(intel)

ANSYS Fluent* 18.1 on the Intel® Scalable System Framework

HIGHER CLUSTER PERFORMANCE WITH INTEL® OMNI-PATH ARCHITECTURE

NEED MORE FROM YOUR SIMULATIONS?
- **Deeper insight** into complex phenomena?
- **Higher resolution** to improve accuracy?
- **Faster runtimes** to fit tight design schedules?

ANSYS FLUENT* 18.1 IS BUILT TO SCALE ON CLUSTERED ARCHITECTURES[1]
- Runs efficiently on **thousands** of Intel® Xeon® processor and Intel® Xeon Phi™ processor cores
- Supports **large models** and sophisticated **multiphysics**
- Optimized for **performance and value on Intel® Architecture**

UNLEASH CLUSTER PERFORMANCE WITH INTEL® OMNI-PATH ARCHITECTURE
Intel® Omni-Path Architecture (Intel® OPA) is designed to overcome the performance, scalability and cost challenges of EDR InfiniBand*.
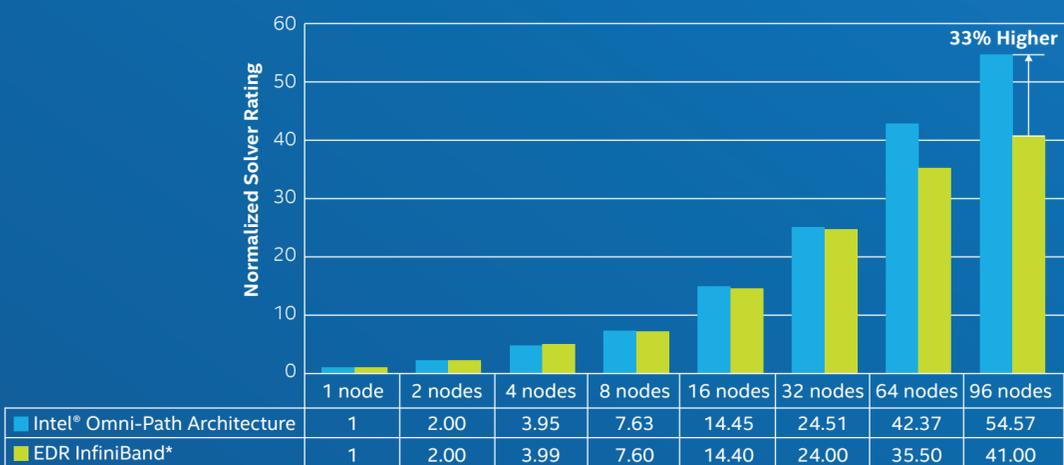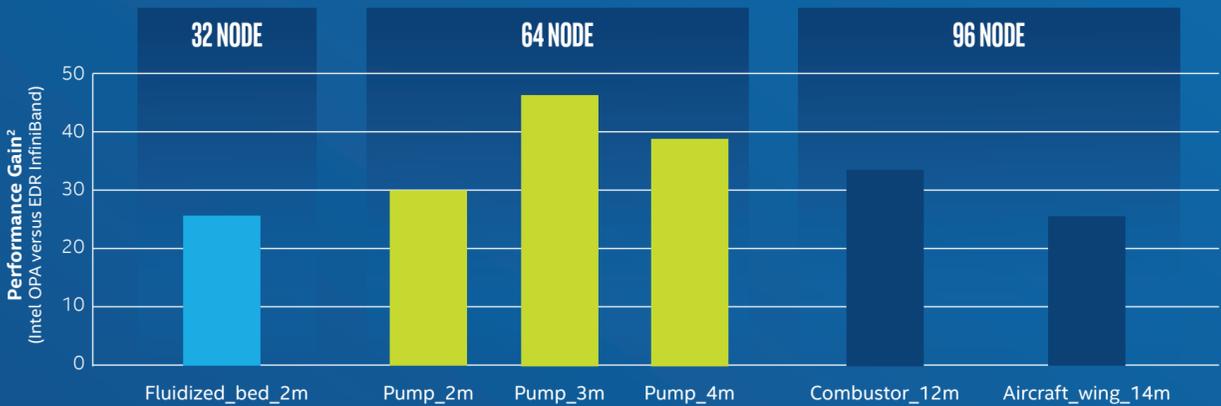
LOW LATENCY, EVEN AT EXTREME SCALE
- Uses streamlined, lightweight PSM2 libraries
- Reduces communications overhead
- Ideal for ANSYS Fluent

