

MultiDSL v4.3.4: Release Notes at 30 January 2012

These Release Notes give you information about MultiDSL v4.3, feature changes, known issues and possible workarounds for those issues. This release adds ITU-R Recommendation BS.1387 PEAQ – a music quality measurement algorithm, extends and improves results analysis, adds refinements to the File Processor as well as connecting the Call Failed alert.

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If you plan to install MultiDSL on the same machine as Malden client software, namely Scalable VN, ISDN BRI or ISDN PRI, please ensure that you install the Malden client software and authorise the keys before installing MultiDSL. We do not recommend using client software on the same platform as MultiDSL.

System Requirements

- **Supported Operating System Minimum Revision Level:** Windows XP Professional SP3; Windows Vista Business SP2; Windows 7 Professional; Windows Server 2003 SP2; Windows Server 2008. Both 32-bit & 64-bit versions of all Operating Systems.
- **Processor:** 2 GHz Pentium processor or equivalent (Minimum); Pentium Duo processor or equivalent (Recommended)
- **RAM:** 1024 MB (Minimum); 2048 MB (Recommended)
- **Hard Disk:** Up to 1.5 GB of available space may be required
- **Display:** 1024 x 768 high colour (Minimum); 1280 x 1024 high colour (Recommended)

Installation Notes

MultiDSL v4.3 is an upgrade from previous v4 and v3 installations. If you have downloaded the installation from our website you will find that it is now provided as an ISO file. The ISO file is a copy of the CD-ROM contents and includes all prerequisites for the installation of MultiDSL.

It should not be necessary to uninstall earlier versions of MultiDSL v4 or v3 prior to installing the released version. However, should problems occur while installing the released version please uninstall the earlier pre-release versions, restart the PC and try installing the released version again.

Installing MultiDSL

If you already have a MultiDSL v4.3 CD-ROM please skip the first two steps:

1. Download the ISO file from <http://www.malden.co.uk/> to be found in Support Downloads.
2. Burn the ISO file to a CD-ROM or use a third party application to mount the image without burning to a CD (e.g. Virtual CloneDrive).
3. Run the setup.exe program. The setup program prompts you through the installation process. Follow the instructions on the screen.

Uninstalling MultiDSL

If required, you can uninstall MultiDSL by following the steps below:

1. Select Start > Control Panel > Add or Remove Programs.
2. From the list of currently installed programs, select “MultiDSL 4”, and click Remove.

This process does not remove the user files, database or any licence keys installed on the system.

Node Requirements

MultiDSL v4 introduces new features that require additions to the node software. Please upgrade nodes to at least the following versions:

- DSLAII 32k sample rate firmware v6.83
- DSLAII 48k sample rate firmware v7.05 (Serial Number 5496 onwards)
- Scalable VN v2.5.1
- ISDN PRI v2.4.1
- ISDN BRI v2.4.1

MultiDSL no longer supports the VVT and Virtual Node types. Both client applications have been superseded by Scalable VN which offers more functionality. Users of Virtual Node can download and install Scalable VN free of charge.

Feature Additions and Changes in v4.3

Measurements & Analysis

- A new Music Quality event has been added to MultiDSL. Using this event you can execute the ITU-R BS.1387 PEAQ music/audio quality metric. This addition, combined with existing Telephone Tester functionality, is useful in characterising the performance of cell phone streaming services and music on hold functionality. The Music Quality event is also useful for evaluating the performance of MP3 devices in

cell phones and other consumer products. The Help files contain information on PEAQ tasklists and test setup.

- Automatic sample rate conversion from 44.1k to 48k has been added such that you can provide MultiDSLAs with a music sample from a CD and the system will automatically convert it for use in a Music Quality test. This saves you time and simplifies the test design process.
- When viewing DTMF results in Results Analyser the frequency-level label might be written on top of the frequency analysis graph-line making it difficult to read the label. Additional processing is now performed to detect this situation and move the label into a clear space to ensure that the label is clearly readable.
- Exporting calibration results could cause an exception, this is now handled.
- Localisation issues could occur when exporting DTMF results, these are now fixed.
- PAMS 2D view could show incorrect utterance markers, this is now fixed.
- A crash could occur when trying to open a header-less sound file in MultiDSLAs Results Analyser. Now when a header-less file is detected a dialog is presented asking you to specify the sample rate and byte ordering.
- Frequency Response analysis using sound files did not account for the reference signal noise floor. This could lead to confusing results if narrower-band signals were used in a wider-band context. This is fixed.
- The echo measure could report significantly different noise levels in different directions when run balanced-to-balanced over a piece of wire. The problem was that the analysis was measuring the noise floor of the DSLA system rather than a network noise source. At this point the noise measurement mathematically tends to zero and small variations become magnified. The correct thing to do was to limit the measurement to 16-bit resolution of the recorded file. This is now done and as such noise level measurements are correctly constrained.
- DTMF Analyser level threshold was previously based on overall tone level; the analysis has been further refined to look at individual frequency levels separately in order to better match with Annex A Table A-1 in ITU-T Q.24. Results previously near a borderline boundary may change as a result of this change.
- When POLQA is set to use super-wideband (SWB) mode we now ensure that a Super-wideband 32k or 48k reference file is used, even when the tasklist is written with 16k reference material. This ensures that the wideband signals are correctly assessed on the SWB scale. They should not achieve a score of 4.75 but something slightly lower.
- Localisation issues which could affect Telephone Tester Calibration have been resolved.

