

LSTC WinSuite – a complete solution for the Windows platform

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Introduction

With the release of LS-DYNA R10, a new installer called WinSuite has been released for Windows. This installer contains a complete environment for running the major products from LSTC; LS-DYNA, LS-PrePost, LS-OPT and LS-TaSC. It also includes the new program LS-Run which can act as a control center when running LS-DYNA. WinSuite contains everything needed to get started using LS-DYNA on Windows including self-study tutorials and support for queuing up jobs on the local computer.

For LSTC WinSuite download information, please contact gunther@lstc.com or your local distributor.

The WinSuite content

The single installation file contains several individual packages (LS-DYNA, LS-PrePost, LS-OPT, LS-TaSC and LS-Run). These can later be updated individually when new updated versions for these programs becomes available. The most recent release version of LS-DYNA is also included.

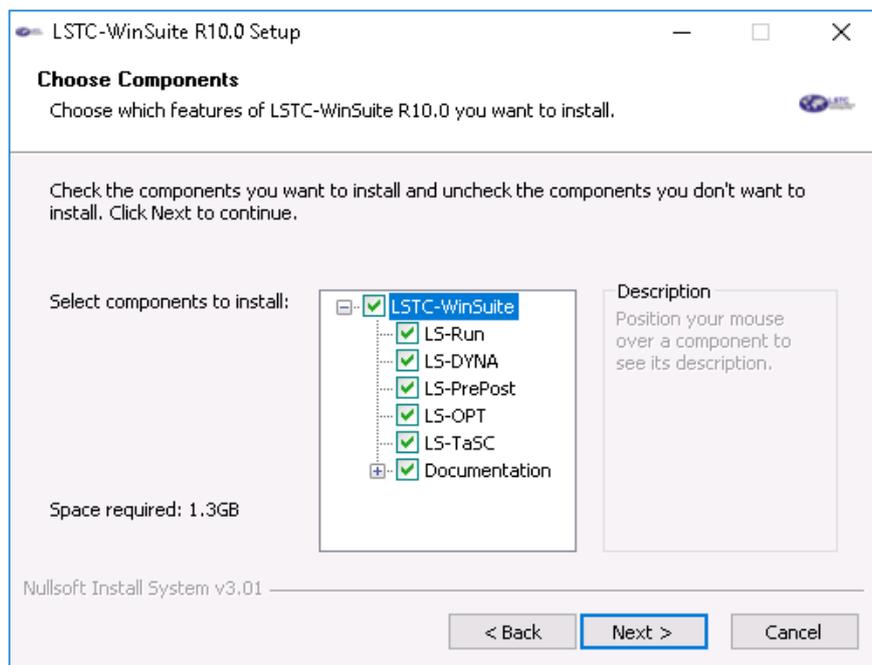


Figure 1 Installation options

Documentation

LS-DYNA Manuals. The Documentation option contains the theory and keyword user's manuals for LS-DYNA. These are available from the Manuals menu in LS-Run.

Example Models. These can be extracted from the Help menu in LS-Run and contains ready-to-run models for LS-DYNA which, for instance, can be used by the admin to test that the license server has been correctly installed. Tutorials, which are well suited for getting started using LS-DYNA and LS-OPT, are also included.

LS-Run

LS-Run is a relatively new product and acts like a graphical control center for running LS-DYNA, see Figure 3.

License server

LS-Run contains a wizard for installing the license server under *License* in the main menu to make the license and license server installation procedure as simple as possible.

