



Safety Software Performance Improvements



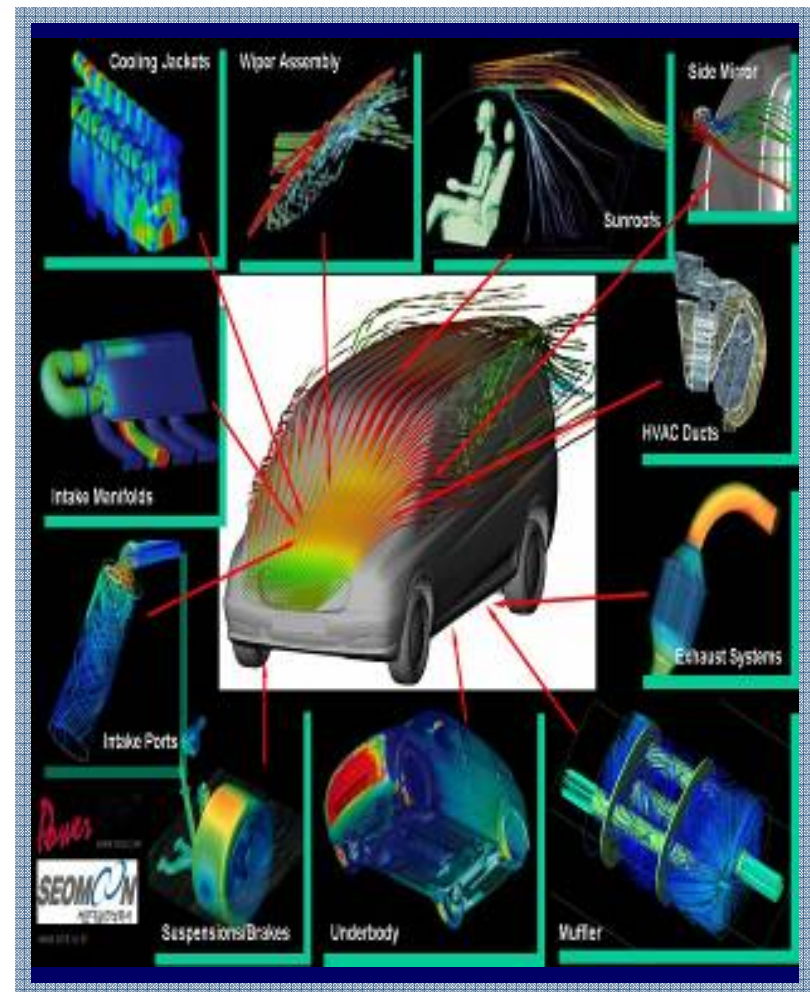
SGI Manufacturing, Automotive and Aerospace

➔ SGI has a 25-year ongoing commitment to improving manufacturing tools - from our first customer to today

➔ SGI is known and respected for our demonstrated ability to address customer needs in the manufacturing segment including product technology, application/domain expertise, and support and services

➔ **Sampling of major customers:**

- Americas: GE, Boeing, Solar Turbines, Sikorsky
- EMEA: SKODA, Honda F1, CIDANT
- APAC: Proton, TATA, Toyo Tire, Kumho

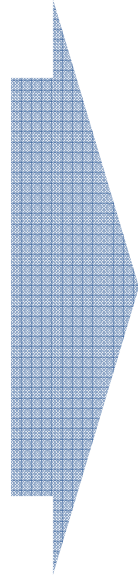


SGI:

*Partnership for High Productivity
Investment in Expertise*

Your Challenge

Complex safety requirements for rating and certification in North America, European Union, and Japan. New opportunities in China and India. Front, rear, roll-over, airbag deployment.



