

Structures: CAT A Native Roles, CAT C Power'By,

	Solve on 3DEXPERIENCE Cloud			
	E0 scenarios	E4 scenarios	E8 scenarios	
	SRU-OC tokens			
Structural Mechanics & Durability solvers, including Generative Structural Design	Cloud IT configuration (cores)	Structures: CAT A Native Roles, CAT C Power'By, E0 scenarios	Structures: CAT A Native Roles E4 scenarios	Structures: CAT A Native Roles E8 scenarios
	4	29	0	0
	8	43	12	0
	18	64	41	29
	36	91	91	82
	144	213	213	213
Configurations only support Structural Mechanics →	48	106	106	106
	96	162	162	162
	192	263	263	263

Customer provided IT configuration (cores, no GPU)	Solve on Customer provided IT			
	E0 scenarios	E4 scenarios	E8 scenarios	
	SRU-OC tokens			
Structures: CAT A Native Roles E0 scenarios	Structures: CAT A Native Roles E4 scenarios	Structures: CAT A Native Roles E8 scenarios	Structures: CAT A Native Roles E8 scenarios	Structures: CAT A Native Roles E8 scenarios
1	15	0	0	0
2	15	0	0	0
4	25	0	0	0
6	31	4	0	0
8	35	8	0	0
10	38	12	4	4
12	41	16	8	8
16	45	24	16	16
18	47	28	20	20
22	50	36	28	28
24	51	40	32	32
30	54	52	44	44
32	55	55	48	48
36	57	57	56	56
40	58	58	58	58
44	60	60	60	60
48	61	61	61	61
64	65	65	65	65
72	67	67	67	67
96	71	71	71	71
128	75	75	75	75
144	77	77	77	77
192	81	81	81	81
256	85	85	85	85
or more	see adjacent text			

Token usage for Structures roles deployed on the 3DEXPERIENCE Cloud and solving on customer Provided IT:
 When using roles that support 4 cores embedded compute for the 1st simultaneous structural simulation:
 No SimUnit tokens or credits are required for up to 4 cores,
 Add 2 SimUnit tokens per core are required from 5 to 31 cores.
 Add 10 SimUnit tokens per doubling of cores* starting above 31 cores
 When using roles that support 8 cores embedded compute for the 1st simultaneous structural simulation:
 no SimUnit tokens or credits are required for up to 8 cores,
 Add 2 SimUnit tokens per core are required from 9 to 36 cores.
 Add 10 SimUnit tokens per doubling of cores* starting above 36 cores.
 When using structural roles that don't include embedded compute or structural roles with embedded compute for the 2nd simultaneous simulation:
 15 SimUnit tokens are required up to 2 cores,
 add 10 SimUnit tokens per doubling of cores* starting from 2 cores
 *A logarithmic function rounded to the nearest whole integer is used to determined token usage between doublings of cores
 Note: Add 5 SimUnit tokens for 1 GPU and 5 additional SimUnit tokens per doubling of GPUs

Structures: Embedded behavior:	E0 Scenarios	E4 Scenarios	E8 Scenarios
Specification	Roles that do not include embedded compute or the 2nd & subsequent simultaneous simulation using roles that include embedded compute	The first simultaneous simulation using roles that include 4 cores embedded compute	The first simultaneous simulation using roles that include 8 cores embedded compute
Cat A roles: Native 3DEXPERIENCE Examples:	SNE-OC, SYE-OC	SRD-OC, SLL-OC, GDE-OC, DRD-OC	SFO-OC, SSU-OC, FGM-OC, FGP-OC
Cat C: Power'By: Cat E: Standalone license	Abaqus	-	-
Details:	E0 scenarios require tokens or credits for compute	E4 scenarios support 1 simultaneous simulation on up to 4 cores	E8 scenarios support 1 simultaneous simulation on up to 8 cores
	2nd & subsequent simultaneous simulations for roles with embedded compute follow the tokens & credit usage for E0 roles		

