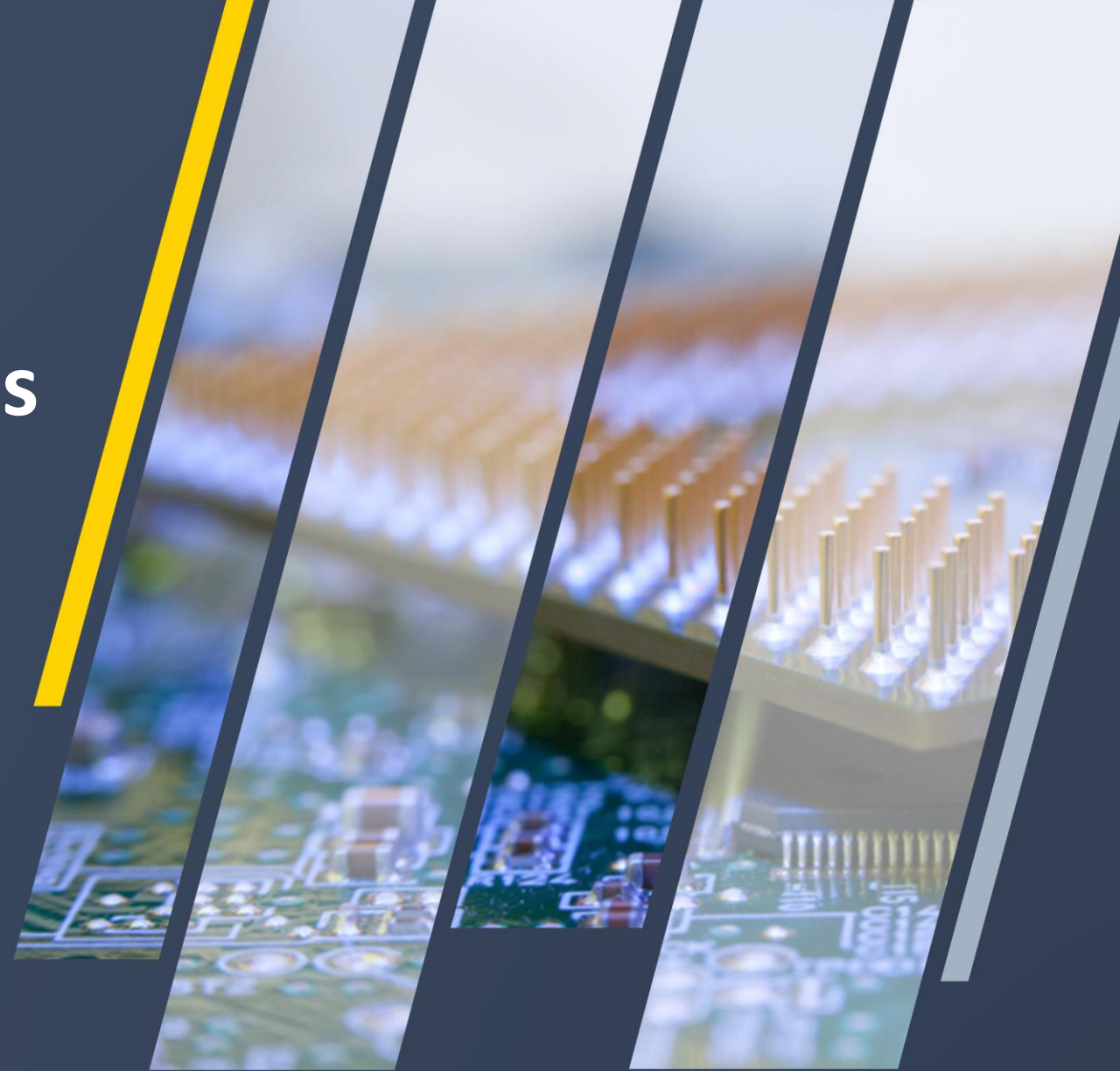


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**ANSYS 2020 R1 Electronics
Pro-Premium-Enterprise
Products**