Our Value

SGI hardware solutions complement ESI-Group software to optimize each segment of the workflow:

Clusters for high-throughput and domain decomposition applications for safety and virtual wind tunnel

SMP systems for high-capacity (large memory) applications requiring superior file systems

Customized in a dynamic configuration with fast parallel file systems and dynamic memory management and remote visualization

Environment for Simulation

Hardware for performance

Altix XE 1300 Configuration

Intel quad core based systems with up to 512 cores available with these options:

- GigE Interconnect, 250GB SATA, 2.5GHz Quad Core Intel Xeon processor, 1TB RAM, 1 250-head node
- InfiniBand Interconnect, 250GB SATA, 2.8GHz quad core Intel Xeon processor, 1TB RAM, 1 250-head node
- 9TB SATA storage
- Water-cooled doors
- GridOptimizer software for application acceleration
- Choice of:
 - SUSE Linux Enterprise Server
 - Red Hat Enterprise Linux Server
 - Microsoft Windows Compute Cluster Server

Factory-Integrated, Ready-to-Deploy Cluster Solution

Hardware for Performance

Altix ICE Configuration

Intel quad core based systems with up to 512 cores available with these options:

- GigE Interconnect, 250GB SATA, 2.5GHz Quad Core Intel Xeon processor, 1TB RAM, 1 250-head node
- InfiniBand Interconnect, 250GB SATA, 2.8GHz quad core Intel Xeon processor, 1TB RAM, 1 250-head node
- 9TB SATA storage
- Water-cooled doors
- GridOptimizer software for application acceleration
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 - SUSE Linux Enterprise Server
 - Red Hat Enterprise Linux Server

Factory-Integrated, Ready-to-Deploy Cluster Solution

SGI Message Passing Toolkit: MPT

Fit In and Stand-out: Industry standard API, optimized for SGI

Standard portable interface for developing applications included in ProPack.

- Spreads messages across multiple paths

- Splits large messages

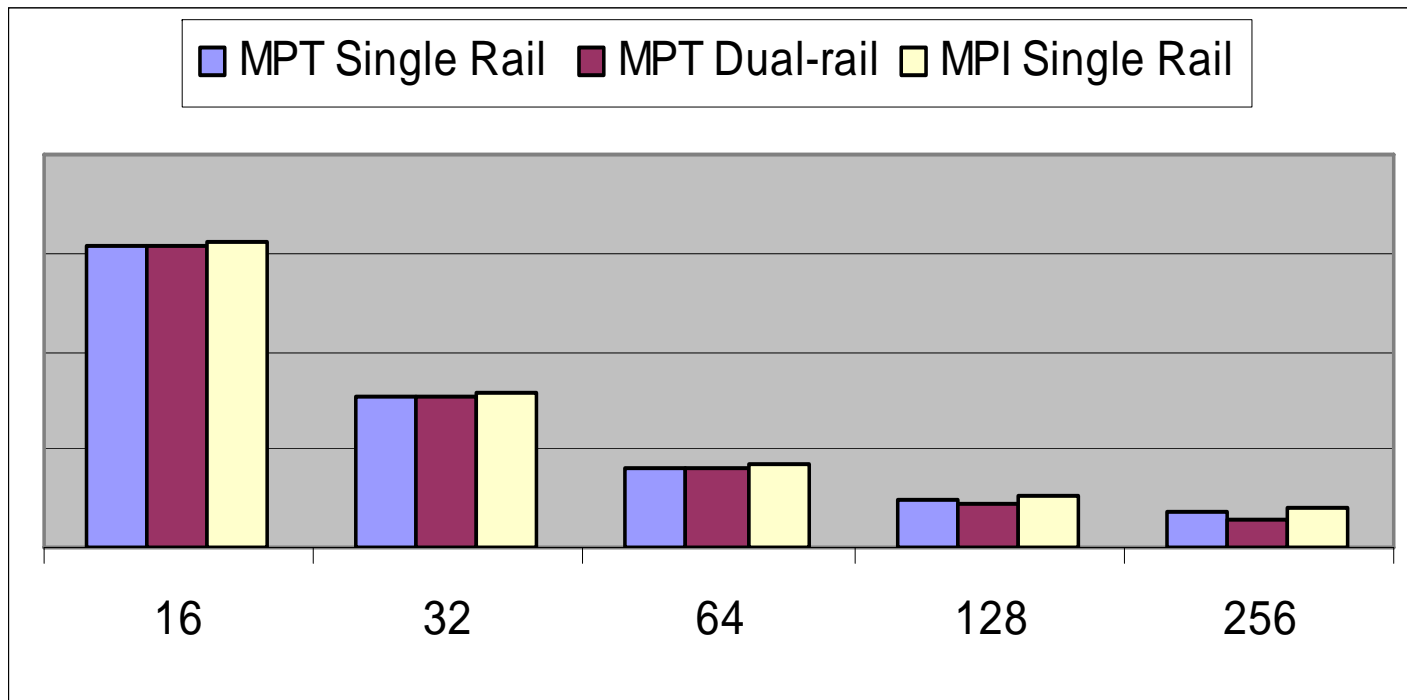
- Intelligent scheduling of InfiniBand traffic