SUPERIOR APPLICATION PERFORMANCE FOR MEDIUM TO LARGE CLUSTERS[1]

Superior Performance Scaling for ANSYS® Fluent® with Intel® Omni-Path Architecture
Combustor_12m, ANSYS Fluent (Intel® Xeon® processors E5-2697 v4)

33% Higher

Normalized Solver Rating

	1 node	2 nodes	4 nodes	8 nodes	16 nodes	32 nodes	64 nodes	96 nodes
■ Intel® Omni-Path Architecture	1	2.00	3.95	7.63	14.45	24.51	42.37	54.57
■ EDR InfiniBand*	1	2.00	3.99	7.60	14.40	24.00	35.50	41.00

PROVEN BENEFITS ACROSS DIVERSE DIGITAL MODELS[1]

Performance Gain[2]
(Intel OPA versus EDR InfiniBand)

32 NODE	64 NODE			96 NODE	
Fluidized_bed_2m	Pump_2m	Pump_3m	Pump_4m	Combustor_12m	Aircraft_wing_14m

GET MORE FROM YOUR FABRIC
Intel OPA isn't only for large clusters. It provides advantages at every scale.
- **High fabric efficiency** through dynamic traffic shaping
- **Low latency** in mixed traffic environments through advanced QoS features
- **Improved resilience** through zero-latency error checking and link-level retries
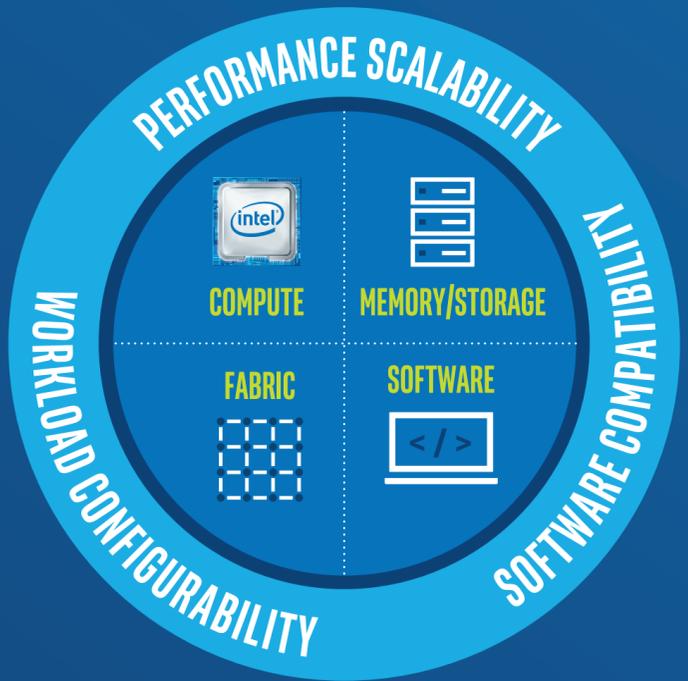- **Better economics** with a 48-port switch chip (versus 36 for InfiniBand)

GET EVEN MORE FROM YOUR HPC BUDGET
ANSYS and Intel are optimizing ANSYS software for all components of the Intel® Scalable System Framework to deliver:

HIGHER PERFORMANCE AND VALUE
Tightly integrated HPC solution stack

EASIER DEPLOYMENT
Complete cluster solutions

MORE CHOICE
Broad vendor support

PERFORMANCE SCALABILITY

SOFTWARE COMPATIBILITY

WORKLOAD CONFIGURABILITY

COMPUTE   MEMORY/STORAGE

FABRIC   SOFTWARE

LEARN MORE
White Paper: Higher Cluster Performance for ANSYS Fluent* with Intel® Omni-Path Architecture
http://www.intel.com/content/www/us/en/processors/xeon/hpc-for-ansys-fluent-with-omni-path-architecture.html