Results Analyser Waveform View

- Pan a zoomed waveform left and right by either, holding down the ctrl key and pressing left and right arrow keys or by holding down the ctrl key and dragging the waveform with the mouse.

- Zoom in and out on the y-axis by holding down the ctrl key and pressing the up and down arrow keys.
- Control the selected area right-cursor by using shift + arrow keys. First, select the starting point with the mouse, next hold down the shift key and the right arrow key to start expanding the selected area. Reduce the selected area by holding down the shift key and the left arrow key.
- Rotating the mouse scroll wheel results in a zooming in and out around the current mouse cursor position.
- Selecting a region of the waveform in the time-domain produces a frequency analysis of this region in the frequency analysis area below. In the frequency analysis a cursor would mark the maximum frequency found. This cursor is now movable, click anywhere on the frequency analysis to move the cursor in order to be able to read the level at the associated frequency, or use the right and left arrow keys on the keyboard to move the cursor left and right in 1 Hz steps.
- Switch the time axis from minutes and seconds to samples by right clicking on the x-axis and selecting Format Axis > Type > Samples.

File Processor

- In the File Processor it is now possible to clear a file selector drop-down list cache by right clicking on a file selector and choosing “Clear All”.
- File Processor would fail to process SWB recordings with POLQA if PESQ was enabled in the Options area. To make configuration easier the File Processor now ignores the enabled PESQ option when processing 32k or 48k files.
- It is now possible, when saving a Measurement Profile to overwrite an existing profile name, previously this operation was blocked.
- A new option has been added to the File Processor to automatically open the result file after processing all file pairs in a batch file.
- Checkboxes in Advanced settings now persist beyond one test.
- Processing different sample rate reference and degraded files was blocked in v4.2.1. This block is now removed because it is valid to process different sample rate files using POLQA.

Node Management

- Checking the file system in Node Manager while a test was running could result in the test being terminated. This no longer happens.
- Automatic file system refresh could fail on occasions, this is now fixed.
- If a node name was changed in the Node Manager the Node View might continue to show the old name for some time. This issue is resolved.

Tests and Alerts

- Although it has been possible to select a “Call Failed” alerting event in the Define Alert panel for a number of releases, this event would unfortunately never trigger. This has been resolved. The “Call Failed” alerting event is now triggered if the call

set-up fails, or the call set-up times out or at some point in the test call the call is dropped and at least one task in each direction fails to record valid measurements.

- Prior to v4.2 the Tasklist selection in the Node View and the Calibration Assistant were linked. When you opened Calibration Assistant it showed the currently selected Tasklist in the Node View. This linkage was lost in v4.2 changes, but is re-established in this release.
- Subsequent to the Node View Tasklist Selector change in v4.2 it has been found that saving a Tasklist to a USB drive, removing the drive, and then restarting MultiDSLAs could cause the application to crash on start-up. This issue is now resolved.
- The Tasklist Selector in the Node View now ignores playlist files selected in the Tasklist Editor. The change means that you can edit a call set-up playlist and test the change without the need to repeatedly reload the test Tasklist before being able to test the playlist change.
- A new Test Termination Sequence node configuration property has been added for DSLA nodes. This property takes a DTMF sequence. If this sequence is detected at any point during a test call, the whole test, including subsequent scheduled test calls, will be terminated.

General

- The Event Log live search feature has been further refined, it now includes an auto-complete suggestion and an 'x' icon to clear the current search term. When the current search term is cleared the selected event log item remains selected, this makes it easier to understand what happened just prior to a measurement result.
- Limited support for stereo files has been added to MultiDSLAs. In the Play Sound File event it is now possible to specify a stereo file and then select the left or right channel to play.
- The database upgrade utility requires elevated user privileges. If run on a Windows Vista/ Windows 7 system where the user does not have the required privileges the upgrade utility would crash after failing to receive the required privileges. Now we detect this scenario and explain the situation, rather than crash with no information.
- Now possible to select the 24th timeslot of a T1 card.
- In the SIP Call Trace, messages containing an SDP part are now indicated more clearly in the ladder diagram.
- The Scenario Preview window is now resizable and the number of tests in the scenario is stated in the label above the list. This makes reviewing complex scenarios easier.
- Tasklist name is now an exportable property from the Report Generator > Export function.

