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# Creo Lightweight Graphics with PDMLink

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### Simplified Representations - Overview





Master					
Geometry					
Graphic					
Boundary Box / Symbolic					
Lightweight					
Available details	Assembly level graphics	Assembly structure	Part level graphics	Reference geometry	Features and parameters
Typical memory consumption	~10%	~5%	~30%	~70%	100%

- Full assembly, sub-assemblies and/or component-specific setting
- Exclude objects to remove from graphics and memory
- Store multiple states in assembly model
- Use Combined States to store with different Styles (e.g. Wireframe, Shaded), X-sections, Annotations, etc.

# Simplified Representations

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Load only relevant design scope

- Controllable level of details
  - Graphic/scenery to full parametric details
- Exclude unneeded items
  - Filter by size
  - Internal/External
  - Selective
  - Rule-based filtering
- Concurrent design in relevant context





# External Simplified Representations (ESR)

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#### Capabilities

- Store Subset/simprep definition in a separate file
- Add additional context to the subset w/o affecting original context
- Define scope directly from Windchill

#### Common uses

- Distribute work to users with limited access/permissions to modify top design assembly
- Filter-down overloaded designs to a standalone valid configuration/variant

#### Design in context

- Edit sub-models in reduced scope of large assembly
- Add auxiliary content
  - Manufacturing/testing structures
  - Add-on designs



# Lightweight Graphics

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#### Focus faster on models on interest

- Iterate designs in large assembly context
- Instant 3D thumbnail of complete model
- Selective drill-down to level of details
- On-demand retrieval of required models







# **Metrics**

## LWG vs. Graphics vs. Master

# KTM example



	Time	Objects in WS	x
Open Master Rep CS*	1m37s	606	
Open Graphics Rep CS*	0m51s	606	1.9
Open LWG CS*	0m26s	17	3.7
Open Master Rep CS	1m05s	606	
Open Graphics Rep CS	0m37s	606	1.8
Open LWG CS	0m09s	17	7.2
Open Master WS	0m54s	606	
Open Graphics Rep WS	0m28s	606	1.9
Open LWG WS	0m08s	17	6.8





\*Empty Cache

# WorldCar example



	Time	Objects in WS	x
Open Master Rep CS*	1m01s	885	
Open Graphics Rep CS*	0m50s	883	1.2
Open LWG CS*	0m02s	1(4)	(30)
Open Master Rep CS	0m52s	885	
Open Graphics Rep CS	0m43s	883	1.2
Open LWG CS	0m01s	1(4)	(52)
Open Master WS	0m32s	885	
Open Graphics Rep WS	0m24s	885	1.3
Open LWG WS	0m01s	885	(32)



\*Empty Cache



# How to enable

Creo Worker

#### Create a thumbnail worker

- Rcp file is only used

#### • Edit the rcp.

- Parameters, Misc TAB->Sub-thumb lev.
- From 0 to -1 (all levels)
- You can use the followinf rcp as an example ...\Creo 2.0\Common Files\"date code"\apps\prodview\recipe\LWGthumb.rcp



# Enable Thumbnails by Adapter (worker) 2(2)

#### • Edit the creo worker rcp

- Copy the thumbnail rcp to Creo Worker folder
- Change so the worker is producing thumbnails (can also be done by Thumbnail worker or server).
- Also set the thumbnail rcp to be used by the worker.
- Restart Workers!

Basic Parameters Ad	Ivanced Preparation	LOD Setup	LOD Details		
Creo Parametric Supports Creo Parametric 1.0 & 2.0, Creo/Elements Pro 5.0 & Pro/Engineer Wildfire 4					
-Required Entities	Output Options-				
Mass Properties	Dutput Sou	rce	Creo View	Creo 2.0 🔻	
✓ <u>T</u> essellation	Output	cture	MockUp	<none> 💌</none>	
Analytical	✓ Output Auth	nor Su. S	EPD.Connect	<none> 💌</none>	
₩ireframe	Output Drav	wings	✓ Output Thumb	nail	
Curves	✓ Output Geo	metry	_	_	
Regia Decomptors		L LOD Satur			
Dasic Parameters Ad	Preparation	LOD Setup	LOD Details		
Adapter	J				
Creo Parametric - Su	orts Creo Parametric 1.0	& 2.0, Creo/Eler	ments Pro 5.0 & Pro/E	ngineer Wildfire 4	
File Naming System	Paths Copyright	Miscellaneous	PDF Output Setup		
Worker Configurat —					
Short Timeout (sec)	Server 🚽	Helper	60		
Long Timeout (sec)	s rver 📔 🛨	Helper	3600		
Exit Adapter After	Conversion	s 🔽 Us	e Helper Restart		
WWGM Adapter DLL		Us	e CAD Handle		
Error Handling					
Fail Current Job On Following Errors					
Batch Exits After Job on the Following Errors					
Worker Exits After Job	on the Following Errol	56290			
Thumbnail					
Thumbnail Recipe		D:\PTC\LWG	\Thumb\pvsthumb.rc		
Locale		1			
Language De	efault	<u> </u>			
Character Set De	erault	<u> </u>			