NEW Electronics Pro, Premium, Enterprise (PPE) Portfolio

Electronics Pro 2D

- 2D & Circuit GUI
- 2D & Circuit Solve

Electronics Premium HFSS

- Electronics Pro 2D
- 3D GUI
- HFSS Solve

Electronics Enterprise

- ALL Premiums
- Advanced Features
- Single User

Additional add-ons

Electronics Enterprise Solver
Electronics Enterprise Prep/Post

Electronics Premium SIwave

- Electronics Pro 2D
- 3D GUI
- SIwave Solve

Electronics Premium Maxwell

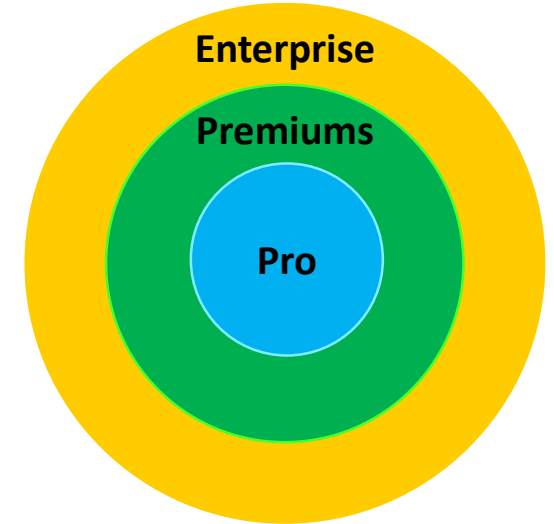
- Electronics Pro 2D
- 3D GUI
- Maxwell 3D Solve

Electronics Premium Icepak

- Electronics Pro 2D
- 3D GUI
- Thermal + Modal Solve

Electronics Premium Q3D

- Electronics Pro 2D
- 3D GUI
- Q3D Solve



Important PPE Notes:

1. Only compatible with 2020 R1 and later
2. Optimetrics included at all levels
3. HPC enables parallel parameters in PPE
4. CAD translation included at Premium

Enterprise Advanced Features (see slide 3)

1. SIwave advanced (e.g. HFSS regions)
2. SBR+ Accelerated Doppler Processing
3. Design of Experiments
4. SpaceClaim Direct Modeler

Electronics PPE Capabilities in Detail

	Electronics Pro 2D	Electronics Premium HFSS	Electronics Premium Maxwell	Electronics Premium Q3D	Electronics Premium Icepak	Electronics Premium Siwave	Electronics Enterprise
Electronics Desktop 2D Prep/Post	✓	✓	✓	✓	✓	✓	✓
Maxwell 2D (Quasistatic, Transient, PExprt, RMxpert)	✓	✓	✓	✓	✓	✓	✓
2D Extractor (Transmission line simulations)	✓	✓	✓	✓	✓	✓	✓
Optimetrics, Four (4) HPC cores	✓	✓	✓	✓	✓	✓	✓
LF (aka Simplorer) Analog & Digital Circuit	✓	✓	✓	✓	✓	✓	✓
HF (aka Nexxim) DC, Transient, RF Circuit, IBIS, PSPICE, Verilog-A	✓	✓	✓	✓	✓	✓	✓
EMIT	✓	✓	✓	✓	✓	✓	✓
Electronics Desktop 3D Prep/Post		✓	✓	✓	✓	✓	✓
ECAD & MCAD Translation		✓	✓	✓	✓	✓	✓
HF Circuit - HSPICE Engine Compatibility		✓	✓	✓	✓	✓	✓
Network Data Explorer		✓	✓	✓	✓	✓	✓
HFSS (including Transient, IE, PO, and SBR+ less ADP*)		✓					✓
Maxwell 3D			✓				✓
Q3D Extractor				✓			✓
Icepak					✓		✓
Siwave (DC, Plane Resonance, AC Sweep, PSI, CPA-FEM, CPA-Q3D & PI Advisor)						✓	✓
Siwave (EMS, TDR, SNA, Near/Far Field, Electromigration, HFSS Regions, & Nexxim IBIS/IBIS-AMI/QE/VE, Zo, Xtalk, & EMI Scanners)							✓
Design of Experiments							✓
SpaceClaim Direct Modeler							✓
*Accelerated Doppler Processing (ADP) for SBR+							✓

Electronics Pro, Premium, & Enterprise (PPE), cont.

