



## LS-Run

A standalone application for running LS-DYNA  
by Anders Jernberg

# Document information

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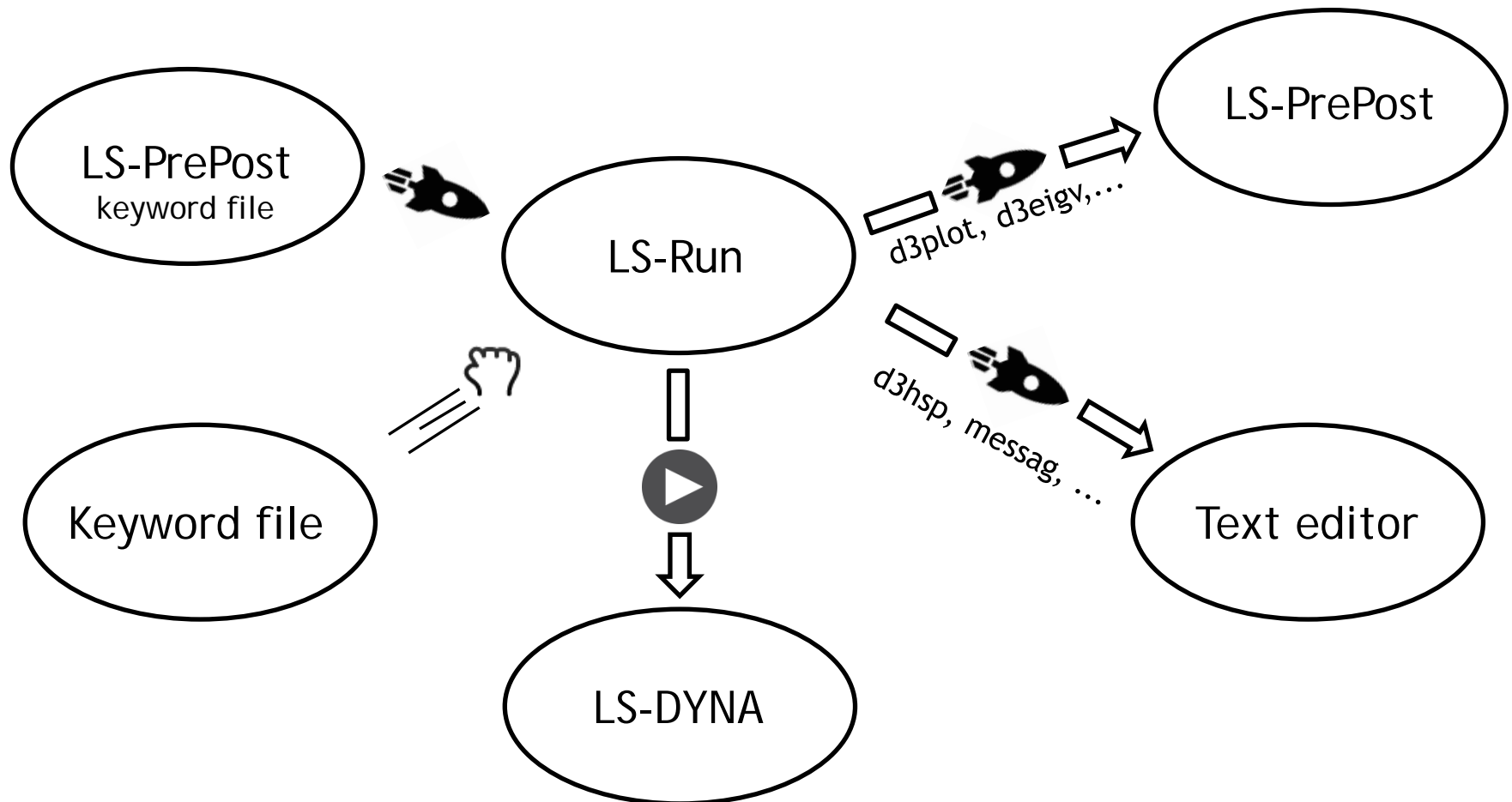
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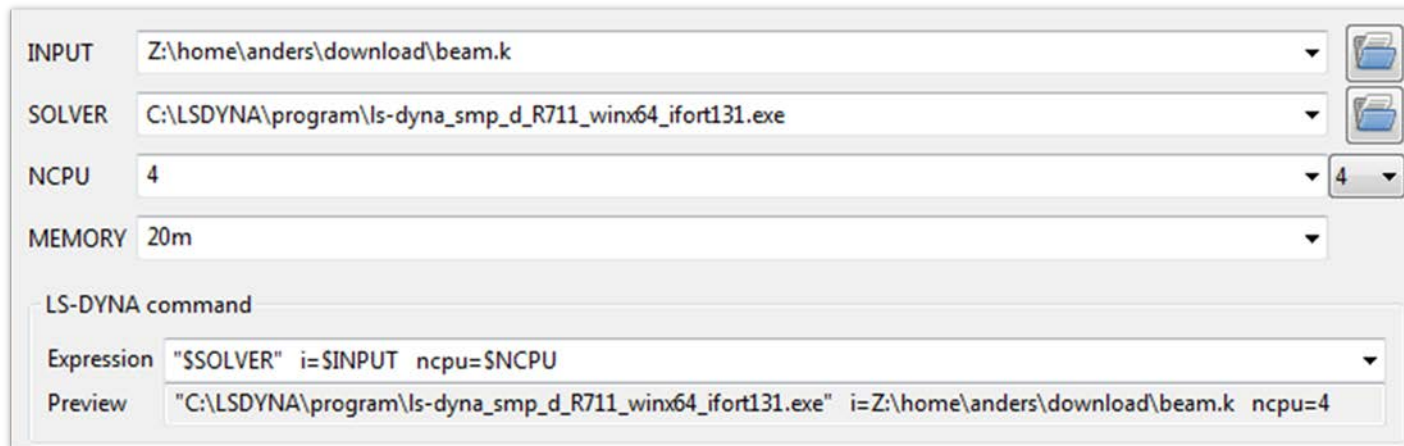
# LS-Run - a graphical control center for LS-DYNA simulations






