SHELL

## **SHELL 19.1**



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# **LS-DYNA** Panel Reorganisation



#### LS-DYNA Panel Reorganisation

- The LS-DYNA Submission panel has been re-organised to account for new and future submission options.
- It is now organised in a 'tabbed' format, with additional options accessed through these tabs instead of individual buttons within main submission window.
- Frequently used LS-DYNA job submission options are kept in "Submission" tab.

		LS-DYNA SUBMISSIO	N			?
Submission	Input/Output	Restart	Post	Processing		
LS-DYNA						
Single Precision	O SMP Version	: Win6	4 SP LS64 (INTEL MP	0 🔻	Add Version	1
O Double Precision	MPP MPI Type	: IMPI E	dit 'dyna_versions'	Edit 'oasys.submit'	Save to oa_pr	ref
	O Hybrid					
S-DYNA Exe: C:\LSD	YNA\WIN64\LS971\R11_1\ls-	dyna_mpp_s_R11_winx64_if	ort101_impi.exe			9
IPI Exe: C:\Prog	gram Files (x86)\Inte\MPI-RT\4	0.3.010\em64t\bin\mpiexec.ex	(e			
Jah Ostisas						
Job Options	altaat ladvaa aubmission k					_
	iotest_isdyna_sdomission.k	0.1.157			•	-
ile Format:	Keyword V	Select Files	Sequential Submiss	Jon		
lumber of CPUs:	4	$\checkmark$	Consistency Flag			
IEMORY LIMIT:	10	MegaWords 🔻				
MEMORY2 (MPP):	10	$\checkmark$	Increase Memory If	Required		
PU LIMIT:	0	Seconds V				
Submission Options						
Online	Analysis Start Time:	00 : 00 5	Start Day:	Now <b>v</b>		
) Delayed	Use Local Host					
Batch	O Use Node File:	nostfile				
Queue	O Use Node List:					
LS-DYNA Comman	d Line Preview					



#### Tabs in LS-DYNA Submission Panel

Input or Output files related options are kept in the "Input/Output" tab.
(Previously these were accessed via the button "Optional files")

-		LS	S-DYNA SUBMISSION			? 🗆 🗙
	Submission	Input/Output	Restart	Po	ost Processing	
— LS.	-		LS-DYNA SUBM	ISSION		? 🗆 🕽
۲	Submission	Input/Output	Rest	tart	Post Processing	
0	Input Files		Input Options		Output Files	
LS-D\ MPI E> Job Input I File Fc Numb MEMC CPU L CPU L Sub	Stress Initialization (.sif) Interface Segment (.isf2) VDA Geometry (.vda) CAL3D Input (.c3d) TOPAZ3D Temperature fi MADYMO Input File REMAP option MPP pfile GMINP (.gmbin)	le (.htf) pfile gmbin	ENDTIM: ENDCYC: PARA: CASE MCHECK PGPKEY INIT D3PROP LONG BIGID JOBID	2.300000 10 0 	Output Files:       ARU         Contact Force File (.ctf)       Interface Segment (.isf1)         ✓       PRIMER Static Database I         Winfrith Crack file (.crf)       FSIFOR file (.fff)         GMOUT (.gmbin)       CPM Interface Force (.cp         DEM Interface Force (.de       FSILNK file (.fsl)         PBM Interface Force (.pb       D3PART file (.d3part)         BEM file (.bem)       BEM file (.bem)	P'.ptf' ▼ File (.ztf) m) m)
0 c					General Print file (.root)	
О с О с	Module DLL           map =           map1 =           Binary File Size:	(max 8192)				
SMEM	LS-DYNA Command Lir SMEMORY SENDTIME=2.3 SN Submit	ie Preview CYCLE=10 Res	et		▼ Exp Status/Kill	cancel



#### Tabs in LS-DYNA Submission Panel

 Restart options and Post-processing related options are now kept in respective tab panels.





# Option to specify MPI Executable



#### Option to specify MPI Executable

• The user can now specify the path to the MPI executable in the "Submission Tab" .