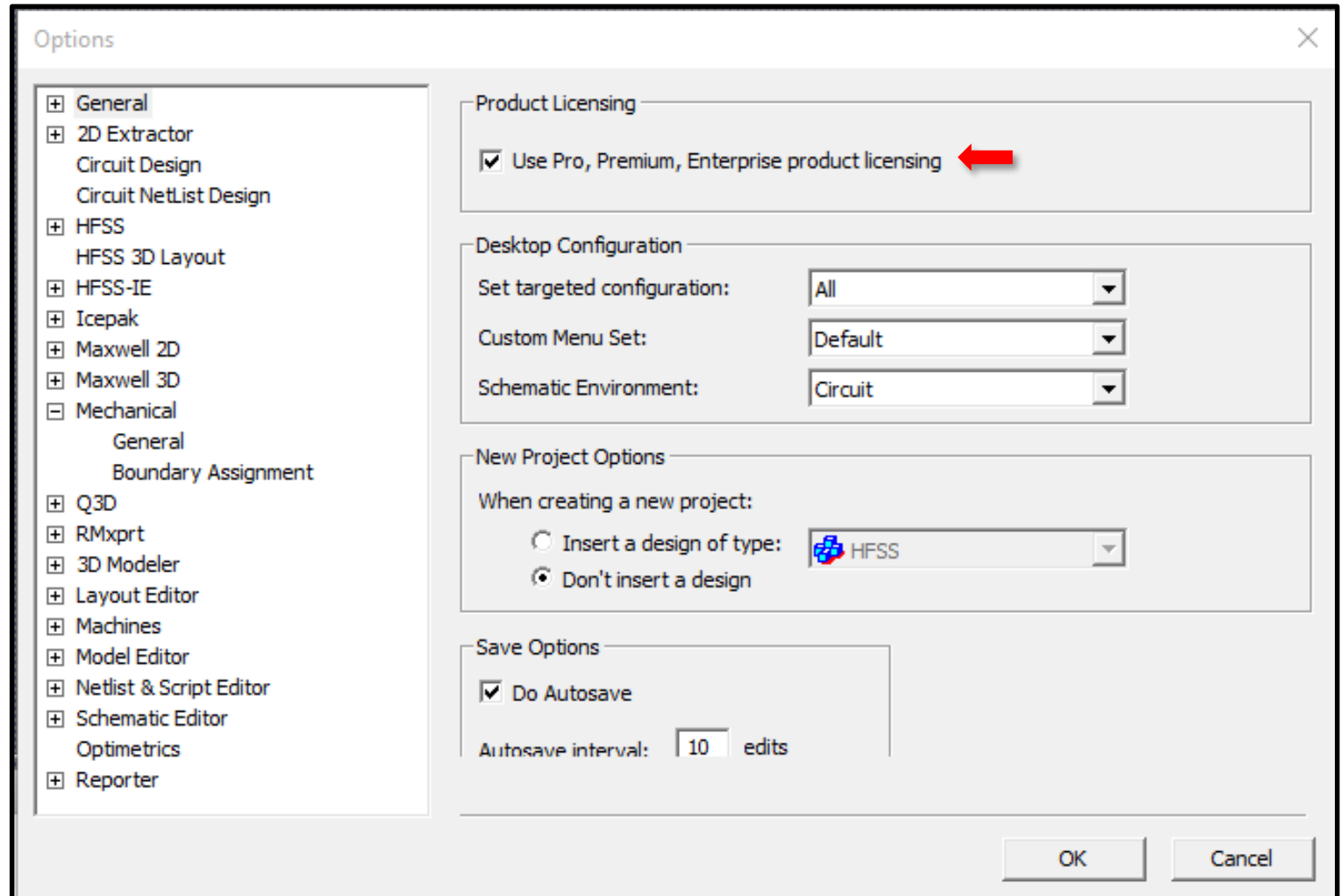
Tools/Options/General Options... - General – Desktop Configurations