# LS-DYNA command

LS-DYNA is a command-based program and as such, the command has to be manually typed in or in some other way generated.


LS-Run has a parametric LS-DYNA command line builder making it easy to create the command and change the most common arguments such as "memory", "ncpu" and the solver executable.



The screenshot shows a graphical user interface for building LS-DYNA commands. It features four input fields: 'INPUT' with the path 'Z:\home\anders\download\beam.k', 'SOLVER' with 'C:\LSDYNA\program\ls-dyna\_smp\_d\_R711\_winx64\_ifort131.exe', 'NCPU' with the value '4', and 'MEMORY' with '20m'. Each of the first three fields has a folder icon to its right. Below these is a section titled 'LS-DYNA command' containing an 'Expression' field with the template '"\$SOLVER" i=\$INPUT ncpu=\$NCPU' and a 'Preview' field showing the resulting command: '"C:\LSDYNA\program\ls-dyna\_smp\_d\_R711\_winx64\_ifort131.exe" i=Z:\home\anders\download\beam.k ncpu=4'.

INPUT	Z:\home\anders\download\beam.k	
SOLVER	C:\LSDYNA\program\ls-dyna_smp_d_R711_winx64_ifort131.exe	
NCPU	4	4 
MEMORY	20m	

LS-DYNA command

Expression	"\$SOLVER" i=\$INPUT ncpu=\$NCPU	
Preview	"C:\LSDYNA\program\ls-dyna_smp_d_R711_winx64_ifort131.exe" i=Z:\home\anders\download\beam.k ncpu=4	

# History of parameters and Expression

Previously used parameter values and expressions are available from the drop-down menus.

Favourite solvers and expressions can be pinned to the history list.

The screenshot displays the LS-DYNA command configuration window. It features several input fields for parameters: INPUT (Z:\home\anders\download\beam.k), SOLVER (C:\Users\anders\Desktop\ls run\ls-dyna\_smp\_s\_R700\_winx64\_ifort101.exe), NCPU (4), and MEMORY (20m). Below these is the 'LS-DYNA command' section, which includes an 'Expression' field containing '\$\$SOLVER i=\$INPUT'. A 'Preview' section shows a list of command-line arguments that can be pinned to the history. The pinned items are '\$\$SOLVER i=\$INPUT' and 'mpixec -np \$NCPU \$\$SOLVER i=\$INPUT memory=\$MEMORY'. The first item is currently selected and highlighted in blue. Each item in the preview list has a pin icon on the left and a close icon (X) on the right.