RANS CFD: CAT A Native 3DEXPERIENCE Roles

		Solve on 3DEXPERIENCE Cloud		
		E0 scenarios		E16 scenarios
		SRU-OC tokens		
Reynolds Averaged Navier Stokes (RANS CFD)	Cloud IT configuration (cores)	RANS CFD: E0 scenarios		RANS CFD: E16 scenarios
	16	29		0
	36	90		61
	72	160		131
	144	264		235

		Solve on Customer provided IT		
		E0 scenarios	E8 scenarios	E16 scenarios
		SRU-OC tokens		
Customer provided IT configuration (cores, no GPU)	RANS CFD: E0 scenarios	RANS CFD: E8 scenarios		RANS CFD: E16 scenarios
1	14	0		0
2	14	0		0
4	14	0		0
6	14	0		0
8	14	0		0
10	14	14		0
12	14	14		0
16	14	14		0
18	20	14		6
22	31	17		17
24	35	21		21
30	47	33		33
32	50	36		36
36	56	42		42
40	62	48		48
44	67	53		53
48	71	57		57
64	86	72		72
72	92	78		78
96	107	93		93
128	122	108		108
144	128	114		114
256	158	144		144
or more	see adjacent text			

Token usage for RANS CFD roles deployed on the 3DEXPERIENCE Cloud and solving on customer Provided IT:
 When using the FMK-OC, TME-OC or CTEAD-OC roles for the 1st simultaneous RANS CFD simulation:
 no SimUnit tokens or credits are required for up to 16 cores,
 add 36 SimUnit tokens per doubling of cores* starting from 16 cores.
 When using any of the above RANS CFD roles for the 2nd simultaneous simulation:
 14 SimUnit tokens are required up to 16 cores,
 add 36 SimUnit tokens per doubling of cores* starting from 16 cores
 Note: Add 5 SimUnit tokens for 1 GPU and 5 additional SimUnit tokens per doubling of GPUs*
 *A logarithmic function rounded to the nearest whole integer is used to determined token usage between doublings of cores or GPUs

RANS CFD:	E0 Scenarios	E8 Scenarios	E16 Scenarios
Embedded behavior:	E0 Scenarios	E8 Scenarios	E16 Scenarios
Specification	2nd & subsequent simultaneous simulation using roles that include embedded compute	Includes 8 cores embedded compute	Includes 16 cores embedded compute
Cat A roles: Native 3DEXPERIENCE Examples:	FMK-OC, TME-OC, CTEAD-OC	GDF-OC - FD06 supports solver on customer provided IT. Cloud execution planned for a later release	FMK-OC, TME-OC, CTEAD-OC
Cat C: Power'By: Cat E: Standalone license	-	-	-
Details:	E0 scenarios require tokens or credits for compute for the 2nd or subsequent simultaneous simulation	E8 scenarios support 1 simultaneous simulation on up to 8 cores.	E16 scenarios support 1 simultaneous simulation on up to 16 cores.
	2nd & subsequent simultaneous simulations for roles with embedded compute follow the tokens & credit usage for E0 roles		

EMAG: CAT A Native Roles, CAT C Power'By,

Electromagnetics Engineer Role	Cloud IT configuration (cores)	Solve on 3DEXPERIENCE Cloud		
		E0 scenarios		E16 scenarios
		EMAG: CAT A Native Roles, CAT C Power'By, E0 scenarios : HF	EMAG: CAT A Native Roles, CAT C Power'By, E0 scenarios : LF	EMAG: CAT A EMC-OC Role E16 scenarios
	16	32	25	0
	36	52	45	25
	48	65	58	38
	96	116	109	89
	144	164	157	137
	192	212	205	185
	288	305	298	278
	(cores/GPUs)			
	24/4	94	87	65
	48/8	164	157	137

Token usage for the Electromagnetics Engineer role deployed on the 3DEXPERIENCE Cloud and solving on customer Provided IT:

When using the Electromagnetics Engineer role that support 16 cores embedded compute for the 1st simultaneous simulation:

No SimUnit tokens are required for up to 16 cores,
add 5 SimUnit tokens per doubling of cores* starting above 16 cores

When using the Electromagnetics Engineer role for the 2nd simultaneous simulation:

High-Frequency Solvers:

17 SimUnit tokens are required up to 32 cores,
add 5 SimUnit tokens per doubling of cores* starting above 16 cores

Low-Frequency Solvers:

10 SimUnit tokens are required up to 32 cores,
add 5 SimUnit tokens per doubling of cores* starting above 16 cores

*A logarithmic function is used to determine token usage between doublings of cores
Note: Add 5 SimUnit token for 1 GPU and 5 additional SimUnit token per doubling of GPUs

Electromagnetics: Embedded behavior:	E0 Scenarios	E16 Scenarios
Specification	2nd & subsequent simultaneous simulation using roles that include embedded compute	Includes 16 cores embedded compute
Cat A roles: Native 3DEXPERIENCE Examples:	EMC-OC	EMC-OC
Cat C: Power'By Examples: Cat E: Standalone license	CST Studio Suite	
Details:	E0 scenarios require tokens or credits for compute for the 2nd or subsequent simultaneous simulation	E16 scenarios support 1 simultaneous simulation on up to 16 cores.
	2nd & subsequent simultaneous simulations for roles with embedded compute follow the tokens & credit usage for E0 roles	

Customer provided IT configuration (cores, no GPU)	Solve on Customer provided IT			
	E0 scenarios		E16 scenarios	
	EMAG: CAT A Native Roles, CAT C Power'By, E0 scenarios :HF	EMAG: CAT A Native Roles, CAT C Power'By, E0 scenarios :LF	EMAG: CAT A EMC-OC Role E16 scenarios	
1	17	10	0	0
2	17	10	0	0
4	17	10	0	0
6	17	10	0	0
8	17	10	0	0
10	17	10	0	0
12	17	10	0	0
16	17	10	0	0
18	17	10	1	1
22	17	10	2	2
24	17	10	3	3
30	17	10	5	5
32	17	10	5	5
36	18	11	6	6
40	19	12	7	7
44	19	12	7	7
48	20	13	8	8
64	22	15	10	10
72	23	16	11	11
96	25	18	13	13
128	27	20	15	15
144	28	21	16	16
192	30	23	18	18
256	32	25	20	20
288	33	26	21	21
or more	see adjacent text for other configurations			

Plastic injection molding: CAT A Native Roles

	Solve on 3DEXPERIENCE Cloud		
		E0 scenarios	E8 scenarios
		SRU-OC tokens	
Plastic injection molding simulation	Cloud IT configuration (cores)	Plastic injection molding: CAT A Native Roles E0 scenarios	Plastic injection molding: CAT A Native Roles, E8 scenarios
	8	not supported in R2022x	0

The Plastic Injection Engineer IME role includes embedded solver support for 1 simultaneous simulation running on up to 8 cores. Token usage & credit based licensing is not yet supported for the Plastic Injection Engineer role IME

Customer provided IT configuration (cores, no GPU)	Solve on Customer provided IT	
	E0 scenarios	E8 scenarios
	SRU-OC tokens	
	Plastic injection molding: CAT A Native Roles E0	Plastic injection molding: CAT A Native Roles, E8 scenarios
1		0
2		0
4		0
6	not supported in R2022x GA	0
8		0
10 or more		not supported in R2022x

Design Exploration: CAT A Native Roles

Solve on 3DEXPERIENCE Cloud

SimUnit token usage for Design Exploration is based on:

1. Type of analysis
2. Number of cores used for the analysis
3. Number of design points
4. Level of parallelization

Design Exploration SimUnit token usage details are specified in the documentation.

