SHELL

## **SHELL 19.0**



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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.

Submission	Input/Outpu	ut I	Restart Post	Processing		
LS-DYNA	4			- 1		
Single Precision	O SMP Vers	sion:	LS 64 SP MPP (IMPI) <defau< td=""><td>LT&gt; V</td><td>Add Version</td><td></td></defau<>	LT> V	Add Version	
O Double Precision	MPP     MPI T     Hybrid		Edit 'dyna_versions'	Edit 'oasys.submit'	Save to oa_pref	
S-DYNA Exe: C:\LSD	YNA\program\ls-dyna_mp	n s R101 winx64 ifor	t131 impiexe			
	ram Files (x86)\InteMPI-R					
C.Frog		14.0.3.0101611041101111	ipiexec.exe			
Job Options						
put File: C:\DEM	O\test_ls_dyna_submissio	on.key			•	
e Format:	Keyword <b>v</b>	Select Files	Sequential Submiss	sion		
umber of CPUs:	2		Consistency Flag			
EMORY LIMIT:	10	MegaWords	•			
MEMORY2 (MPP):	10		✓ Increase Memory It	Required		
PU LIMIT:	0	Seconds	•			
Submission Options						
Online	Analysis Start Time:	00 : 00	Start Day:	Now <b>v</b>		
Delayed	Use Local Host					
Batch	O Use Node File:	Nostfile				
Queue	O Use Node List:					
LS-DYNA Command	Line Preview					
CHECK SMEMORY SEN	IDTIME=2.3 SNCYCLE=10			T E	xpression Edit	1





## 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-DYNA SUBMISSION		[
Submission Input/Output	Restart	Post Processing	
LS-DYNA      Single Precision     Dou     Submission     Input/Output     Input Files     Stress initialization (.sif)     Interface Segment (.isf2)     Job Op     VDA Geometry (.vda)     Input File:     CAL3D Input (.c3d)     TOPAZ3D Temperature file (.htf)     MADYMO Input File     REMAP option     MEMORY     MPP pfile     pfile     pfile     GMINP (.gm)	LS 64 SP MPP (MPP           LS-DYNA SUBMIS           Restart           Input Options           ENDTM:         0.00000           ENDTM:         0.00000           ENDCYC:         0           PARA:         0           CASE         MCHECK           PGPKEY         INIT           D3PROP         LONG           BIGID         JOBID	SION Post Processing Output Files	]
<ul> <li>Onlin</li> <li>Delay</li> </ul>		BEM file (.bem) General Print file (.root)	
Batcl         Module DLL           Queu         map =           map1 =			
LS-C Binary File Size: 40 (max 8192)			
SMCHECK LS-DYNA Command Line Preview SMEMORY		Expression Edit	
Subm Submit Rese	et	Status/Kill Cancel	



## Tabs in LS-DYNA Submission Panel

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

				LS-DYNA SUE	BMISSION					
LS-DY	Submission 'NA	Input/Out	put	Restart		Post Processing				
Sing	gle Precision	O SMP Ve	rsion:	LS 64 SI	P MPP (IMPI) < <mark>D</mark> E	AULT>	T	Add Version		
O Do	_			LS-DYNA S	SUBMISSION					
	Submiss	ion	nput/Output	Restar	t	Post Processing	1			
LS-DYNA	Input Files			Input Options		Output Files				
MPI Exe:	Stress Initializa	-			LS-DYNA SU	BMISSION			□×□	
Int Or	Interface Segn	Continuono	n	Input/Output	Restart	Post Pro	ocessing			
Job Op Input File	CAL3D Input (.		Restart Tim	e: les	ut Deck					
	TOPAZ3D Tem		Restart fill	c	UL DECK					
File Form	MADYMO Inpu		-			LS-DYNA SU	BMISSION			
Number o	REMAP option	Select Resta	Su	bmission	Input/Output	Restart		Post Processing		
MEMORY	MPP pfile	Dun	Post Proc	essing Options						
MEN	GMINP (.gm)		Run T/H	IIS after analysis	Options	DISPLAY:	HYDLTCM	ID0514ZZB:0.0		
CPU LIMP			Run RE	PORTER after analysis	Options					
Submis			Run D3	PLOT after analysis	Options					
<ul> <li>Onlin</li> </ul>										
O Dela	Module DLL									
O Batc	map =									
O Que		, a l								
	Binary File Size:	<u> </u>								
LS-										
SMCHECK	LS-DYNA Co									
	\$MEMORY	LS-DYNA Co								
Subr	Submit	SMEMORY								
		Submit								
				NA Command Line Preview	v					
			\$MEMORY						Expression Edit	
			Submit		Reset			Status/Kill	Cancel	



