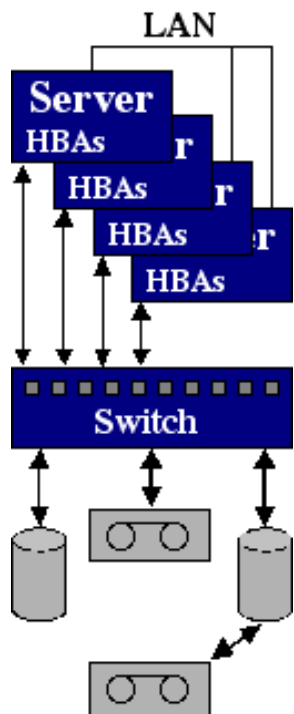


- Processing system with large data volumes and large processing requirements, modeled within 10%
- Data storage system, vendor had spent \$500K to fix a model; KCI personnel were able to find and solve the problem within several days.

KCI has experience in bottleneck analysis such as determining throughput of a SAN system, as the diagram on this page shows.

Storage Systems



Experience Architecting and Performance modeling SAN Disk, Tape and HSM System

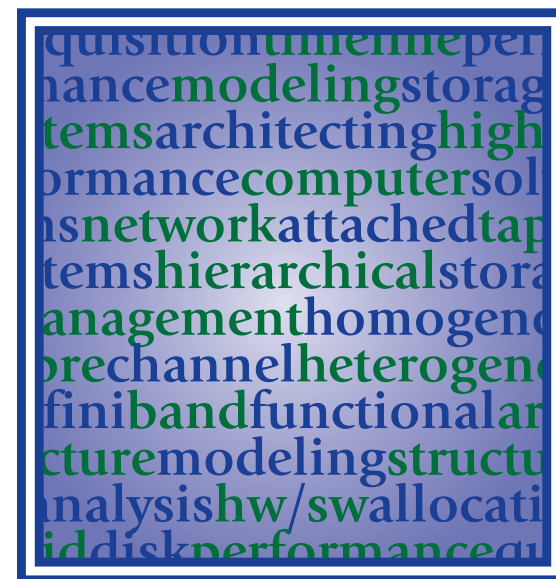
KCI has experience in HPC storage solutions including heterogeneous SAN, homogeneous SAN, tape issues, RAID performance, and Fibre Channel switch issues.



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Corporate Capabilities

KCI is an Arizona Corporation founded in 1996. KCI specializes in High Speed data movement, including file systems, storage systems, and processing systems.

1. Acquisition and Architecting high performance computer (HPC) and storage solutions.
2. HPC timeline performance modeling. Stochastic modeling techniques are used to analyze computer performance.
3. Heterogeneous SAN, NAS, Tape, and HSN storage system design.
4. Gig E; 10 Gig E, Fibre Channel, InfiniBand
5. **Tools:** KCI has developed a proprietary set of performance analysis tools, used to profile inter-processor communication of large codes. This software is available for sale, or use by our consultants.

KCI Business Areas

There are many times that a company does not have the experience to determine the best method of processing data in a system. There are also many times that U.S. government agencies do not have the technical personnel to review designs from vendors or contractors. KCI is capable of assisting the government or contractors in designing systems that will meet requirements.

KCI is capable of working on projects of different durations.

- Short term (less than a week) efforts of attending review meetings to evaluate vendor capabilities, find problems, and suggest solutions
- Medium term (less than a month) activities of assisting a company in determining the best design solution to meet a customer's requirements
- Long term (year or several years) efforts of assisting a customer with a design process from start to finish.

Past Experience Architecting Systems

- Architect for state of the art heterogeneous SAN based processing system. KCI employees participated in architecting, installation, and operation of the system. This system is implemented and in operation
- Architect for future ground system that is in the proposal phase. This is a large processing system and KCI employees have developed architectures to meet the requirements of the system
- Architect for a future processing system that is in the proposal phase. KCI employees developed new architectures that are forward looking, not based on equipment available today, but designed based on future projections.
- Architecture support for a system with high data input rates and large processing requirements.
- Disaster Recovery, KCI personnel have managed DR architectures for HPC facilities.

HPC Acquisition

KCI employees have participated in a yearly acquisition of HPC systems for a DoD Customer. This yearly acquisition process has kept KCI up to date on the latest technologies that are available from vendors such as Cray, IBM, SGI, SUN, Linux Networks, and other vendors.

KCI employees supported over 10 acquisitions of HPC hardware, each in excess of \$10M. This includes benchmarking, analysis, costing, and the acquisition process.

Functional Modeling

KCI employees participated in the functional architecture design of several major systems through structured analysis, logical and behavioral modeling: context, dataflow, leveling and balancing, state transitions, threads, and entity relationships.

Timeline Performance Modeling

KCI has experience with performance modeling and queueing theory. The primary experience is with the Hypermix (formerly SES) Workbench tool, although the modeling theory applies to any tool. KCI employees created end-to-end system models for complex systems with multi levels of queues and complex processing requirements. Following are examples of modeled systems and model accuracy:

- Processing system with large processing and throughput requirements, modeled within 2%