Subme	SIUT	inputoutput	Resialt	POSTP	rocessing	
LS-DYNA						
Single Pre	cision C	) SMP Version:	Win64 S	P LS64 (INTEL MPI)	•	Add Version
O Double Pre	cision	MPP MPI Type:	IMPI Edit	'dyna_versions'	Edit 'oasys.submit'	Save to oa_pref
LS-DYNA Exe:	C:\LSDYNA\WI	V64\LS971\R11_1\ls-dyna	a_mpp_s_R11_winx64_ifort1	01_impi.exe		
MDI Eve:	C:\Program Files	x (x86))InteMPLPT\4.0.3	010\em64t\bin\mnievec.eve			
III TEXC.	e.arrogrammic.	3 (X00) (inteniin Pitti 4.0.5.	o rotemo-trointinpiexee.exe			
Job Options						
Input File:	C:\Demo\test_Is	dyna_submission.k				▼ 5
File Format:	к	eyword V	Select Files S	equential Submissio	n	
Number of CPUs	: 4			onsistency Flag		
MEMORY LIMIT:	10	M	egaWords 🔻			
MEMORY2	(MPP): 10		✓ Ir	crease Memory If F	lequired	
CPU LIMIT:	0		Seconds V			
Submission O	otions					
Online	Analy	sis Start Time: 00	: 00 Star	t Day:	low 🔻	
O Delayed	Ο ι	Jse Local Host				
Batch	Οι	Jse Node File: .\host	file			
Queue	Οι	Jse Node List:				
LS-DYNA	Command Line Pre	eview				
SMEMORY SEND	TIME=2.3 \$NCYC	LE=10			▼ <b>E</b>	kpression E



# View/Edit the SHELL system files



#### View/Edit the SHELL system files

- The users can now view/edit the following SHELL system files from within the SHELL:
  - dyna\_versions : Located in the <OA\_INSTALL> area, the file lists the paths to the LS-DYNA executables along with their types. The file is used to create the "Versions" menu.
  - oasys.submit: Located in the <OA\_INSTALL> area, this is a user-configurable to setup and include commands run the LS-DYNA jobs.
  - oasys\_queue: Located in the <OA\_INSTALL> area, this file lists alternative batch queues and queue directives.

		LS-DYNA SUBM	ISSION		?
Submission	Input/Output	t Rest	art Post	Processing	
LS-DYNA					
Single Precision	O SMP Versi	on:	Win64 SP LS64 (INTEL MPI	) 🔻	Add Version
O Double Precisio	n O MPP MPI Ty O Hybrid	pe: IMPI	Edit 'dyna_versions'	Edit 'oasys.submit'	Save to oa_pref
LS-DYNA Exe: C:\	SDYNA\WIN64\LS971\R11_1\	s-dyna_mpp_s_R11_winx	64_ifort101_impi.exe		
MPI Exe: C:\	Program Files (x86)\Inte\MPI-RT	\4.0.3.010\em64t\bin\mpiex	kec.exe		
Job Options					
Input File: C:V	Demo\test_lsdyna_submission.	k			▼ 🖴
File Format:	Keyword V	Select Files	Sequential Submiss	ion	
Number of CPUs:	4		Consistency Flag		
MEMORY LIMIT:	10	MegaWords 🔻			
MEMORY2 (MPP)	: 10		Increase Memory If	Required	
CPU LIMIT:	0	Seconds V			
Submission Options	i ———				
Online	Analysis Start Time:	00 : 00	Start Day:	Now 🔻	
Delayed	Queue CPU LIMIT:	0	Seconds	·	
Batch	Queue MEMORY LIMIT:	9000000	MegaWord	is 🔻	
🔘 Queue	Queue Name:	dyna	CPU Limit: NONE		
Queue Options:		2 CPU x 2 Noc	des	▼ Ec	lit 'oasys_queue'
LS-DYNA Comn	and Line Preview				
				•	Expression Edit



## Preferences to set default LS-DYNA Executable



#### Preferences to set default LS-DYNA Executable

- In the Submission tab, the LS-DYNA executable type (code/precision), MPI executable type and path values for the LS-DYNA and MPI executables can be set as a default into the HOME preference file by pressing the 'Save to oa\_pref' button
- This sets up the "Default" LS-DYNA executable related preferences for the SHELL.
  - The "default" LS-DYNA entry is given the tag **<DEFAULT>** in the Versions menu list.
- The "**default\_ls\_dyna\_executable**" preference assigns the given LS-DYNA executable path for a given values of the LS-DYNA type related preferences.
  - "default\_code\_type": Values are SMP/MPP/HYBRID
  - "default\_precision": Values are Single/Double
  - "default\_mpi\_type"
- The default MPI executable can be given via the "default\_mpi\_executable" SHELL preference.

