

SERVER CONSOLIDATION

**Simplify, optimize and
improve reliability of
your IT environment.**

DELIVER SECURE,
FLEXIBLE AND
COST-EFFECTIVE
IT SERVICES

PLAN FOR
FUTURE
CAPACITY

COMPLY WITH
MANDATES AND
DIRECTIVES

REDUCE TCO AND
MANAGEMENT
COMPLEXITY



MAXIMIZE YOUR OPTIMIZATION BENEFITS FROM CENTRALIZING AND UPGRADING YOUR SYSTEMS AND THEIR MANAGEMENT TOOLS.

If huge increases in data processing requirements have resulted in servers being added faster than your IT environment can manage them, and if your legacy servers are underperforming and difficult to manage, you should consider employing server consolidation as an effective way to reduce costs, power and space requirements and the management complexities created by server disparity and sprawl.

GTSI Server Consolidation solutions can help maximize the return on investment (ROI) of your data centers by enhancing the reliability and efficiency of your IT infrastructure. Our solutions can also help you prepare for continuity of operations and support government-wide initiatives such as OMB Line of Business consolidation and GAO requirements that are driving demand for accelerated business value.

At a time when IT organizations increasingly are moving to a shared services model, GTSI Server Consolidation solutions allow your IT staff to achieve these objectives, while improving Service Level Agreement (SLA) compliance by integrating the disparate systems and processes you must manage. These solutions also help reduce dependency on legacy resources and increase

organizational agility by enabling you to manage your IT infrastructure as a service.

STREAMLINE OPERATIONS, IMPROVE PERFORMANCE AND REDUCE COSTS

The value of server consolidation can be proven through strong financial models that justify the investment in new technology, staff development and training and accompanying enterprise management solutions. The GTSI approach to server consolidation can help you make this case. The following are among the many benefits we have helped agencies achieve through server consolidation.

Simplify and Optimize the IT Environment. Your organization may derive its greatest optimization benefits from centralizing and upgrading your systems and their management tools. Enterprise management applications not only deliver rapid ROI, but they also provide ongoing cost benefits as IT organizations take advantage of increasingly sophisticated capabilities. Integrated business processes also help improve customer responsiveness, while centralized server management gives you greater control over your IT infrastructure.



Improve Reliability and Performance. Small servers often are under-utilized (running at 5–10 percent of capacity). Older, larger servers do not provide adequate performance levels, and become increasingly inefficient and expensive to manage. Consolidation will substantially increase your utilization of these resources and empower IT resources to respond dynamically to changing business requirements. In addition, newer server technologies offer enhanced capabilities to improve reliability, availability and stability, making it much easier for your IT department to achieve SLAs.

Reduce Total Cost of Ownership. Fewer servers require fewer resources to maintain, helping to reduce overall costs for equipment, hardware and software maintenance; administration; and infrastructure such as space, power, cooling, networking and storage. A smaller footprint in the data center frees up additional space for future expansion. Fewer physical tasks also require fewer front-line support staff, creating the potential to redeploy some functions to more critical areas.

A COMPREHENSIVE APPROACH TO DATA CENTER EFFICIENCY

GTSI Server Consolidation solutions take a holistic perspective to server consolidation requirements and associated activities. Our comprehensive solution goes beyond systems, software and infrastructure components to include

professional services and financing necessary to achieve maximum effectiveness and value. We use a best-of-breed approach, fueled by deep vendor relationships, to identify the ideal components and tools for your unique environment. In addition, we follow proven Technology Lifecycle Management (TLM), solution delivery and project management methods to meet your business objectives.

Continuity of Operations. According to a Gartner report, *Driving High Performance in Government: Maximizing the Value of Public Sector Shared Services*, “a new and compelling argument can be made for consolidation in support of a business continuity plan.”

Consolidation makes it easier to create a failover environment so that when one server fails, another covers for it. For full continuity, however, failover remote data centers are needed and can be built in a similar, consolidated fashion. “Complementary data centers provide the capacity to keep governments online and connected in times of crisis,” says Gartner. “As a result, such ‘public value’ factors must be highlighted, in addition to cost savings.” For jurisdictions that are not large enough to have two data centers that are sufficiently separated, Gartner recommends partnering with another government agency for space.

EXPERT GUIDANCE

The GTSI professional services team will assist with all aspects of your server consolidation effort, from planning and design to implementation and support. Working from your requirements, our PMI-certified project management team will manage your server consolidation from end-to-end, using detailed project plans conducted in compliance with OMB Earned Value Management standards.

In addition, should you have legacy equipment and applications to support, we can help you identify the optimal migration approach for your environment, as well as address readiness, financial and interoperability issues.

