



ADVANCED ENGINEERING s.r.o.

PREPROCESSING 2026

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Partner

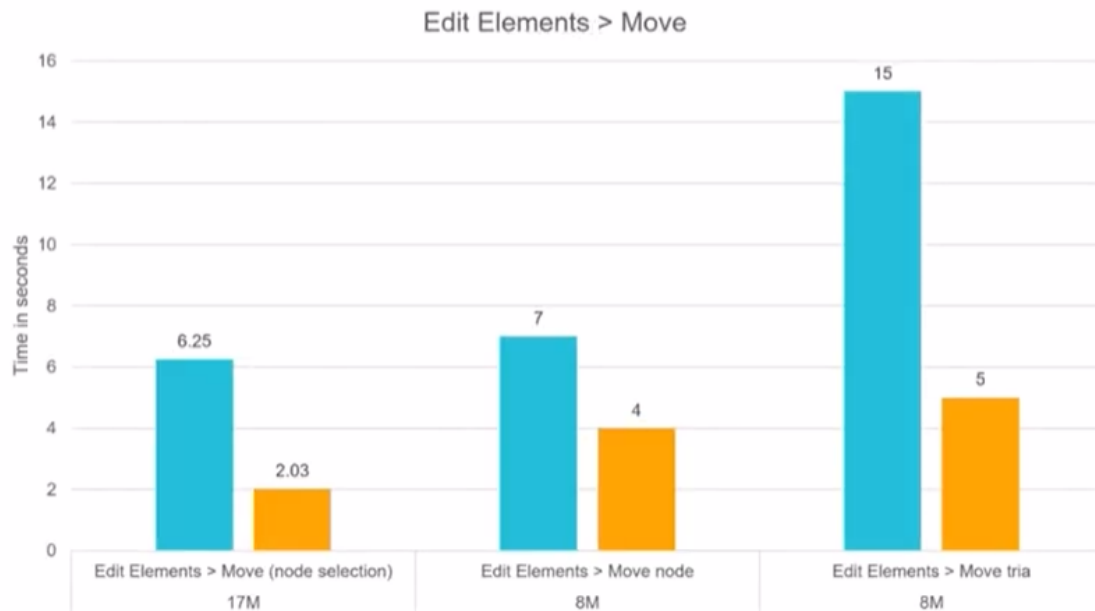
Digital Industries Software

SIEMENS

PERFORMANCE

Edit elements : Move

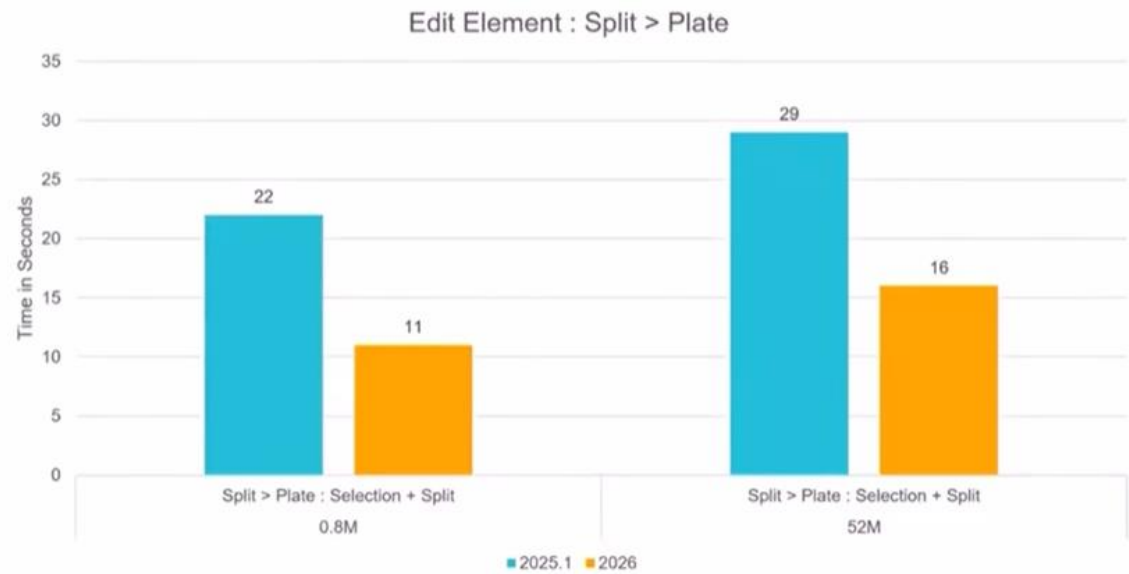
Performance of Move tool in large models has improved by approximately 40% – 65%.