			LS-DYNA	SUBMISSION			?
Submis	sion	Input/Output	t l	Restart	Post Pr	rocessing	
LS-DYNA							
Single Precedence	cision	O SMP Versi	on:	Win64 SP LS6	4 (INTEL MPI)	•	Add Version
O Double Pre	cision	MPP     MPI Ty     Hybrid	pe: IMPI	Edit 'dyna	_versions'	Edit 'oasys.submit'	Save to oa_pref
LS-DYNA Exe:	C:\LSDYNA	\WIN64\LS971\R11_1\	s-dyna_mpp_s_R11	_winx64_ifort101_im	ipi.exe		
MPI Exe:	C:\Program	Files (x86)\InteNMPI-RT	\4.0.3.010\em64t\bir	n\mpiexec.exe			
Internet							
Job Options	CilDomoltor	at ladvas, submission					
File Connet	C. Demotes	Keywood	Coloris Films		tial Cubaria aire	-	•
rile Format:		Keyword V	Select Files	Sequer	itiai Submissior	n	
Number of CPUs:	: 4			✓ Consis	tency Flag		
MEMORY LIMIT:	10	0	MegaWords	•			
MEMORY2 (	MPP): 10	D		<ul> <li>Increase</li> </ul>	e Memory If Re	equired	
CPU LIMIT:	0		Seconds	V			
Submission Op	tions						
O Online	A	nalysis Start Time:	00 : 00	Start Day:	N	ow 🔻	
O Delayed	Q	ueue CPU LIMIT:	0		Seconds	W	
Batch	Qu	ueue MEMORY LIMIT:	900000		MegaWords	W	
~	Q	ueue Name:	dyna	▼ CPU Limit:	NONE		
Queue			2.000	v 2 Nodes			Edit 'oseve queue'



## LS-DYNA Command Line Preview



#### LS-DYNA Command Line Preview

- New LS-DYNA command-line preview has been added in the LS-DYNA submission panel so the user can view and modify LS-DYNA command line inputs.
- The preview can be switched between command-line "Expression" or "Detailed" preview .
- The SHELL also saves the command-line expressions values from the previously completed LS-DYNA submissions.
  - This is for an easy and quick re-submission to LS-DYNA and can be picked up using the '**Recent command-line expressions**' popup menu.
- The LS-DYNA command line can be edited using a text-editor.
  - Job would be submitted using exactly the same command-line input by the user in the editor .
- The text editor can be chosen using the SHELL preference (default for Windows is MS Wordpad):
  - **shell\*text\_editor**: "C:\Program Files\Windows\NT\Accessories\wordpad.exe"





# D3PLOT Options



#### D3PLOT Options

- Renamed the "3D Viewer Export" option to more appropriate "D3PLOT Viewer"
- Added a new option to output uncompressed D3PLOT Viewer files.
  - The uncompressed files are 5-10 times larger in size than their compressed files.
  - The uncompressed files are compatible with Microsoft PowerPoint and other 3D viewers.

	D3PLOT OPTIONS	?
Input Options		
Start In:	C:\	
D3PLOT File:		
Command File:		<u> </u>
D3PLOT Viewer:	GLB uncompressed	
GLB File:		
Options:		
PTFCUT 'Simple':		
O Command-line	e options:	
O File:		9
PTFCUT 'Advance	ed":	
File:		
Model Database F	ile:	6
Template File:		
ZTF File:		
Properties File:		
Settings File:		6
Groups File:		
Model List File:		
JavaScript:		
JavaScript Args:		
Command line:		
Pre-Commands:		
Post-Commands:		
DISPLAY:		
Other Ontions		
Use OpenGI		
O Run D3Plot in 'tt	y' mode	
Automatically exit	D3PLOT upon completion	
Use Full Screen		
Set MENU_AUTO	CONFIRM = TRUE	
Start using xterm		
Write Checkpoint	C:\	9



# Help text for widgets



#### Help text for widgets

• Added hover text bubbles to all the widgets (buttons or labels) in all the panels in the

SHELL, explaining the significance of those widgets.

