



**Model Tribal System**

Designed By Tribes, For Tribes

# Model Tribal System Server Recommendations

Version 1.0

December 20, 2012



**Department of Health and Human Services  
Administration for Children and Families  
Office of Child Support Enforcement**

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

The following table outlines DSTS Recommendations for server configurations for tribes 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)  (Wireless networks used for child support data should conform to IEEE 802.11i or later and have a minimum of WPAs-AES 128 bit encryption)
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><b>Operating System</b></p> <p><b>MTS has been deployed, documented, and tested on the following platforms:</b></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 both the host operating system memory requirements and the virtual machine requirements. If a virtual machine is running</p>

Component	Recommendation
	<p>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 disk requirements would be 750 GB.</p> <p><b>The following platforms should support MTS, but MTS has not yet been deployed on them:</b></p> <p>Windows 2008 Server</p> <p>Red Hat Linux <b>or</b> equivalent 64-bit Operating Systems</p> <p><b>MTS Application Support</b></p> <p>Apache HTTP Server 2.2</p> <p>JBoss Application Server 5.1.56</p> <p>MySQL DBMS 5.051</p> <p>Internet Explorer 8 or higher or Firefox 13 or higher or Chrome 17.0 or higher</p> <p>Adobe Flash Player 10 or higher (Web browser plug-in)</p> <p>Norton Internet Security or McAfee Internet Security or PC-Cillin Internet Security or AVG Internet Security or equivalent</p> <p>Symantec Backup Exec or CommVault Galaxy Express or Yosemite Backup or Acronis or equivalent</p> <p><i>Note: The MTS development environment should not be run on the application server.</i></p>

#### Additional Server Recommendations:

- When utilizing onboard RAID 1 controllers, continually monitor degradation statistics. A continual review of RAID performance is highly beneficial when the server supports a transactional DBMS. Hardware vendors use a variety of chipsets and software to support RAID 1.
- Hard drive transfer rates, spindle speeds and cache all impact disk performance and will dictate the overall speed of data access.
- As a rule, application servers utilize RAM and swap to virtual disk when RAM is unavailable. Sufficient RAM is extremely important for server performance. 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 servers that can be expanded to 8GB or more is recommended.
- Single server configurations that will utilize VM technology will require multiple licenses for 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 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 and fire suppression. Keep equipment off of floors to minimize water and flood damage exposure. Rack mounting is acceptable.
- Backup requirements and procedures need to be followed. We recommend that a minimum of three generations of backups be maintained. If a requirement for offsite backup exists or there are no local technical personnel, 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 location, preferably in a fireproof safe, locked firebox, or similar secure housing.
- With the arrival of 64 bit operating systems, the 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 still impact the OS version purchased. Windows 2003 server x64, for example, allows for 32GB of memory to be addressed and the Enterprise edition allows for 2TB of memory to be addressed. Keep these memory limitations in mind when purchasing your server hardware and software.