PPE Users Must Opt-in at the UI

- Enables new PPE license model
 - For all design types
- **Default is unchecked**
 - Uses legacy licensing

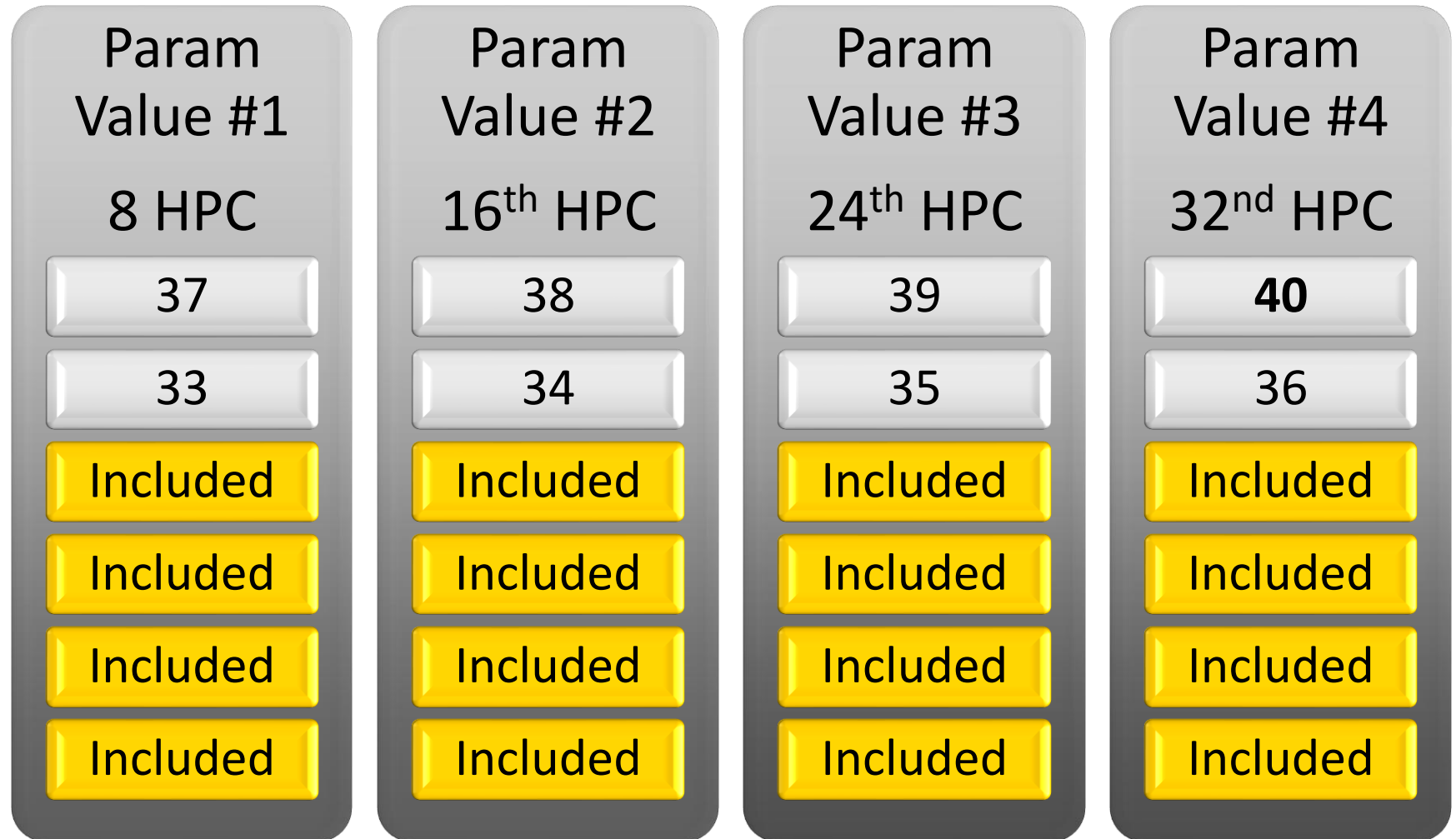
Silent -ng install also available

```
-UseElectronicsPPE  
Use Electronics Pro Premium Enterprise product licensing.
```