SUCCESS THROUGH CONSISTENCY

For every server consolidation project, GTSI follows a proven solution delivery methodology to ensure success at each and every phase of the process. Here's what you can expect:

Assessment and Planning. In this first phase, GTSI experts work with you to assess your current environment, including workload requirements and capacity, supported services and applications, power, cooling and space constraints and IT skill sets. If desired, GTSI can help agencies use sizing tools to assist with consolidation planning. Following these assessments, we develop recommendations for shaping your IT infrastructure choices.

Architecture and Design. Based on recommendations from the planning phase, GTSI engineers then design your device-specific configurations and plans for staging, implementation, migration, escalation, system test and acceptance.

Implementation. When your sites are ready for installation, GTSI engineers configure and stage solution equipment, either at our staging facility or your facility. All equipment is rack mounted, cabled, powered on and tested according to the implementation plan. GTSI engineers expertly manage your installation to completion. They ensure a seamless migration, validate system performance and gradually transition your users to the new architecture.

Operations. Immediately following installation, our engineers closely monitor the status of your individual systems to identify, document and remedy any unexpected conditions or suboptimal performance.

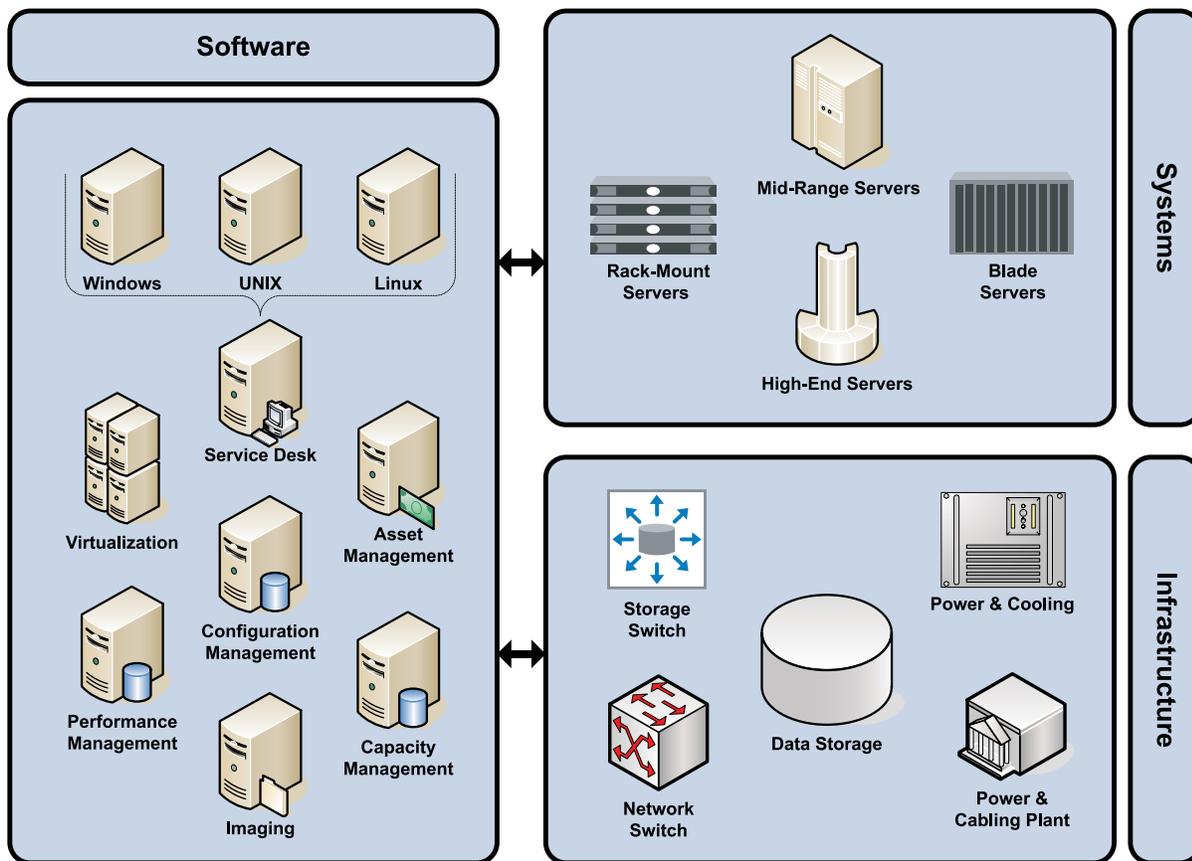
Training. To ensure a seamless hand-off, the GTSI team will custom-tailor training for your key personnel.

Support Services. To meet your ongoing support needs, GTSI provides 24-7 help desk support, maintenance and warranties on each product component in your solution, including servers, software and associated network and storage devices.



Best-of-breed technologies for precision-fit solutions.

SERVER CONSOLIDATION REFERENCE ARCHITECTURE



GTSI Server Consolidation solutions are designed using the most appropriate technologies for your business needs and technical environment, and encompass a precise mix of systems, software and infrastructure.