# Option to specify MPI Executable



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

		LS-D	YNA SUBMISSION		
Submission LS-DYNA	Input/Ou	tput R	estart Post	Processing	
Single Precision     Double Precisio	n    MPP   MF   Hybrid	ersion: I Type: IMPI mpp_s_R101_winx64_ifort	LS 64 SP MPP (IMPI) <defau Edit 'dyna_versions'</defau 	LT>  Edit 'oasys.submit'	Add Version Save to ca_pref
		I-RT\4.0.3.010\em64t\bin\mp			
Job Options Input File: C:U File Format: Number of CPUs: MEMORY LIMIT: MEMORY2 (MPP) CPU LIMIT:	DEMO\test_ls_dyna_submis Keyword ▼ 2 10 10 0	Select Files MegaWords Seconds	✓ Increase Memory If		
Submission Options Online Delayed Batch Queue	Analysis Start Time: Use Local Host Use Node File: Use Node List:	00 : 00	Start Day:	Now V	
	and Line Preview \$ENDTIME=2.3 \$NCYCLE=	0 Reset	Status		xpression Edit



# 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	SUBMISSION				
Submis	sion	Input/Ou	tput	Rest	art	Post	Processing	1	
<ul> <li>Single Prec</li> </ul>	sision	O SMP V	ersion:	LS	64 SP MPP (IMPI)	<defaul< td=""><td>.T&gt;</td><td>•</td><td>Add Version</td></defaul<>	.T>	•	Add Version
O Double Precision		MPP     MP     MP     MP	MPI Type: MPI		Edit 'dyna_versions' Ed			omit'	Save to oa_pref
LS-DYNA Exe:	C:\LSDY	NA\program\ls-dyna_n	npp_s_R101_winx@	4_ifort131	_impi.exe				=
MPI Exe:	C:\Progra	am Files (x86)\InteMPI	-RT\4.0.3.010\em64	t\bin\mpiex	ec.exe				
Job Options									
Input File:									•
File Format:		Keyword V	Select File	S	Sequential	Submissi	on		
Number of CPUs:		2			Consisten	y Flag			
MEMORY LIMIT:		10	MegaWord	5 ▼					
MEMORY2 (	MPP):	10			✓ Increase N	emory If I	Required		
CPU LIMIT:		0	Seconds	T					
Submission Op	tions								
O Online		Analysis Start Time:	00 : 0	0	Start Day:	1	Now V		
O Delayed		Queue CPU LIMIT:	0			Seconds	Ŧ		
O Batch		Queue MEMORY LIMP	T: 9000000		Ň		s 🔻		
Queue		Queue Name:	dyna	•	CPU Limit: NO	NE			
Queue Options:			2 (	PU x 1 No	de		•	Edit 'o	asys_queue'
LS-DYNA C	command I	ine Preview							
SMEMORY							,	Exp	ression 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.

Submis	sion	Input/	Output		Restart		Post Prod	cessing		
LS-DYNA		1								
<ul> <li>Single Pred</li> </ul>	cision	O SMP	Version:		LS 64 SF	MPP (IMPI) <d< td=""><td>EFAULT&gt;</td><td>۰.</td><td>Add Ver</td><td>sion</td></d<>	EFAULT>	۰.	Add Ver	sion
		O 1100	MPI Type:	IMPI		dit 'dyna_versid		dit 'oasys.submit'	Save to oa	oref
-		O Hybrid	merrype.	unri	-	all uyina_versio	ins L	un odsys.submit	Save to be	_prei
S-DYNA Exe:	C:\LSDY	NA\program\ls-dyna	a_mpp_s_R	101_winx64_ifo	rt131_impi.	exe				=
IPI Exe:	C:\Progra	am Files (x86)\InteM	MPI-RT\4.0.	3.010\em64t\bin\	mpiexec.ex	e				<b>•</b>
Job Options										
nput File:	C:\DEMO	\test_ls_dyna_sub	mission.key						•	
ile Format:		Keyword	•	Select Files		Sequential Sul	bmission			
lumber of CPUs	2	2			$\checkmark$	Consistency F	lag			
MEMORY LIMIT:		10		MegaWords	¥					
MEMORY2	(MPP):	10			$\checkmark$	Increase Mem	ory If Req	uired		
PU LIMIT:		0		Seconds	•					
Submission Op	otions									
Online		Analysis Start Tim	e: 0	00	S	tart Day:	Nov	2		
Delayed		O Use Local Ho	st							
Batch		O Use Node File	: .\hos	stfile						
		O Use Node Lis	t							