PERFORMANCE

Edit elements : Split > Plate

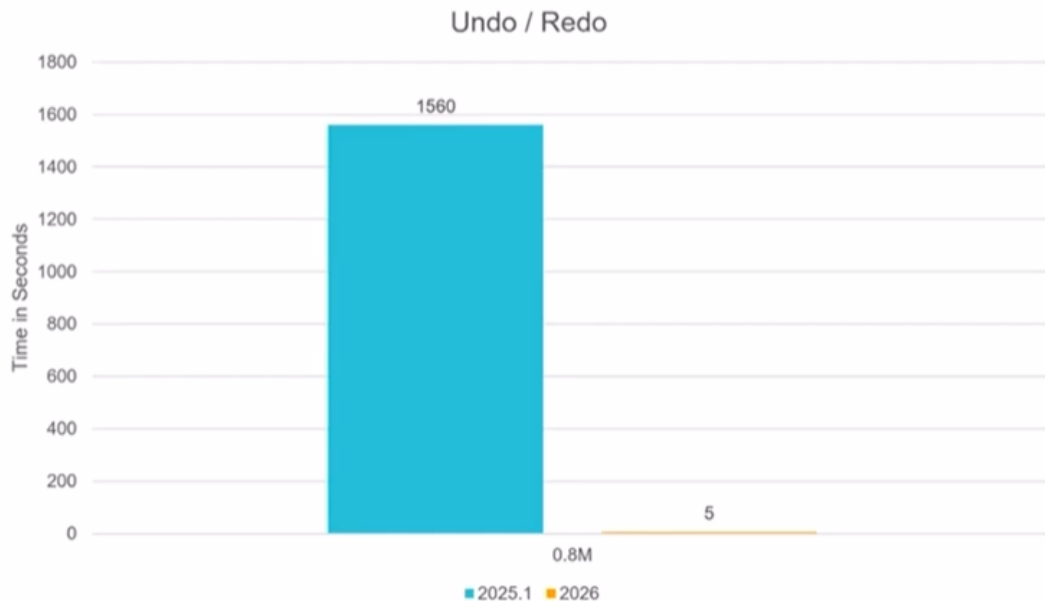
Split element performance in large Models is now improved by about 40% to 50%.



PERFORMANCE

Edit elements : Split > Plate

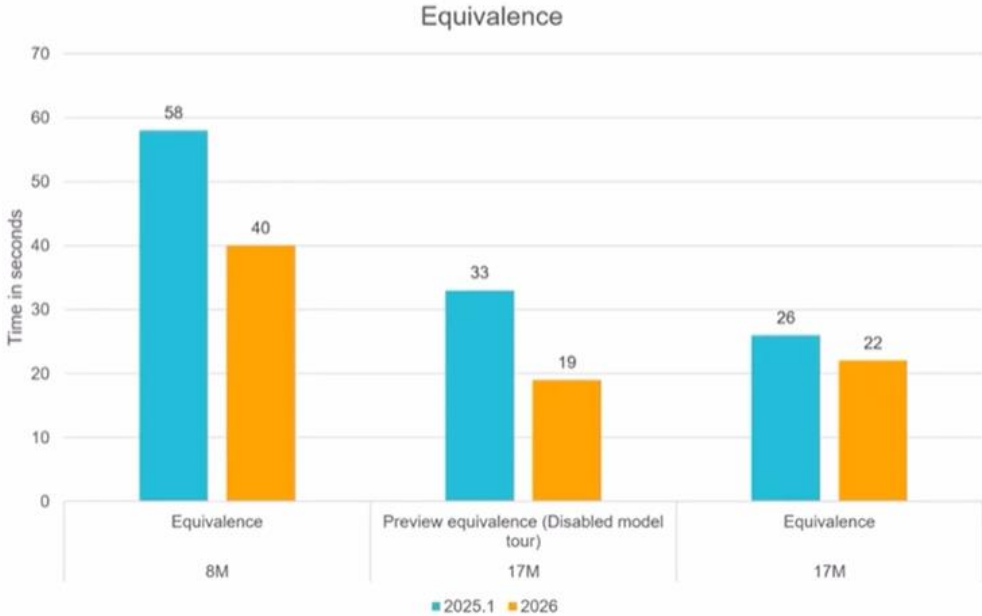
Undo and Redo operations are now up to 100% faster.