Parameter	Value
INPUT	Z:\home\anders\download\beam.k
SOLVER	C:\Users\anders\Desktop\ls run\ls-dyna_smp_s_R700_winx64_ifort101.exe
NCPU	4
MEMORY	20m

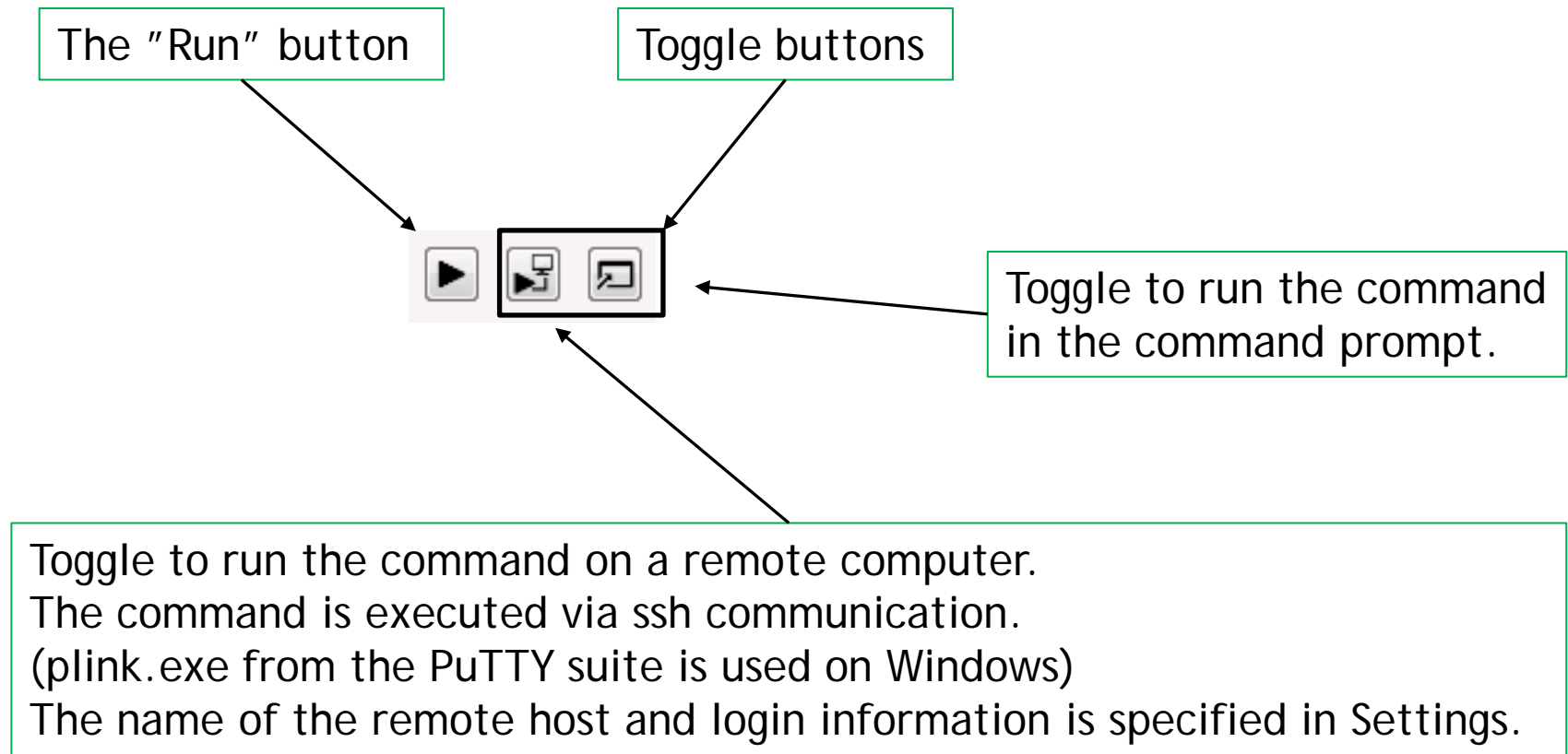
LS-DYNA command

Expression: `$$SOLVER i=$INPUT`

Preview:

- ☒ `$$SOLVER i=$INPUT`
- ☒ `mpixec -np $NCPU $$SOLVER i=$INPUT memory=$MEMORY`
- ☐ `$$SOLVER i=$INPUT`

# Run the LS-DYNA command



# Job table

Jobs are added to the job table and are started in the order they are added, provided enough resources are available.

The user can decide what kind of job data to show. Right-click on the column labels to remove or add a job property column.

