costs
- Management and Reporting Tools

Field Tested and Proven

- Quantum Systems has deployed over 1800 MCBs at over 100 customer sites worldwide.

Reliability / Reduction in Critical Infrastructure

The MCB System enables you to minimize or even eliminate single points of failure and localize critical machines and processes to a highly reliable core infrastructure.

The MCB System centralizes your critical 7/24 data collection and lowers costs by transitioning once critical applications that needed to directly attach and capture a critical data feed to a non-7/24 domain.

The MCB buffers all data for consumption at the leisure of the consumer. Network managers (or other data analysis processes) can be moved to less critical environments. The increase in reliability of your Enterprise computing environment can be substantial.

Downstream MCB clients (or applications) can simply be restarted to automatically continue collecting data from the exact second in time of a failure or scheduled shutdown. The MCB allows you to configure several different recover scenarios for your downstream applications such as: straight real-time, full replay into real-time, and last N minutes (or seconds) into real-time.

Accessibility / Multi-user Shared Data

If your data is being delivered on an I/O port or some other exclusive use device there is no way for other programs (or people for that matter) to inspect, use, or interact with the data or data source. Quantum's MCB software uses a client/server architecture that allows multiple consumers to request historical data sets (archive mode), request a previous period and transition into real-time (recovery mode) or just wait for new data to arrive (real-time mode).

No longer do you have to choose what application receives a single resource or data feed. The MCB allows hundreds of applications to transparently share the same data as peers without impacting each other.

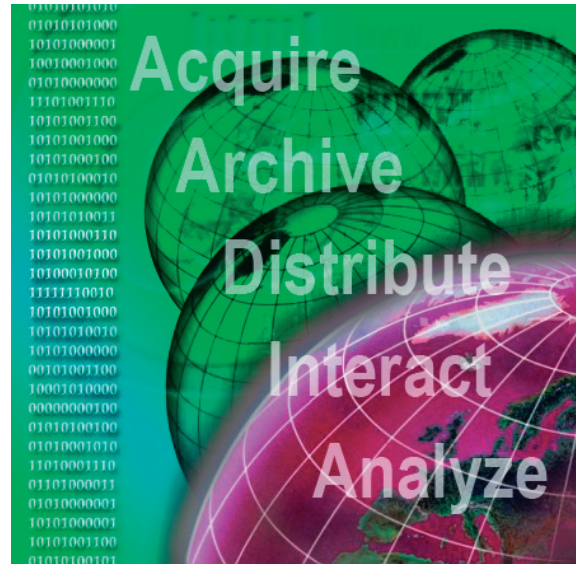
The MCB system provides service points for efficient binary transfers, however the API also supports simple access methods (like telnet and http). All users or countless automated applications within the Enterprise Intranet or even the Internet can access, process or view data. Access to the data can be restricted to any portion of a sub-net or individual machine.

Security/AAA/LDAP

The MCB product contains a built-in multi-tiered security feature with full administrative flexibility. MCB networks can be configured with simple IP based restrictions, password protections, or complete AAA (authentication, authorization, and administration) integration with network security systems such as Secure Computing's SafeWord® or alternatively other commercial security systems that support LDAP. The MCB System can be configured to generate access logs that accumulate in their own MCB data buffers for easy retrieval and playback.

Flexible/Fault Tolerant

The MCB product provides a rich standard chat scripting language that can be used to ensure the network elements are in and remain in the proper data emission mode. The scripting language (implemented using Expect) can be used for complex end-to-end feed validation, login, logout or configuration tasks. The MCB software has also been designed for transparent failover when deployed in fault tolerant environments.



Reduces Network Management Costs

The MCB Multiplexer and Filtering technologies can save you time and money by taking multiple line-oriented data feeds and consolidating them into a single data stream and limiting the transmission of unused data across your LAN/WAN. Many network management products require multiple licenses if their product monitors multiple data feeds. With the MCB you can consolidate multiple network element feeds into one license.

Quantum's shared memory server-side filtering can decrease LAN/WAN traffic by up to 1000 X by only transmitting data of interest to a particular data consumer or process.

The MCB Multiplexer and Filter technologies reduce the need for WAN resources and the CPU requirements needed to support downstream applications. The MCB has been used to significantly decrease startup latency and increase responsiveness of large software packages including but not limited to Network Management and Fault Management software.

GUI for MCB Network Management

The MCB Products contains an easy-to-use Java™ GUI that can manage hundreds of MCB Buffers spread out across the enterprise. This network aware software detects and organizes the MCB Buffers in the enterprise and provides a straightforward means to control, configure, monitor, and review access logs for the entire system. The software gives the administrator the ability to bring MCB Buffers online/offline, create and configure MCB Buffers to communicate with different equipment, organize IP addresses and ports used, allocate Buffer memory usage, check status information for any Buffer, and "cut-through" an MCB Buffer to type directly to the end device. The management GUI also allows utilization reporting on the MCB itself and access reporting against individual data streams.