Multi-rail refers to two separate network fabrics. Dual Plane refers SGI NUMALink shared memory interconnects. Hardware manages the traffic of multiple networks so MPI (SGI MPT) has less to do. However, it does not manage the traffic between multiple networks MPT takes care of that.

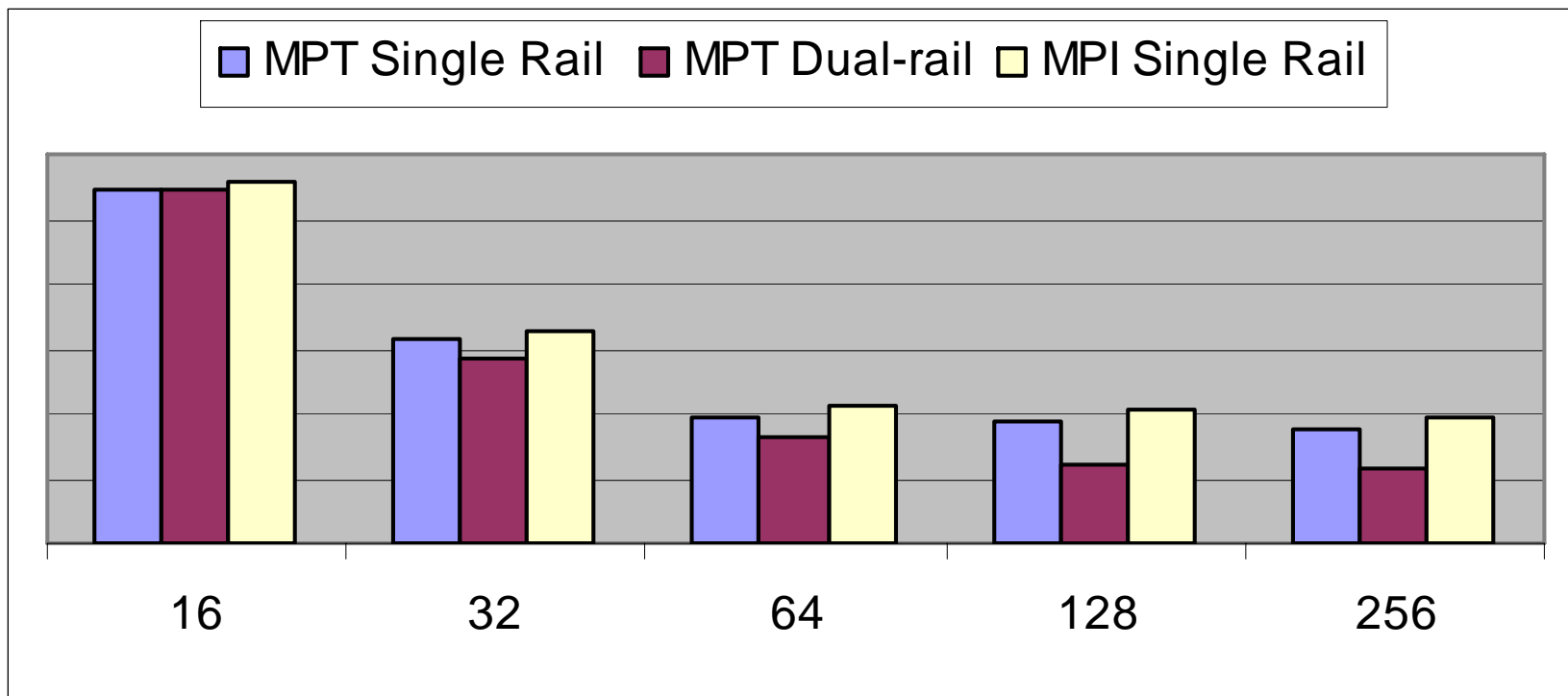
Message patterns can improve software efficiency

