

3DEXPERIENCE

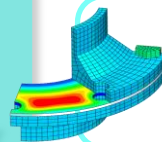
Extended Token

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SIMULIA Traditional Products

Abaqus

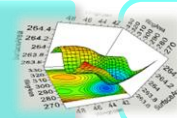
- Abaqus/CAE – Abaqus specific pre-and postprocessing
- Abaqus Standard – implicit FE analysis
- Abaqus/Explicit – high speed dynamic events
- Abaqus/CFD – fluid-structure interaction, conjugated heat transfer



sophisticated
linear & nonlinear
finite element analysis

Isight

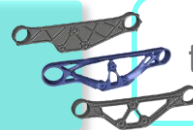
- Optimization
- Design for Six Sigma, Design of Experiments (DOE)
- Reliability and Robustness



process automation,
design exploration &
parametric optimization

Tosca

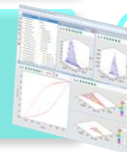
- Tosca Structure – Topology, Sizing, Shape, Bead
- Tosca Fluid



topology & shape optimization

fe-safe

- Fatigue live calculation



durability analysis

Traditional Licenses



Extended Licenses

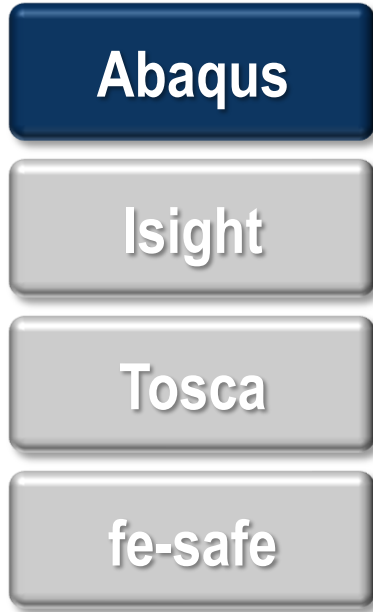




Token Consumption

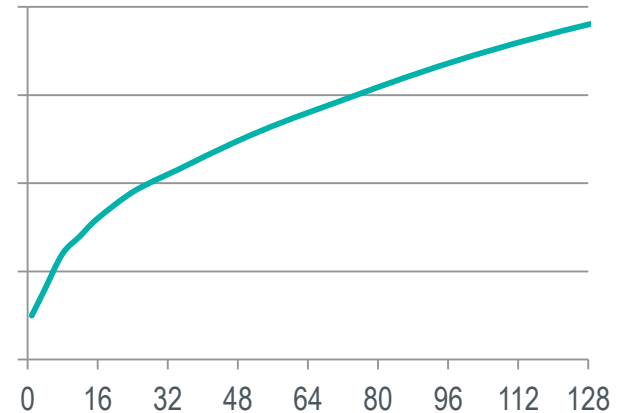
Token Consumption

- Logic



- No. of cores / run
- Minimum: 5 token
- Token consumption flattens above 8 cores

Product	N _{core}	Analysis tokens required for different numbers of cores									
		1	2	4	8	12	16	24	32	64	128
Abaqus/Standard ¹											
Abaqus/Explicit ^{1,2}		5	6	8	12	14	16	19	21	28	38
Abaqus/CFD ³											



Token Consumption

- Logic

Abaqus

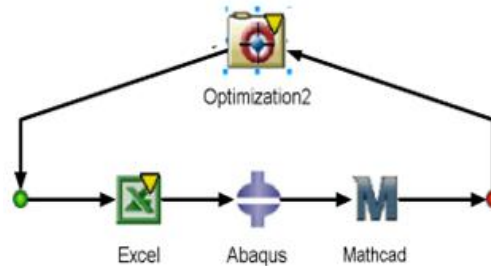
Isight

Tosca

fe-safe

Complexity of the workflow

Simflow 1
 Technique 1
 Premium 1
 Total 3



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Token Consumption

Logic

Abaqus

Isight

Tosca Structure

Tosca Fluid

fe-safe

core module (5 QXT)

either:

- topology
- sizing
- shape
- bead

includes report + smooth after completion of optimization run

advanced capabilities

choose one:

- Nonlinear (+3 QXT)
- Durability (+3 QXT)
- Morph (+3 QXT)

in case of combination
-> advanced workflow

solver interface

- Abaqus (+0 QXT)
- ANSYS (+1 QXT)
- MSC Nastran (+1 QXT)

Tosca Fluid (5 QXT)

topology

includes smooth after completion of optimization run

parallelization

number of cores

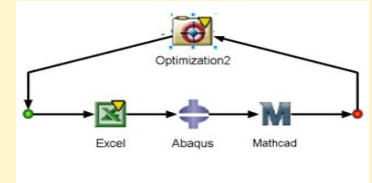
- 1 core (+0 QXT)
- 2-8 cores (+3 QXT)
- 9-32 cores (+6 QXT)
- 33-128 cores (+9 QXT)
- 129+ cores (+12 QXT)

solver interface

CFD solver interface

- STAR-CCM+ (+1 QXT)
- Fluent (+1 QXT)

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Abaqus/Explicit ^{1,2}		5	6	8	12	14	16	19	21	28			
Abaqus/CFD ³													38



Token Consumption

- Logic

Abaqus

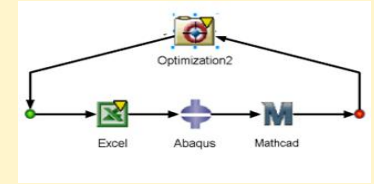
Isight

Tosca

fe-safe

Always 7 token

Product	N _{cores}	Analysis tokens required for different numbers of cores											
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Token Consumption

Executable

	Minimum	Realistic
Abaqus	5	8
Isight	0	3
Tosca Structure	5	8
Tosca Fluid	6	9
fe-safe	7	7



Token Consumption

Interactive

	Minimum	Realistic
Abaqus	1	Concurrent usage
Isight	1	Concurrent usage
Tosca Structure	1	Concurrent usage
Tosca Fluid	0	-
fe-safe	1	Concurrent usage