SCALED TO SUIT YOUR APPLICATIONS

GTSI can develop and deploy server consolidation solutions to satisfy a variety of workload requirements and application environments. We determine the right approach for your situation, and then architect the solution to meet your needs for reliability, availability and service-ability. To ensure we meet your application requirements, we consider all classes of servers when we design your solution, including:

High-End Servers. Support robust UNIX workloads such as databases, application services, data warehouses and decision support systems.

Mid-Range Servers. Consolidate large numbers of smaller, less-critical UNIX workloads, as well as application services and smaller databases.

Blade Servers. Deliver high density and space savings in Windows and Linux environment. These self-contained computer servers generally feature server blades with their own software and operating systems, but share connectivity, power and cooling resources.

Rack-Mount Servers. Provide a platform for applications requiring greater scalability than blade servers.

EFFECTIVE MANAGEMENT TOOLS

GTSI Server Consolidation solutions include a full range of software tools that empower your IT staff to more effectively manage their server infrastructure.

GTSI Virtualization and Partitioning Tools include:

Virtualization Software. Enables multiple virtual instances of server operating systems and applications to run simultaneously on a single system.

Shared-OS Workload Management. Provides the ability to run many applications and operating systems across large systems with access to large amounts of memory.

Hardware Partitioning. Yields the highest degree of application isolation, for environments where the flexibility of virtualization software or resource partitioning techniques is not required.

GTSI Enterprise Management Tools enable your IT organization to significantly improve efficiency in the data center and ensure high levels of service agility and visibility to meet customer requirements. These tools include:

Capacity Management. Continually monitors available capacity in the server environment, ensuring that SLAs and other user requirements are met.



GTSI follows a proven solution delivery methodology to ensure success at every phase of the process.

Performance Management. Continually monitors a defined list of system resources such as CPU utilization, memory, disk, network and I/O.

Configuration Management. Provides a centralized view of overall system resources and configurations. This visibility enables IT organizations to manage and track the lifecycle of a significantly larger number of servers while still maintaining compliance with security requirements and SLAs.

Asset Management. Performs reporting and other tasks for managing user SLAs. Detailed asset data can also be used for compliance, asset tracking and security reporting.

System Imaging. Allows systems to be imaged and redeployed into both stand-alone servers and virtual server environments.

Service Desk. Gives administrators a single, web-based interface point for reporting the status of pre-defined metrics. Internal customers also gain visibility into the centralized operation and how it is achieving SLA compliance.

SCALABLE INFRASTRUCTURE

Data centers are often difficult to scale to support new applications and high-density consolidated server environments. The GTSI Server Consolidation solution integrates concentrated power and cooling, dense computing and system backup functions through the use of best-of-breed infrastructure technologies for:

Networking. Core networking components (network switch and storage switch) are precisely arrayed to enable significant scalability in performance and throughput within the network infrastructure.

Storage. When evaluating the server infrastructure, the storage component often is just as important. GTSI Storage Consolidation solutions provide matched performance for our server consolidation solutions. The core components include data storage systems as well as storage networking (NAS, SAN and unified storage) and storage software.

Power and Cooling. High-density computing environments such as those with blade servers and high-end servers, while reducing power and cooling costs overall, locally have more concentrated power and cooling demands. GTSI fully addresses these additional requirements through next-generation power and cooling capabilities.

I Rely
on GTSI

GTSI professional, financial and lifecycle management services
help you focus on your agency's mission.

TECHNOLOGY LIFECYCLE MANAGEMENT

Our unified methodology combines professional and financial services with strong COTS partnerships into a comprehensive framework for managing each phase of the infrastructure lifecycle, including assessment, acquisition, implementation, maintenance, refresh and disposal. By proactively planning for the requirements of each phase, we can align the funding and management of your programs with your benefits—helping you reduce TCO and risk.

GTSI FINANCIAL SERVICES

Our dedicated team of finance professionals can apply their deep understanding of government rules and regulations into creating financing and procurement strategies that help you gain faster access to the technology you need. We provide financing options for the entire lifecycle or specific phases, using your agency's more predictable, flexible operating budgets instead of its capital expenditures.

GTSI PROFESSIONAL SERVICES

Our seasoned engineering and PMI-certified project management resources carry extensive certifications in leading vendor technologies, and rigorously follow OMB Earned Value Management standards. These solutions architects and systems engineers support a wide range of integrated solutions in areas like enterprise software, advanced communications tools, mobility solutions, network infrastructure, data management, enterprise computing, asset tagging, asset disposal and security.

CUSTOMER ADVOCACY

GTSI is committed to providing you with the greatest value coupled with the most attentive customer care. To ensure your current needs are met and emerging goals accommodated, GTSI provides an executive-level Office of Customer Advocacy dedicated to ensuring your satisfaction with all aspects of our service.

CONTACT GTSI

To set up a personalized assessment of your server consolidation needs, call us today at 800-999-GTSI or visit us online at GTSI.com.