Factory-Integrated, Ready-to-Deploy Cluster Solution

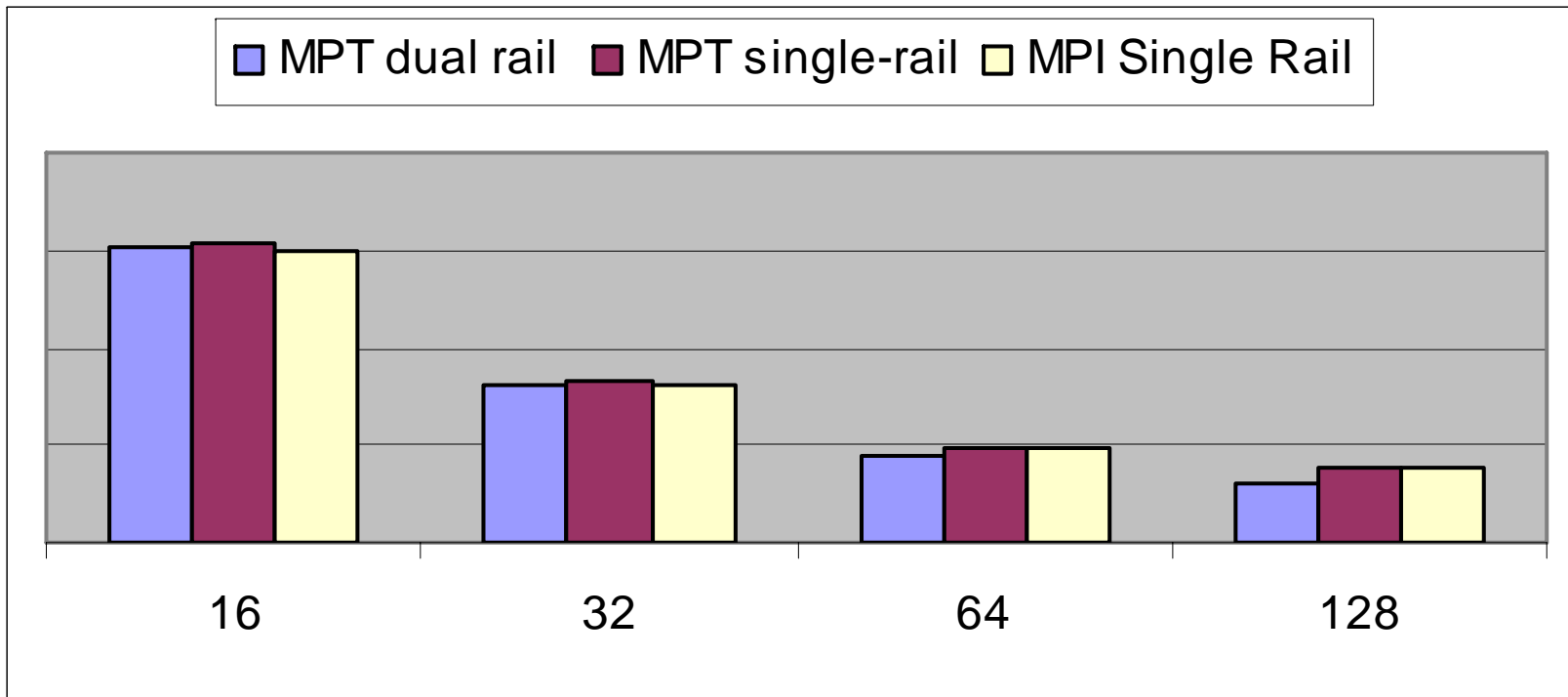
Neon Refined: 5% improvement at 256 core (smaller model)



Three Vehicle Model: 25% improvement at 128 and 256 cores



Model used in design: 20% improvement at 128 core



SGI and ESI Group

Partnership for High Productivity

Investment in Expertise to fit your requirements

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SGI and ESI Group Value

SGI hardware solutions complement ESI-Group software tools providing

Intel multi-core processors

High density configurations with memory and connectivity

Energy saving innovations

Operating and system management

Listening to your hardware requirements

Environment for Simulation



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