

DIVISION OF STATE AND TRIBAL SYSTEMS
RECOMMENDED CONFIGURATION FOR
MODEL TRIBAL SYSTEM (MTS) SERVERS

The following table outlines DSTS Recommendations for server configurations for tribes who will be implementing the Model Tribal System (MTS).

Component	Recommendation
Processor	Dual Core Intel Xeon 5000 Series or AMD Opteron 2000 Series or better
Memory	4 GB DDR2 6400 or 8500 or DDR3 8500 SDRAM or better
Hard Disk	Dual 500 GB eSATA 7,200 or 10,000 rpm Hard Drives with RAID 1 controller or better
Networking	2 x 100/1000 MB Ethernet (Separate network for backup)
Peripherals	Mouse, keyboard, speakers, minimum 4 free USB connectors,
Optical Drive	DVD±RW or better
Backup	72GB Tape/Remote Network Attached Storage (NAS) or better
UPS	1500 VA with shutdown software or better
Display	19" or larger 1280x1024 minimum resolution WSVGA monitor (16:9 aspect) with 128KB graphics memory or better
Software	<p>Operating System</p> <p>MTS has been deployed, documented, and tested on the following platforms:</p> <p>Windows 2003 Server R2</p> <p>SUSE Linux</p> <p>MAC OSX 10.6</p> <p>VMware – vSphere, ESXi 4.1, Hypervisor, Player, Server (Packaged Deployment)</p> <p>Note: When using virtual machine deployments please account for the host operating system memory requirements and the virtual machine requirements. If virtual machine is running on Windows, the minimum memory requirements would be 8 GB. Disk requirements must also account for both the host and virtual machine. If the virtual machine is running on Windows, the minimum data requirements would be 750 GB.</p> <p>The following platforms should support MTS, but MTS has not yet been deployed on them:</p> <p>Windows 2008 Server</p> <p>Red Hat Linux or equivalent 64-bit Operating Systems</p>

MTS Application Support

Apache HTTP Server 2.2

JBoss Application Server 5.1.56

MySQL DBMS 5.051

Internet Explorer 8 or higher **or** Firefox 13 or higher **or** Chrome 17.0 or higher

Adobe Flash Player 10 or higher (Web browser plug-in)

Norton Internet Security **or** McAfee Internet Security **or** PC-Cillin Internet Security **or** AVG Internet Security **or** equivalent

Symantec Backup Exec **or** CommVault Galaxy Express **or** Yosemite Backup **or** Acronis **or** equivalent

Note: *The MTS development environment should not be run on the application server.*

Additional Server Recommendations:

- When utilizing onboard raid controllers review degradation statistics when using RAID 1. Hardware vendors use a variety of chipsets and software to support this solution. A review of this performance impact could be highly beneficial when the server will be supporting a transactional DBMS.
- Hard drive transfer rates, spindle speeds and cache all impact disk performance and will substantially dictate the overall performance of data access.
- As a rule application servers utilize memory and swap to virtual disk when memory is unavailable. Server memory is extremely important and when using Virtual Machine (VM) technology the memory will be split between the host server and any VM servers being implemented. For this reason, acquiring server solutions that accommodate increasing memory to 8GB configurations or more is recommended.
- Single server configurations that will utilize VM technology will require multiple licenses of the selected operating system. Also, VM servers require a fixed amount of disk space to load additional operating systems and associated software.
- The management of sensitive data requires that security procedures to be implemented to isolate the hardware containing relevant information. If the server is to be housed in an enclosed location, ensure there is proper ventilation, fire suppression, and equipment is off of floors to minimize water and flood damage exposure. Rack mounting is acceptable.
- Backup requirements and procedures need to be followed. We recommend a minimum of three generations of backups be maintained. If a requirement for offsite backup exists or there are no technical personnel local, tape drives with autoloaders should be used to rotate daily, weekly, and monthly backups without significant user intervention. All backups, both onsite and offsite need to be kept in a secure locations, preferably in a fireproof safe or locked firebox or similarly secure housing.
- With the arrival of 64 bit operating systems inherent memory limitations imposed by a 32 bit OS have been lifted. Currently most 32 bit OS have a limit of 4 GB. Most 64 bit OS's have lifted some but not all memory limits. These limits are still impacted the OS version

purchased. An example would be with Windows 2003 server x64. The standard edition allows for 32GB of memory to be addressed and the enterprise edition allows for 2TB of memory to be addressed. Keep this in mind when purchasing you server hardware and software.