Right click on a cell to view the whole content in that cell.

ID	Input File	Run Command	Status
40	Z:\home\anders\download\beam.k	"C:\LSDYNA\program\ls-dyna_smp_d_R711_winx64_ifort	Running... 83%
38	C:\Users\anders\Desktop\hemi\hemi.k	"C:\LSDYNA\program\ls-dyna_smp_d_R711_winx64_ifort	Running... 24%
37	C:\Users\anders\Desktop\hemi\hemi.k	"C:\LSDYNA\program\ls-dyna_smp_d_R711_winx64_ifort	Finished (Normal Tern
36	C:\Users\anders\Desktop\dynatest\airbagd	"C:\LSDYNA\program\ls-dyna_smp_d_R711_winx64_ifort	Finished (Normal Tern
35	C:\Users\anders\Desktop\dynatest\airbagd	"C:\Users\anders\Desktop\ls run\ls-dyna_smp_s_R700_w	Finished (Normal Tern
34	C:\Users\anders\Desktop\dynatest\airbagd	"C:\Users\anders\Desktop\ls run\ls-dyna_smp_s_R700_w	Finished (Normal Tern

# Job resources for the queue

NCPU 2

MEMORY 20m

LS-DYNA command

Expression "\$SOLVER" i=\$INPUT

Preview "C:\LSDYNA\program\ls-dyna\_smp\_d\_R711\_wi

NCPU sets the number of resources for a job.

ID	Input File	Run Command	NCPU	Status
4	C:\LSDYNA\sample\def_2_rigid\def	"C:\LSDYNA\program\ls-dyna_smp_d_R711_wi	2	In queue
3	C:\LSDYNA\sample\boundary_pre_	"C:\LSDYNA\program\ls-dyna_smp_d_R711_wv2	2	In queue
2	C:\LSDYNA\sample\airbag\airbag_c	"C:\LSDYNA\program\ls-dyna_smp_d_R711_wv4	4	Running... 75%
1	C:\Users\anders\Desktop\hemi\her	"C:\LSDYNA\program\ls-dyna_smp_d_R711_wv2	2	Running... 79%