PERFORMANCE

Equivalence

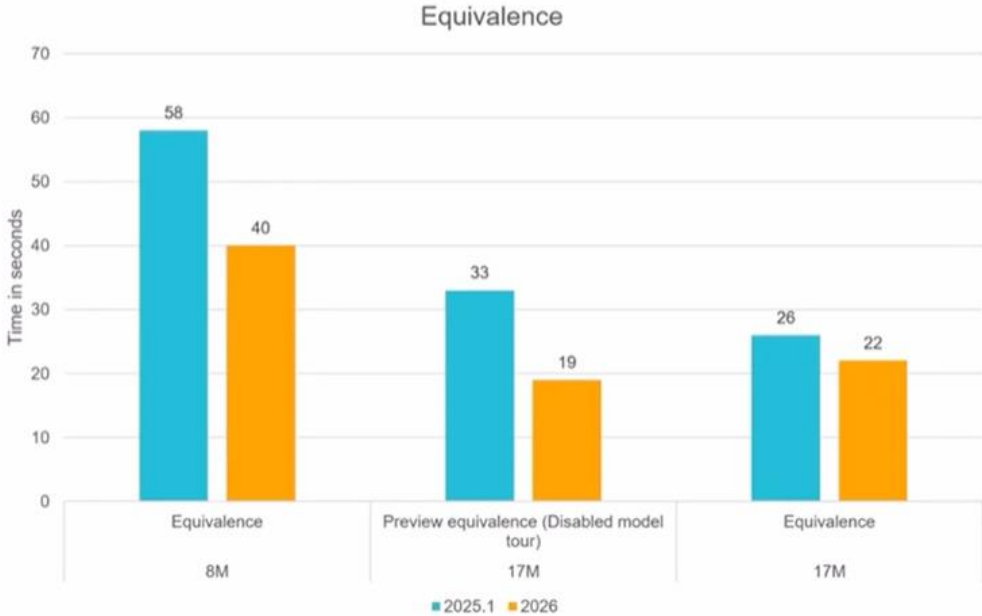
Equivalence on large models is now 15% – 40% faster.



PERFORMANCE

Equivalence

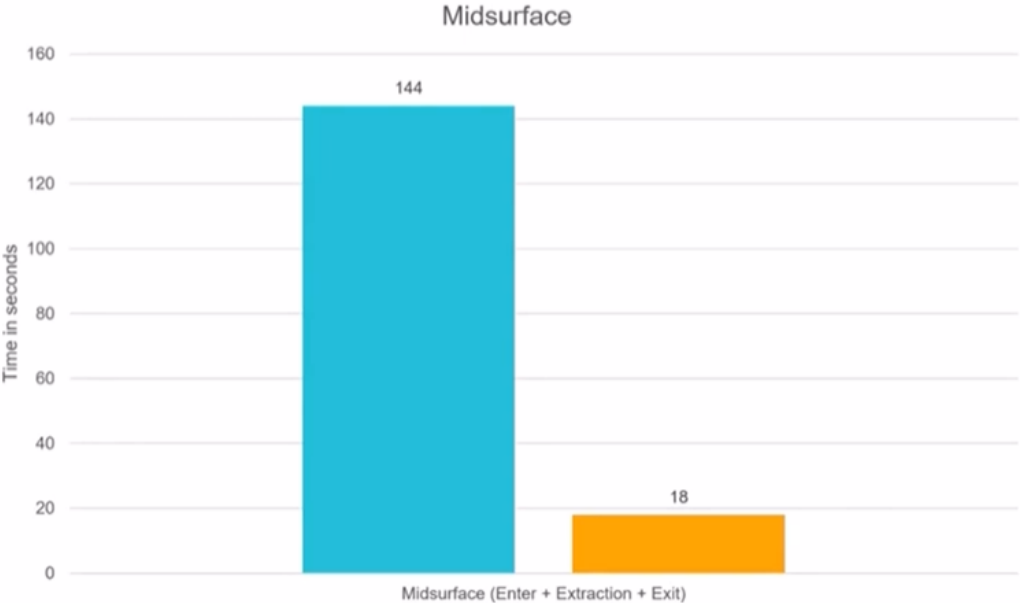
Equivalence on large models is now 15% – 40% faster.



PERFORMANCE

Midsurface

Midsurface extraction now runs up to 80% faster.



PERFORMANCE

Solid Topology Editing

- Split/Stitch Support
- Defeature CAD Support
- Fully associated Geometry support automatic remeshing of Tet Mesh
 - CAD + Solid Mesh (+ Skin)
 - 1st and 2nd Order mesh
 - FE Geometry
 - 1st Order mesh
- Next Phases
 - Hex Mesh Support
 - CAD and FE Geometry
 - Defeaturing of FE Geometry
 - 2nd Order FE Geometry Support



RADIOSS

- Architecture
 - Vectors and AVX-512: Radioss is extremely well optimized for vector instructions.
 - The new Xeon W5-2445 features improved AVX-512 units capable of processing more data in a single cycle.
 - Reduced latency: Thanks to a larger L2 cache (2 MB per core vs. 1 MB in the old model), data about elements and nodes remains closer to the processor. In Radioss, where forces in elements are constantly recalculated, this directly speeds up computations.
- Memory Bandwidth - the processor is so fast that it has to wait for RAM to supply data.
 - Bandwidth on the old machine was around 94 GB/s; on the new machine, it reaches approximately 153 GB/s (depending on channel configuration). This means that when simulating large deformations, where data is constantly being moved, the new machine will be much less "slowed down" by memory.
- An overall speedup for Radioss can be expected in the range of **45–60%**.



CONCLUSION

- A key indicator of the need to upgrade hardware is the size of the model the user is working with. When dealing with models larger than 1 million nodes, it is safe to say that a hardware upgrade is **essential**



THANK YOU

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