			LS-DYNA	SUBMISSION			?
Submis	ssion	Input/Output		Restart	Post P	Processing	
LS-DYNA							
Single Pres	cision	O SMP Versio	on:	Win64 SP LS6	64 (INTEL MPI)	¥	Add Version
O Double Pre	ecision	MPP     MPI Typ     Hybrid	be: IMPI	Edit 'dyna	a_versions'	Edit 'oasys.submit'	Save to oa_pref
LS-DYNA Exe:	C:\LSDYNA	A\WIN64\LS971\R11_1\ls	-dyna_mpp_s_R11	_winx64_ifort101_ir	npi.exe		
MPI Exe:	C:\Program	Files (x86)\IntelMPI-RT	4.0.3.010\em64t\bir	\mpiexec.exe			
Job Options							
nput File: Path to the keyw	C:\Demo\te	st_lsdyna_submission.k					▼ ■
list (*.lst) or the	fixed (*.inf)	file to run the	Select Files	Seque	ntial Submissio	n	
LS-DYNA analy	vsis.	7		✓ Consis	tency Flag		
	· _						
MEMORY LIMIT:	1	0	MegaWords	<b>•</b>			
MEMORY2	(MPP): 1	0		<ul> <li>Increa</li> </ul>	se Memory If F	Required	
CPU LIMIT:	0		Seconds	•			
Submission Or	tions						
Online	A	analysis Start Time:	00 : 00	Start Day	: N	low 🔻	
) Delayed	Q	ueue CPU LIMIT:	0		Seconds	T	
Batch	Q	LUEUE MEMORY LIMIT:	900000		MegaWords	s 🔻	
Queue	Q	lueue Name:	dvna	▼ CPU Limit	NONE		
			2 CPU	2 Nodes		T Ed	it 'oseve quaua'
aucue options.			2 6 6 7	2 10003		•	in basys_queue
LS-DYNA (	Command Lin	e Preview					
\$MEMORY						▼ [E	Expression Edit



## New Sense Controls in SHELL for LS-DYNA R13



#### New Sense Controls in SHELL for LS-DYNA R13

• SHELL V19 now supports the two new sense controls for LS-DYNA R13

-	KILL OPTIONS	>
SV	/1 : Write a Restart File and Terminate	
SV	2 : Report Time and Cycle Number	
SV	/3 : Write a Restart File and Continue	
SV	/4 : Write a Plot State and Continue	
SV	/5 : Interactive graphics and real time visualization	
SV	7 : Turn off real time visualization	
SV	/8 : Interactive 2D rezoner for solid elements and real time visualization.	
SV	/9 : Turn off real time visualization (for option SW8)	
FIL	E : Send Ouput from SW2 to a File	
SV	A : Flush ASCII file buffers	
SV	/B : Write a DYNAIN File and Continue	
SV	/C : Write a DYNAIN and a Restart File and Continue	
SV	/D : Write a DYNAIN and a Restart File and Terminate	
SV	/E : Terminate explicit dynamic relaxation and proceed with the transient analysis	
	NV : Temporarily override nonlinear convergence tolerances	
	R : Enable/Disable output of binary plot database "d3iter" after each equilibrium iteration	
	RINT : Enable/Disable output of equation solver memory, cpu requirements	
	PRINT : Enable/Disable output of nonlinear equilibrium iteration information	
	OF : Output current timing information to messag (SMP) or prof.out (MPP).	
ST	DP : Halt execution immediately, closing open files	
EN	DTIME : Change the termination time to 2.3	
	APPLY CANCEL	



# SHELL 19.1 Updates



#### SHELL 19.1 Updates

- Added Help buttons to top right corner of all the SHELL panels, to launch appropriate manual pages.
- Updated the exiting option for GMBIN (.gmbin) in input files section of Input/Output tab to allow users to specify the filename.

-	LS-DYNA SUBMISSION						
Submission Input/Output	Restart	Post Processing					
Input Files	Input Options	Output Files					
Stress Initialization (.sif)	ENDTIM: 0.000000	Output Files: ARUP '.ptf'	T				
Interface Segment (.isf2)	ENDCYC: 0	Contact Force File (.ctf)					
VDA Geometry (.vda)	PARA: 0	Interface Segment (.isf1)					
CAL3D Input (.c3d)	CASE	PRIMER Static Database File (.ztf)					
TOPAZ3D Temperature file (.htf)	MCHECK	Winfrith Crack file (.crf)					
MADYMO Input File	PGPKEY	FSIFOR file (.fff)					
REMAP option	INIT	GMOUT (.gmbin)					
MPP p file p file	D3PROP	CPM Interface Force (.cpm)					
GMINP (.gmbin) test2.gmbin	LONG	DEM Interface Force (.dem)					
	BIGID	FSILNK file (.fsl)					
	JOBID	PBM Interface Force (.pbm)					
		D3PART file (.d3part)					
		BEM file (.bem)					
		General Print file (.root)					
Module DLL			-				
Binary File Size: 1024 (max 8192)							
LS-DYNA Command Line Preview							
k=test_lsdyna_submission.kil memory=10000000 gminp=	test2.gmbin b=test_lsdyna_submission.rlf	g=test_lsdyna_submissio Expression	Edit				
Submit Res	et	Status/Kill Ca	incel				



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