Virbroacoustics: CAT C Power'By

	Solve on 3DEXPERIENCE Cloud	
		E0 scenarios
		SRU-OC tokens
Virbroacoustics Cat C requires PXX-OC and W6S or W6P on premise	Cloud IT configuration (cores)	Virbroacoustics: CAT C Power'By E0 scenarios
	18	250

Process Automation & Optimization: CAT A Native roles SPF or MDO

Solve on 3DEXPERIENCE Cloud

SimUnit token usage for Simulation processes running on 3DEXPERIENCE cloud or on IT resources provided by the customer

Sequential, Loop and Design Exploration processes containing at least one 3DEXPERIENCE Native Solver adapter and no premium adapters	Sequential or Loop processes with: 1) no 3DEXPERIENCE Native solver adapters <u>or</u> 2) with 3DEXPERIENCE Native solver adapters and at least one premium adapter	Design Exploration processes with: 1) no 3DEXPERIENCE Native solver adapters <u>or</u> 2) with 3DEXPERIENCE Native solver adapters and at least one premium adapter
SimUnit tokens SRU-OC		
0	3	6

Additional SimUnit tokens for simultaneous execution of design points (applies for execution on 3DEXPERIENCE cloud or on customer IT)	
Number of Simultaneous Design Points	SimUnit tokens
0 to 4	0
5 to 8	2
9 to 16	4
17 to 32	8
33 to 64	16
65 to 128	32
129 to 256	64

Premium adapters	3DEXPERIENCE Native Solver adapters
OSCommand	Physics Simulation Execution
Script	CST
Excel	XFlow
MFT	
Any Custom Adapter	
Isight	
Matlab	
Loop if embedded role available	

Multibody Dynamics: Simpack - Cat C PowerBy or standalone Simpack

Solve on 3DEXPERIENCE Cloud

SimUnit token usage for Simpack is based on:

1. The content of the simulation.
2. The number of cores used to run the solver.

Simpack SimUnit token usage details are specified in the Simpack documentation.

CFD LBM: PowerFLOW - CAT C Power'By (Remote Visualization)

Solve on 3DEXPERIENCE Cloud

E0 scenarios
SRU-OC tokens

PowerFLOW LBM CFD	Cloud IT configuration (cores)	Solver Processes (Compute Cores)	Control Process (Cores)*	CFD LBM: PowerFLOW - CAT C Power'By (Remote Visualization) E0
		216	215	1
	504	503	1	880
	1,008	1,007	1	1,450

PowerFlow:	E0 Scenarios
Specification	Roles that do not include embedded compute or the 2nd & subsequent simultaneous simulation using roles that include embedded compute
Cat A roles: Native 3DEXPERIENCE Examples:	-
Cat C: Power'By Examples:	PDT, PCA, PVZ, PIN
Details:	E0 scenarios require tokens or credits for compute
2nd & subsequent simultaneous simulations follow the tokens & credit usage for E0	
*Charge for Control Process core(s) subject to change in future releases	

CFD LBM: XFLOW - CAT C Power'By (Remote Visualization)

Solve on 3DEXPERIENCE Cloud

		E0 scenarios
		SRU-OC tokens
		CFD LBM: XFLOW CAT C Power'By (Remote Visualization) E0
XFlow LBM CFD	Cloud IT configuration (cores)	scenarios
	16	33
	24	66
	32	91
	48	155
	72	227
	144	381
	288	603
	396	747

		E0 scenarios
		SRU-OC tokens
		CFD LBM: XFLOW CAT C Power'By (Remote Visualization) E0
XFlow LBM CFD	Cloud IT configuration (GPU SMs)	scenarios
	16	30
	32	73
	40	101
	80	236
	160	321

XFlow:	E0 Scenarios
Specification	Roles that do not include embedded compute or the 2nd & subsequent simultaneous simulation using roles that include embedded compute
Cat A roles: Native 3DEXPERIENCE Examples:	-
Cat C: Power'By Examples:	XFG
Details:	E0 scenarios require tokens or credits for compute
2nd & subsequent simultaneous simulations follow the tokens & credit usage for E0	

Additional operations on 3DEXPERIENCE cloud

Datacheck or syntax Check running on 3DEXPERIENCE Cloud	SRU-OC tokens	
roles with embedded compute	0	for the first simultaneous cloud execution
roles without embedded compute	17	
Postprocessing (results visualization) on 3DEXPERIENCE Cloud	SRU-OC tokens	
roles with embedded compute	0	for the first simultaneous cloud execution
roles without embedded compute	4	

tokens or credits are not required for Data or syntax checks or postprocessing (results visualization) running on customer provided IT