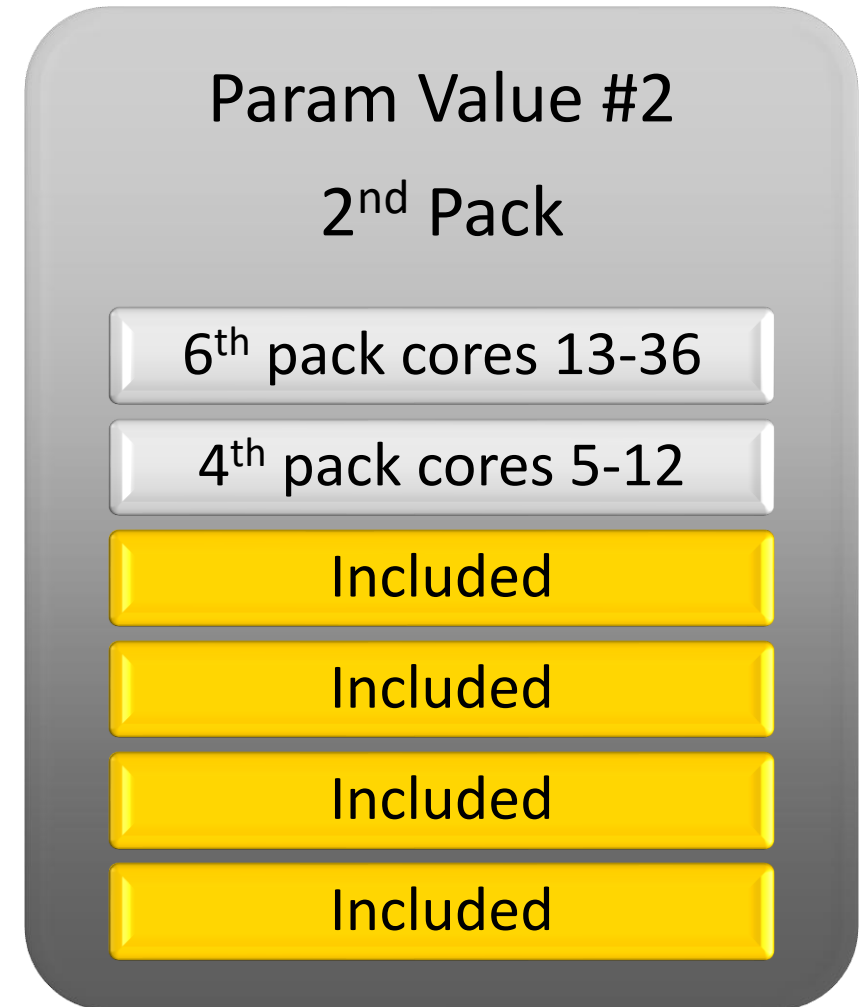
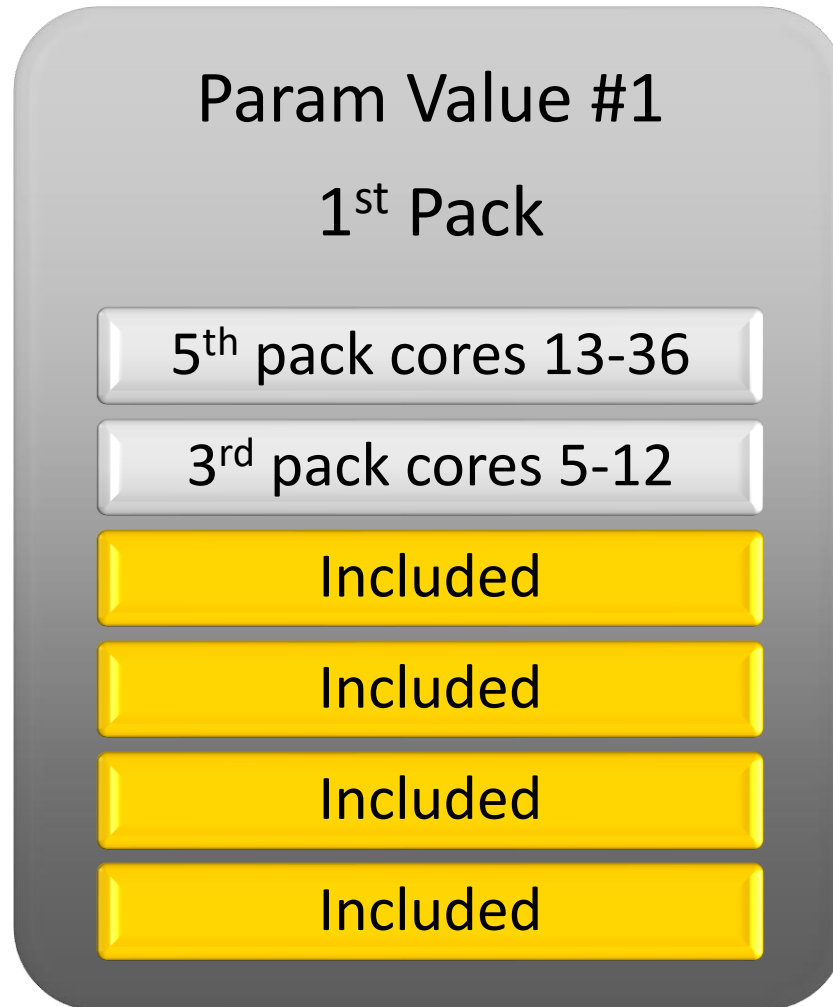
Ansys HPC Workgroup for Parallel Parameter, Example