Changes in v4.3.1

- Additional checks added to the POLQA processing workflow in v4.3 could result in a blocking error message when processing 16k files in Super-wideband mode. This has been fixed.
- If the working directory is unavailable during application start, for example because it is on an inaccessible network share, MultiDSLAs would crash. MultiDSLAs now detects the situation and asks you to relocate the working directory.
- The Results Analyser header area has been better optimised for different screen resolutions. This optimisation means that longer test names are displayed on larger screen resolutions.
- Exporting Trend and KPI reports by TestId provided data for the last 24-hours, rather than data related to the selected TestId. Now the function works as expected by exporting the result data for the specified TestId only.
- The Reports > Export to File dialog will now remember the last selected file format.
- The Reports > Open in Excel will now generate a Unicode CSV file. This is required on operating systems where Unicode is required to express the language alphabet.
- Measurement Units were omitted when processing material with the File Processor. These have now been added.
- Selecting a header-less file in the Tasklist Editor's Play Sound File event could cause the application to hang. This is now fixed.
- PEAQ offset figures were stored in samples but reported as milliseconds. This mistake is fixed. They are now both stored and presented as milliseconds.
- Reference file silence padding for POLQA was wrong. Although this did not impact on the speech quality scores, it could mean that the POLQA offset figure was incorrect. This is now resolved.

Changes in v4.3.2

- Additional tasklist run-time checks were added in v4.3 to ensure that sound files required during the test were available on the MultiDSLAs system before the test starts. Unfortunately these checks sometimes block a valid tasklist from executing. This has been fixed.
- P.863 POLQA has been updated to incorporate bug fixes described in P.Imp863 which was published at the end of November 2011. See <http://www.itu.int/rec/T-REC-P.Imp863/en> for details.
- In Results Analyser Waveform Analysis view, selecting an area in the time domain of less than a sample resulted in an exception being thrown and a possible crash. This problem is now fixed.
- The PEAQ Music Quality algorithm implementation has been updated to remove a Windows XP installation problem.

Changes in v4.3.3

- It was possible that if two tests were scheduled to run at exactly the same time, and that these two tests use the same tasklist, one test might fail to start because the other test was blocking access to a sound file resource while validating the tasklist. This problem is now fixed.
- The CSV results writer used in File Processor has been extended to better support writing of CSV files that require Unicode.

Changes in v4.3.4

- In Test Manager a test call that executed correctly might subsequently be marked as failed because of database date storage resolution. The SQL data format has a 3ms time resolution, while our code was expecting a 1ms resolution. The lack of resolution in date storage is now accounted for when storing new test call results. Unfortunately, existing tests which exhibit this problem will still appear as failed.
- Running a Trend Report for a specific Test ID, when the test was still in progress, results in an exception being thrown. This problem is now fixed.
- Database back-up for databases larger than 4.2GB would fail. This is now fixed.
- Encoded-speech files were being needlessly encrypted when written to an RST file. This encryption resulted in the files appearing to be noise when later viewed. The extra encryption step has been removed.
- The Connections Report has been extended to allow you to select which speech quality metric you wish to use for the report. This selection is specified in the reports settings dialog. Open the settings dialog by clicking on the cog icon in the Connections Report status bar at the bottom of the screen.
- An earlier change meant that in a conference bridge test the conference bridge node was reported as the source of all measurements. Following user feedback we have reversed this change to have the source presented as the node that played the speech signal.
- The effective channels used by the File Processor are now made available to the Node Manager for assigning to nodes when POLQA is disabled in the File Processor.

Known Issues

- Packet captures are not associated with the result data. You must read the event log to determine where a capture is stored.
- Sound Relay Assistant buffer reset option Auto does not do anything.
- Wait for Call State event in DSLA not working.
- Acoustic testing is not recommended with 48k DSLAII. Better performance is achieved with a 32k DSLAII. Any DSLAII with a serial number below 5496 will be a 32k DSLAII, unless specifically returned to Malden for upgrade to 48k.
- Moving the Report Window within the MultiDSLA can cause the report function to stop working. If this occurs, close the Report Window and re-open the window.

- A direct connection between DSLAII and the MultiDSL A PC can give rise to streaming failure. One solution is to change the Ethernet card configuration to 10M or 100M Half-Duplex instead of Auto-negotiation.

Installation Issues and Workarounds

- On **Windows XP (x64) & Server 2003** if you wish to use the Remote Access command PERFORMADVANCEDANALYSIS you need to make the following changes to IIS to be able to download the RST files.
 1. In IIS Manager, right-click on 'Default Web Site', and click Properties.
 2. Click the HTTP Headers tab.
 3. Click Mime Types.
 4. Click New.
 5. In the Extension box, type '.rst'.
 6. In the MIME type box, type 'application/x-malden-application'.
 7. Click OK.
- On **Windows XP**, installing MultiDSL A from one user account and running the application from another account can result in database access issues. If this occurs you need to grant multi-user access on the database by running the following commands on the database using for example osql:-
EXEC sp_grantdbaccess 'BUILTIN\Users'
EXEC sp_addrolemember 'db_owner', 'BUILTIN\Users'