LS-Run settings

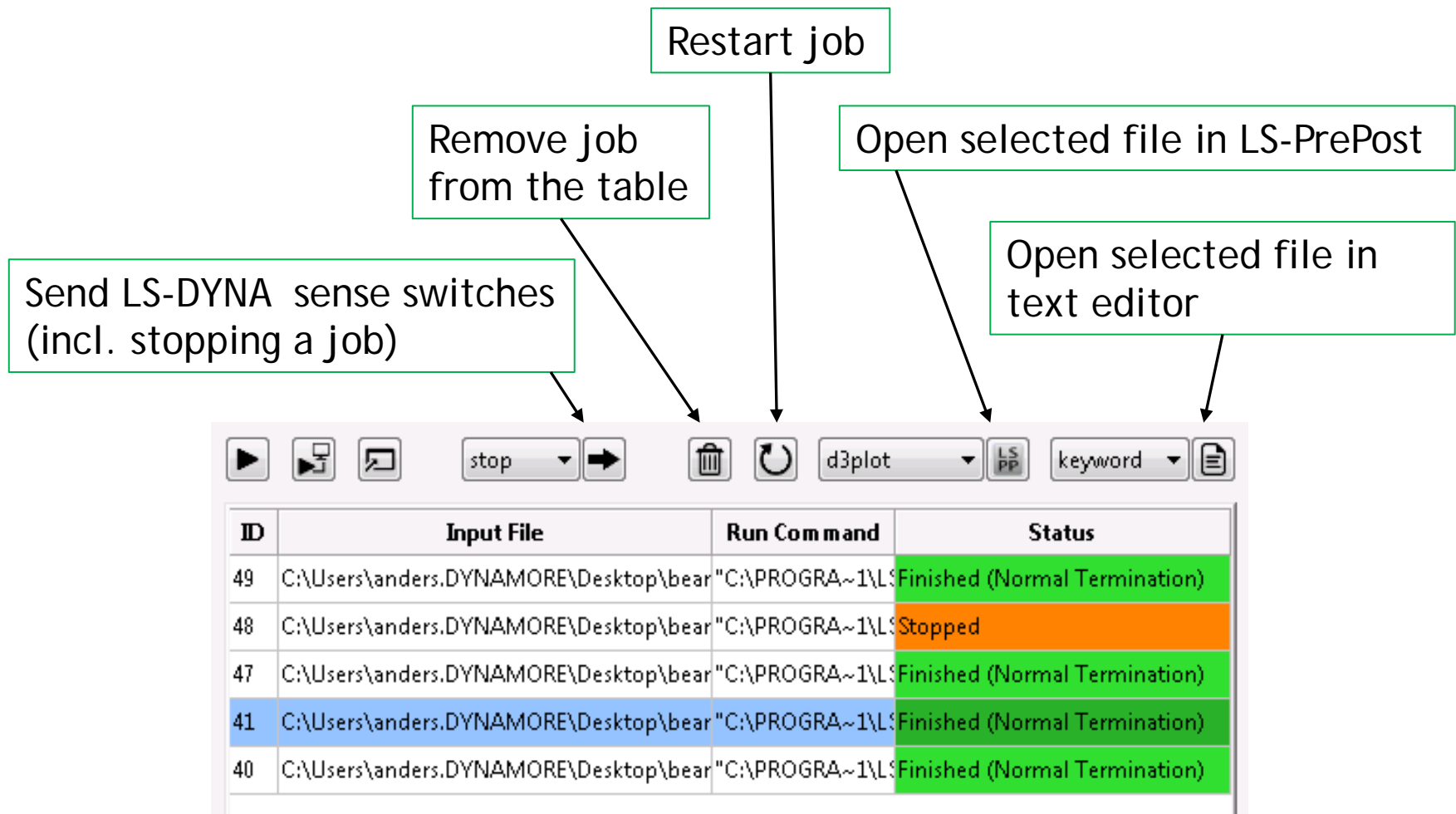
Max running proc 6

LS-PrePost C:\LSTC\LS-PrePost\4.3-x64\lsprepost4.3\_x64.exe

Text editor C:\Program Files (x86)\Notepad++\notepad++.exe



# Interact with a job (the selected row in the table)



# Summary

Parametric LS-DYNA  
command line  
builder

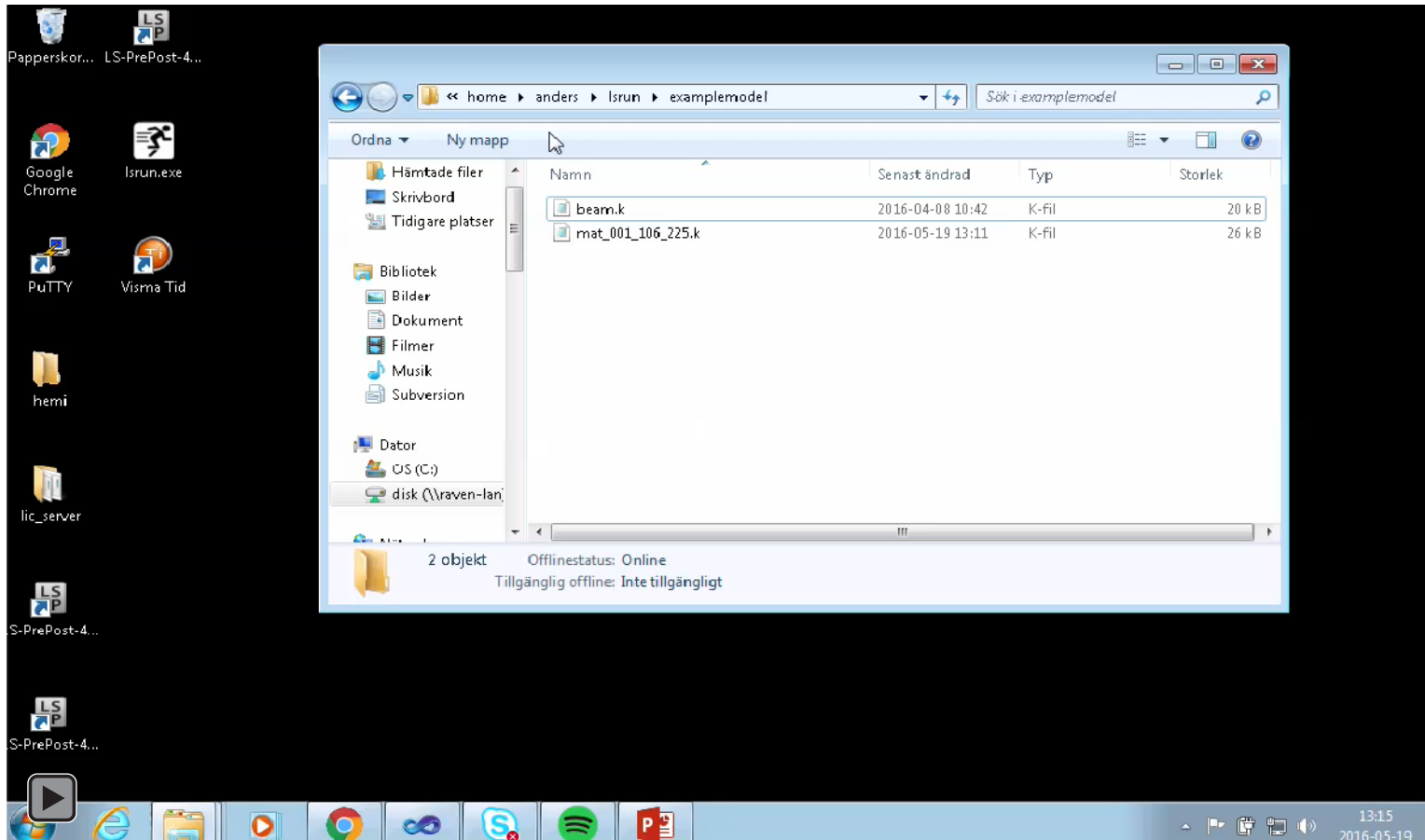
Run command  
on local or  
remote host.  
Supports  
SMP/MPP and  
any  
combination of  
Windows/Linux  
hosts