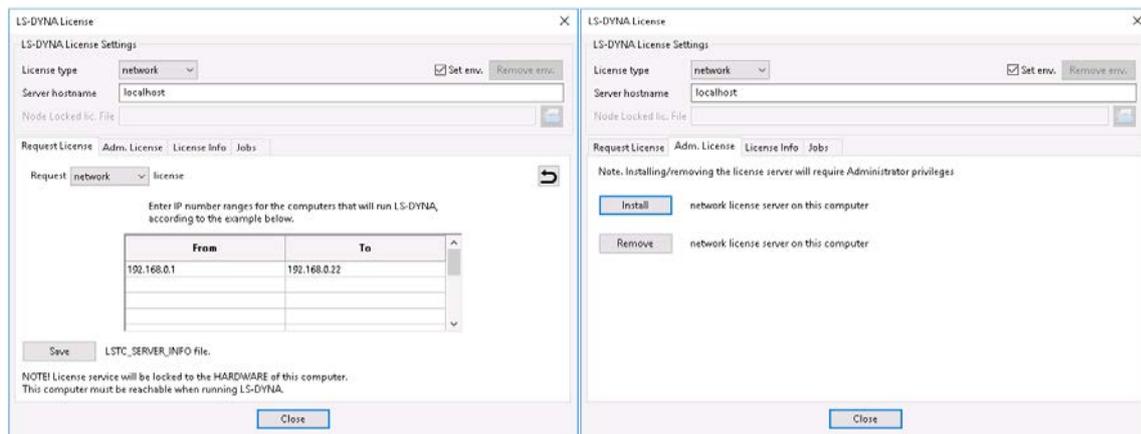


Figure 2 Request and install the LS-DYNA license

Running LS-DYNA

LS-DYNA is always started by executing a command. Various command line options can be used to activate different options in LS-DYNA. The by far most common command line options are; the input file, memory and the number of processes/threads for the analysis. And naturally - the LS-DYNA executable.

These four parameters can be used to build a parametrized expression which starts LS-DYNA. LS-Run comes with some preconfigured ready-to-run examples of expressions. Any of these parameters can easily be changed with a single click. The input file can be inserted by browsing or by dropping the file on the LS-Run icon or in the LS-Run main window, see below. "File – Run LS-DYNA" in LS-PrePost will also insert the current keyword file.

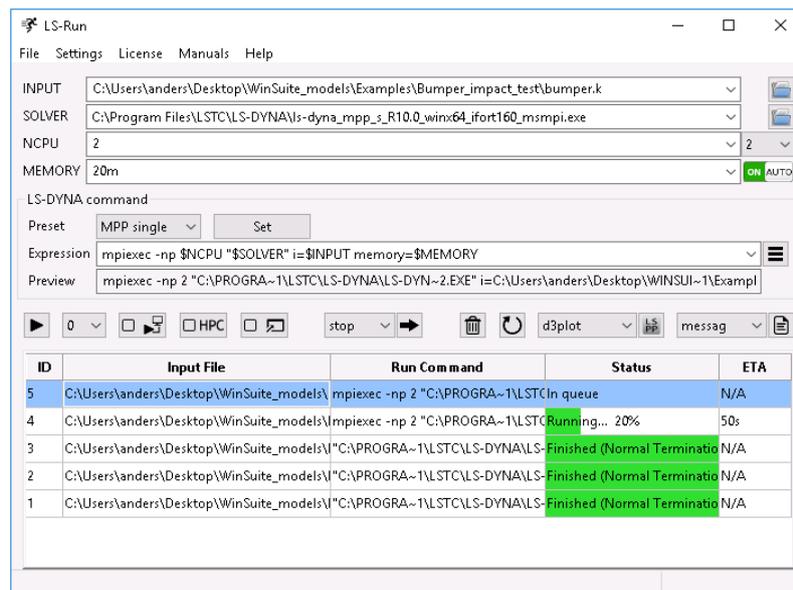


Figure 3 LS-Run - main window

LS-Run comes bundled with MS-MPI which makes it very easy to get started running MPP version of LS-DYNA. The *Preset* option provides an easy way to change both *SOLVER* and *Expression* and with a single click you can choose the right option for your analysis: SMP or MPP and single or double precision. If needed, these Presets can be changed from the defaults settings by using the “Set” button.

The icon toolbar, shown below, is arranged in three groups matching the different stages of an LS-DYNA simulation.



Figure 4 LS-Run toolbar

Pre

-  Will add the current analysis to the LS-Run job table.
-  Optionally add a dependency and wait for on another job to finish before this is started.
-  Start the job on a remote computer, specified in settings.
-  Submit the simulation to a Windows HPC cluster.
-  The simulation will be started in a visible command prompt window.

During

The LS-DYNA “sense switches” can be applied to the selected job in the table when the LS-DYNA analysis is running.

Post

This section operates on the selected job in the table. When the analysis is finished, the LS-DYNA result files can be opened in LS-PrePost or in a text editor of your choice with a single click. The selected job can be rerun or removed from the job table using the trashcan and circular arrow.

2018-01-15

LS-Run can be closed at any time. Started simulations will not be killed and the status of the jobs will be automatically resumed when LS-Run is started again. A more comprehensive documentation of LS-Run is available in the Help menu.

The jobs will start in the order they were added to the LS-Run job table provided enough resources are available and the job dependency is fulfilled. The number of running LS-DYNA processes, the sum of NCPU for all running jobs, is used as a resource counter. The number of max running processes is specified in the program settings. If a job cannot be started due to the above, it will continue and check the remaining jobs and see if any of those can be started. In this sense, will act as a local queue system and make sure jobs are automatically run in sequence on all available cores.

LS-Run is also available for Linux but this version does not contain license server or Windows HPC submit features.