



## New Options for Tivoli Storage Manager

by Orville Lantto  
Systems Analyst  
Datatrend Technologies

This month's Tech Tip will highlight several new options in Tivoli Storage Manager for AIX version 5.1 and 5.2. We also provide revised versions of the TSM options spreadsheets first presented for TSM 4.2 in an earlier Tech Tip.

### New Version 5 Options

Below is a table with the new options available for the TSM Server options file. These are options for the IBM AIX version of TSM Server. Some of these options were introduced at the 5.1 level and others were introduced at the 5.2 level. The new options address three areas: disk I/O performance, TSM admin functions, and Tivoli event console functionality.

**New Options for dsmserv.opt on AIX**

| Description           | Level Intro. | Explanation   | Default     |
|-----------------------|--------------|---|-------------|
| Async I/O             | 5.1          | This option allows the Tivoli Storage Manager server to use the asynchronous input/output (AIO) support provided on AIX. AIO enhances system performance by allowing individual non-contiguous I/O requests to be gathered together into one request and written to disk in parallel. Note: AIO is not enabled by default on the AIX operating system. If you want to use the AIO feature, you must first enable it on the operating system and reboot. If this server option is specified but AIO has not been enabled on the operating system, an error message will be displayed on the server console.  | Not Enabled |
| Direct I/O            | 5.1          | This option allows Tivoli Storage Manager to use the Direct I/O capabilities provided on AIX. Direct I/O enhances system performance by allowing write activities to skip caching and go directly to disk. This option applies to eligible disk storage pool volumes, database volumes, and log volumes.  | Enabled     |
| Event Server          | 5.1          | Specifies whether at startup the server should try to contact the event server.   |             |
| Halt Command Alias    | 5.2          | Allows administrators to give the Tivoli Storage Manager HALT command a different name.   | HALT        |
| Message Stack Trace   | 5.2          | Allows the Tivoli Storage Manager server to display helpful diagnostic data when certain messages are displayed.  | On          |
| Tcp Admin Port        | 5.2          | Specifies the port number on which the server TCP/IP communication driver is to wait for requests for sessions other than client sessions. This includes administrative sessions, server-to-server sessions, SNMP subagent sessions, storage agent sessions, library client sessions, managed server sessions, and event server sessions. Using different port numbers for the options TCPPORT and TCPADMINPORT enables you to create one set of firewall rules for client sessions and another set for the other session types listed above. By using the SESSIONINITIATION parameter of REGISTER and UPDATE NODE, you can close the port specified by TCPPORT at the firewall, and specify nodes whose scheduled sessions will be started from the server. If the two port numbers are different, separate threads will be used to service client sessions and the session types. If you allow the two options to use the same port number (by default or by explicitly setting them to the same port number), a single server thread will be used to service all session requests. Client sessions which attempt to use the port specified by TCPADMINPORT will be terminated (if TCPPORT and TCPADMINPORT specify different ports). Administrative sessions are allowed on either port, but by default will use the port specified by TCPADMINPORT. |             |
| TEC UTF8 Events       | 5.2          | Allows the Tivoli Storage Manager administrator the option to send information to the Tivoli Enterprise Console (TEC) server in UTF8 data format  | No          |
| UNIQUE TDP TEC Events | 5.2          | Generates a unique Tivoli Enterprise Console (TEC) event class for each individual Tivoli Storage Manager message, including client, server, and Tivoli Data Protection (TDP) agent messages  | No          |
| UNIQUE TEC Events     | 5.2          | Generates a unique Tivoli Enterprise Console (TEC) event class for each individual Tivoli Storage Manager message.  | No          |

The disk I/O functions were introduced at version 5.1. The Async I/O takes advantage of the ability of IBM AIX to decouple the

physical disk I/O writes from the report to the application that the I/O write has completed. This allows AIX to more efficiently manage the disk write stream.

The Direct I/O option instructs TSM to bypass AIX disk caching and directly write to JFS files used as database/log/data volumes. This takes a load off of AIX and allows TSM to read/write JFS volumes with similar efficiency as raw volume I/O.

**Several new administrative functionalities have been introduced:**

- An Event Server can be defined to accept event information from remote servers.
- The infamous TSM server HALT command can be redefined to something less dangerous.
- Additional information can be displayed during traces
- A different TCP/IP port can be defined for administrative client connections

And lastly, the TEC console functionality has been tweaked to allow UTF8 messaging and to allow unique TEC classes for every TSM client and server message, as well as for Tivoli Data Protection clients.

**Updates to TSM Options Spreadsheets**

Below are links to updated versions of TSM server and client options spreadsheets. These spreadsheets list all available documented options, a brief explanation of what it is, the default value, and a recommended value (if different from the default). The recommendations lean towards performance.

- [TSM 5.2 Server AIX Options.pdf](#)
- [TSM 5.1 Client Windows Options.pdf](#)
- [TSM 5.1 Server Windows Options.pdf](#)
- [TSM 5.1 Client Windows Options\\_old.pdf](#)
- [TSM 5.1 Server AIX Options.pdf](#)

**Considering running TSM on Linux?**

Tivoli Storage Manager server can be run on Intel 32 bit Linux (sorry, no AMD at this time), pSeries Linux , and on Z/OS Linux. As of April 5, 2004, the support levels for TSM 5.2 on Intel Linux were:

The current list of supported kernels can be viewed at:<http://www-306.ibm.com/software/tivoli/products/storage-mgr/platforms.html>

Device support on Linux also requires specific kernel levels and is limited to supported for specific devices connected via specific types, brands and models of interfaces. A large variety of devices are supported and the list can be viewed at:[http://www-306.ibm.com/software/sysmgmt/products/support/IBM\\_TSM\\_Supported\\_Devices\\_for\\_Linux.html](http://www-306.ibm.com/software/sysmgmt/products/support/IBM_TSM_Supported_Devices_for_Linux.html)

Support for non-IBM tape devices in TSM requires the use of TSM's own device drivers. The kernel levels for which there is TSM device driver support can be seen at:[http://www-1.ibm.com/support/docview.wss?rs=663&context=SSGSG7&uid=swg21111628&loc=en\\_US&cs=utf-8&lang=en+en](http://www-1.ibm.com/support/docview.wss?rs=663&context=SSGSG7&uid=swg21111628&loc=en_US&cs=utf-8&lang=en+en)

To contact Orville Lantto for more information on this tip, or to suggest or submit a Tech Tip for future TrendSetter issues, please email [TechTips@datatrend.com](mailto:TechTips@datatrend.com).

**TSM 5.2 IA32 Linux Support**

| Kernel             | Server | Client |
|--------------------|--------|--------|
| <b>Red Hat</b>     |        |        |
| 3                  | X      | X      |
| 2.1 ES             | X      | X      |
| 2.1 AS             |        | X      |
| 9                  |        | X      |
| 8                  |        | X      |
| 7.3                |        | X      |
| 7.2                |        | X      |
| <b>SUSE</b>        |        |        |
| 8ES                | X      | X      |
| ES7                | X      | X      |
| 8.1                |        | X      |
| 8                  |        | X      |
| 7.3                |        | X      |
| <b>Turbo Linux</b> |        |        |
| 8                  |        | X      |
| 7.5                |        | X      |