ID	Input File	Run Command	Status
49	C:\Users\anders.DYNAMORE\Desktop\beam modell\beam.k	"C:\PROGRA~1\LS-DYNA\LS-DYN~4.EXE" i=C:\Users\ANDERS~1.DYN\Desk	Finished (Normal Termination)
48	C:\Users\anders.DYNAMORE\Desktop\beam	"C:\PROGRA~1\LS-DYNA\LS-DYN~4.EXE" i=C:\Users\ANDERS~1.DYN\Desk	Stopped
47	C:\Users\anders.DYNAMORE\Desktop\beam	"C:\PROGRA~1\LS-DYNA\LS-DYN~4.EXE" i=C:\Users\ANDERS~1.DYN\Desk	Finished (Normal Termination)
41	C:\Users\anders.DYNAMORE\Desktop\beam	"C:\PROGRA~1\LS-DYNA\LS-DYN~4.EXE" i=C:\Users\ANDERS~1.DYN\Desk	Finished (Normal Termination)
40	C:\Users\anders.DYNAMORE\Desktop\beam	"C:\PROGRA~1\LS-DYNA\LS-DYN~4.EXE" i=C:\Users\ANDERS~1.DYN\Desk	Finished (Normal Termination)

Administrate  
running jobs  
and open result  
files for jobs

Jobs in local queue are automatically run in sequential order.  
User can set limit on simultaneous running jobs (processes).

# Running LS-DYNA MPP on Windows with LS-Run



# How to obtain LS-Run

LS-Run is currently included in LS-PrePost v4.3 and later.  
Latest versions are available from:

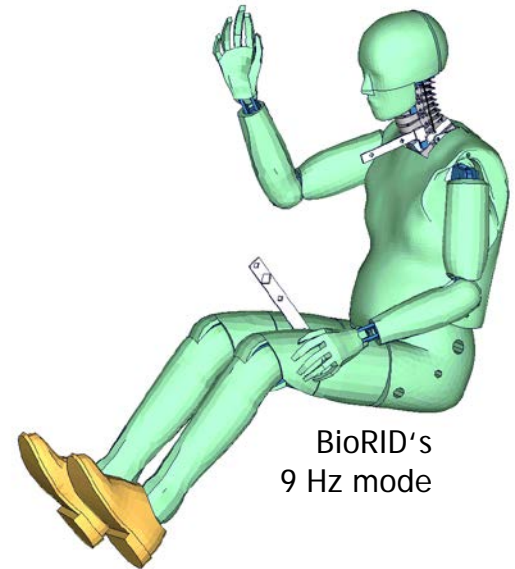
<ftp://ftp.lstc.com/outgoing/lsprepost/4.3/>  
<ftp://ftp.lstc.com/outgoing/lsprepost/dev/>

or in your personal ftp-account that you received from DYNAmore

Thank you for your attention!



Your LS-DYNA distributor and more



BioRID's  
9 Hz mode