Software Only Availability:

- Available on Solaris 2.5, 2.6, 2.7, 2.8, 2.9 and SunOS 4.X
- Non-standard ports: LINUX (32-bit and 64-bit), HP/UX and AIX, Windows NT/2000/XP

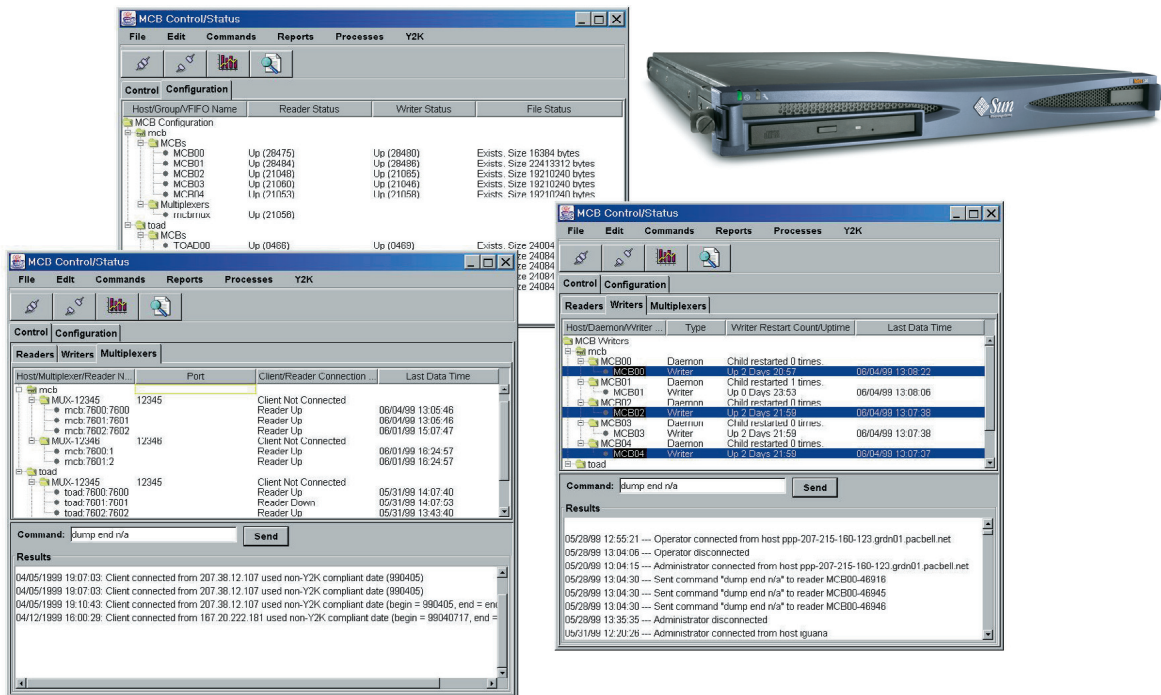
Turn Key Systems:

Available in cost effective standard pre-configured "ready to run" hardware and software combinations:

- Server: V120, V240, V440, E280R

Also available in hardened NEBS certified "ready to run" hardware and software combinations:

- Server: Netra 1125, Netra 120 and Netra 240
- Power: AC or DC power



The image displays three screenshots of the MCB Control/Status software interface. The top-left screenshot shows the 'Control Configuration' window with a tree view of MCBs (MCB00-MCB04) and Multiplexers (mcb, toad). The top-right screenshot shows a physical Sun Netra server rack. The bottom-left screenshot shows the 'Readers Writers Multiplexers' window with a table of connections. The bottom-right screenshot shows the 'Readers Writers Multiplexers' window with a table of MCBs and their status.

Host/Multiplexer/Reader N.	Port	Client/Reader Connection	Last Data Time
mcb			
MUX: 12345	12345	Client Not Connected	
mcb: 7600: 7600		Reader Up	06/04/99 13:05:46
mcb: 7601: 7601		Reader Up	06/04/99 13:05:46
mcb: 7602: 7602		Reader Up	06/01/99 15:07:47
MUX: 12346	12346	Client Not Connected	
mcb: 7600: 1		Reader Up	06/01/99 16:24:57
mcb: 7601: 2		Reader Up	06/01/99 16:24:57
toad			
MUX: 12345	12345	Client Not Connected	
toad: 7600: 7600		Reader Up	05/31/99 14:07:40
toad: 7601: 7601		Reader Down	05/31/99 14:07:53
toad: 7602: 7602		Reader Up	05/31/99 13:43:40

Host/Daemon/Writer	Type	Writer Restart Count/Uptime	Last Data Time
MCB00	Daemon	Child restarted 0 times	06/04/99 13:03:22
MCB01	Writer	Child restarted 1 times	06/04/99 13:08:06
MCB02	Daemon	Child restarted 0 times	06/04/99 13:07:38
MCB03	Daemon	Child restarted 0 times	06/04/99 13:07:38
MCB04	Writer	Child restarted 0 times	06/04/99 13:07:38
toad	Writer	Up 2 Days 21:53	06/04/99 13:07:37

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