

What's New: TDE / Workload Generator 6.0

Virtual Instruments is excited to announce the 6.0 release of TDE / Workload Generator!

The 6.0 release introduces a brand new post-test Summary File Viewer software, and provides extensive additions to the Real-Time Alerts System, a real-time error diagnostics and logging framework that helps users quickly identify specific operation(s) that cause storage systems to exhibit functionality and performance problems, by adding support for iSCSI and SMB. 6.0 also includes file and object protocol enhancements, TDE usability improvements, and an innovative experimental feature called Array Trace Replay that will become generally available in subsequent releases.

TDE Features

Real-Time Alerts System: iSCSI and SMB	<p>The Real-Time Alerts System provides error alerts and diagnostics in real-time as each detectable error is recorded. In addition to the TCP/IP layer error diagnostic that tracks connectivity and handshake errors that is already supported, 6.0 provides application protocol layer error diagnostics specific to the SMB protocol and the iSCSI protocol, tracking details such as login failures, inaccessible shares, missing files, etc., helping users narrow down the sources of errors very quickly.</p>
Expand / Collapse for Actions Sets	<p>Several popular Scenario Control features in TDE such as Async, Thread, Loop, as well as If-Else are structured into a set of self-contained Actions identified by a Begin and an End function. In a large TDE Scenario where multiple Actions Sets are used, it becomes more difficult to manage all the Actions in the Scenario. A new expand / collapse functionality allows the user to manage complicated TDE Scenarios easier by expanding or collapsing the each self-containing Actions Set completely.</p>
Post-Test Summary File Viewer (beta)	<p>A new standalone Windows program that allows users to visualize and browse the Summary Files that can be generated by the Workload Generator at the end of each test run. Summary Files are useful for detailed post-test troubleshooting and performance analysis uses. Summary Files provide the richest set of data records for the test run, tracking hundreds of statistics from each port at half-second intervals for the entire duration of the test run.</p>
Alias for Handles*	<p>TDE Scenario Editor interface is now extended to allow the user to customize the name of any handle produced by any transaction included into the edited scenario. This enhancement simplifies the user interface and improves its usability by removing the need to use the transaction's line numbers when cross-referencing the various input and output handles throughout the scenario.</p>

Load Generation Appliance Features

NFSv4 / v4.1 Referrals	NFS Referrals is a popular feature that enables scale-out NFS deployments by providing a multi-server namespace where the filesystems are spread out. The Workload Generator NFSv4 / v4.1 clients in 6.0 will be capable of being automatically redirected to a filesystem referred to by the system under test after receiving an NFS4ERR_MOVED, thereby spreading the IOs across a cluster as configured by the tester.
HTTPS Server Certificate Validation	A new functionality that allows the user to require the Workload Generator HTTPS clients to verify the server certificate before proceeding with the Scenario. All object storage protocols that run on HTTPS will also be able to leverage the new functionality.
Amazon S3 Lifecycle	Amazon S3 offers APIs for users to define lifecycle policies such that Amazon S3 will automatically transition objects to different storage options over time to optimize storage expenses. These Lifecycle specifications are now supported by the Workload Generator Amazon S3 clients.
NFS unique Client IDs*	The Workload Generator NFSv4 Client is extended to allow unique SETCLIENTID identity on per connection basis within scenarios.
iSCSI Solicited and Unsolicited Data Transfers*	Outgoing SCSI Initiator-to-Target data may be sent by iSCSI as either solicited data or unsolicited data. The Workload Generator iSCSI Initiator configuration interface is now extended to allow the user to specify whether iSCSI Initiator Session Login phase should request iSCSI Target to support solicited data or unsolicited data transfer for that particular session.
25G Workload Generator*	Provides four 25GbE ports capable of delivering line rate performance. As with all Ethernet Workload Generators from Virtual Instruments, supports all supported IP protocols across Block, File, and Object.

Experimental Features

These are new features that are found under the Experimental Actions Toolbox. These features are provided for experimental uses, and require Virtual Instruments staff support on a best-effort basis. All features found under the Experimental Features Toolbox are not generally supported, and therefore will not be handled by the Virtual Instruments Support team, until they are moved out of the Experimental Features Toolbox.

Array Trace Replay	Provides a common framework that allows the Workload Generator to replay supported FC / iSCSI commands in sequence exactly as recorded in the originating array trace file(s), including the recorded inter-command time gaps, to recreate transient workload behaviors. During playback, the user can speed up or slow down the replay by decreasing or increasing the inter-command time gaps, respectively. To use the feature, the originating array trace file must be converted into a standard Workload Generator Replay Data csv structured file, which requires the following information for each command to be played back: timestamp, command OpCode, Block Size, Offset, Target-LUN.
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Version compatibility: TDE / Workload Generator version 6.0 is compatible with WorkloadWisdom version 6.0. To exchange workloads between TDE and WorkloadWisdom 6.0, TDE / Workload Generator 5.8 SP3 – SP6 is recommended.

*Note: introduced in 5.8 Service Packs



Sales
sales@virtualinstruments.com
1.888.522.2557

Training
training@virtualinstruments.com

Website
virtualinstruments.com