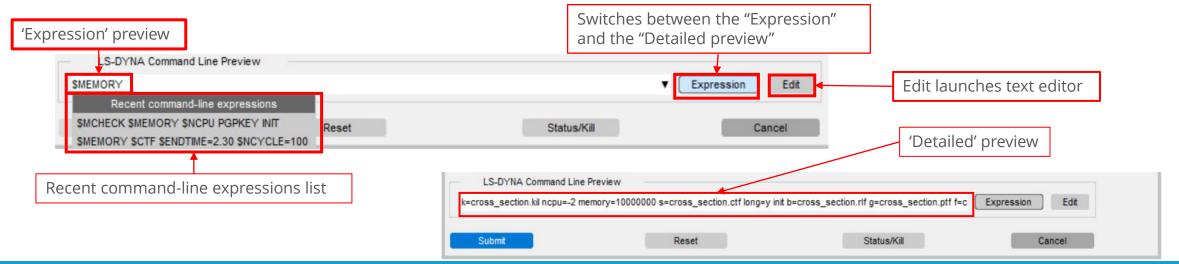


## LS-DYNA Command Line Preview



#### 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:\Users\Manu.Agarwal\OASYS_19	
D3PLOT File:		
Command File:		
D3PLOT Viewer:	GLB uncompressed	
GLB File:		
Options:		
PTFCUT 'Simple':		
O Command-line o	ptions:	
O File:		
PTFCUT 'Advanced	t:	
File:		
Model Database File	e:	
Template File:		
ZTF File:		
Properties File:		
Settings File:		
Groups File:		
Model List File:		
JavaScript:		
JavaScript Args:		
Command line:		]
Pre-Commands:		
Post-Commands:		
DISPLAY:		
Other Options		
Use OpenGL		
O Run D3Plot in 'tty'	mode	
Automatically exit D	3PLOT upon completion	
Use Full Screen		
Set MENU_AUTO_C	CONFIRM = TRUE	
Start using xterm		
Write Checkpoint	C:\Users\Manu.Agarwal\OASYS_19	
Show Checkpoint f		



# 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 SUE	BMISSION				
Submissi	ion	Input	/Output		Restart		Post	Processing		
LS-DYNA -										
Single Precis		O SMP	Version:		LS 64 S	P MPP (IM	PI) <defaul< td=""><td>.T&gt; ▼</td><td>Add Versio</td><td>in</td></defaul<>	.T> ▼	Add Versio	in
O Double Precis		<ul> <li>MPP</li> <li>Hybrid</li> </ul>	MPI Type:	IMPI	E	dit 'dyna_	versions	Edit 'oasys.submit'	Save to oa_p	pref
S-DYNA Exe:	C:\LSDYNA\p	program\ls-dyr	ia_mpp_s_F	R101_winx64_if	ort131_impi	exe				=
IPI Exe:	C:\Program F	iles (x86)\Intel	MPI-RT\4.0.	3.010\em64t\bin\	mpiexec.ex	ke				<b></b>
Job Options	rd (* kev: * k	* the state	1						•	•
list (*.lst) or the fo LS-DYNA analysi	xed (*.inf) file		5	Select Files	✓		tial Submissi ency Flag	ion		
MEMORY LIMIT:	10			MegaWords	•					
MEMORY2 (M	PP): 10				$\checkmark$	Increase	e Memory If	Required		
CPU LIMIT:	0			Seconds	•					
Submission Optio	ons									
Online	Ana	alysis Start Tin	ne: 0	00 : 00	S	Start Day:	3	Now V		
) Delayed	0	Use Local H	ost							
Batch	0	Use Node Fi	e: .\ho	stfile						<b>=</b>
Queue	0	Use Node Li	st:							
LS-DYNA Cor	mmand Line	Preview								
MEMORY								•	Expression	Edit
Submit			Res	et			Status/	Kill	Cano	cel



## 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	
	SW1 : Write a Restart File and Terminate	
	SW2 : Report Time and Cycle Number	
	SW3 : Write a Restart File and Continue	
	SW4 : Write a Plot State and Continue	
	SW5 : Interactive graphics and real time visualization	
	SW7 : Turn off real time visualization	
	SW8 : Interactive 2D rezoner for solid elements and real time visualization.	
	SW9 : Turn off real time visualization (for option SW8)	
	FILE : Send Ouput from SW2 to a File	
	SWA : Flush ASCII file buffers	
	SWB : Write a DYNAIN File and Continue	
	SWC : Write a DYNAIN and a Restart File and Continue	
	SWD : Write a DYNAIN and a Restart File and Terminate	
	SWE : Terminate explicit dynamic relaxation and proceed with the transient analysis	
	CONV : Temporarily override nonlinear convergence tolerances	
	ITER : Enable/Disable output of binary plot database "d3iter" after each equilibrium iteration	
	LPRINT : Enable/Disable output of equation solver memory, cpu requirements	
	NLPRINT : Enable/Disable output of nonlinear equilibrium iteration information	
	PROF : Output current timing information to messag (SMP) or prof.out (MPP).	
	STOP : Halt execution immediately, closing open files	
•	ENDTIME : Change the termination time to 2.3	
	APPLY CANCEL	



#### **Contact Information**

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