- **Four (4) values of one parameter in parallel**
 - **M=4**
- **Six (6) cores/value**
 - **C=6**
- $N(C,M) = M*(C+4)$
- $N=4*(6+4)=40$
- **Requires 40 HPC Workgroup “Units”**



Ansys HPC Pack for Parallel Parameter, Example

- **Two (2) values of one parameter in parallel**
 - M=2
- **Twenty-eight (28) cores/value**
 - C=28
- **Requires 6 HPC Pack**



Parallel Parametrics Delivered Via Ansys HPC, in Detail

Use HPC for concurrent simulation of parametric variations

- Tremendous additional value now added to Ansys HPC

HPC Workgroup

- Each parametric variation requires 8 HPC “units”
- Standard four (4) parallel cores per variation provided
- Each additional core costs one HPC “unit”
- **Starting from N=16**, for N HPC “units” driving M variations...
 - Cores/variation $C(N,M) = (N/M)-4$
 - $N(C,M) = M*(C+4)$

HPC Pack

- Each parametric variation requires one (1) HPC Pack
- Standard four (4) parallel cores per variation provided
- Additional HPC Packs “stack-up” inside parameters to add cores
 - HPC Pack 4X scaling occurs within the parameter
- For M parametric variations in parallel:
 - M packs enable four (4) parallel cores per variation
 - 2M packs enable 12 (8+4) parallel cores per variation
 - 3M packs enable 36 (32+4) parallel cores per variation

Examples:

8 HPC Packs or 256 HPC Workgroup

Concurrent parametric variations	Cores per variation Pack	Cores per variation Workgroup
2	132	124
4	12	60
8	4	28
16	NA	12
32	NA	4

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Thank You

