



SC16

Salt Lake City, Utah | hpc
matters.



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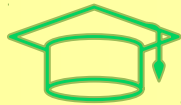
High Performance Computing

Keeping Pace

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Growing HPC Adoption



Universities



Government



Academia & Research
Financial Services: Risk Analysis
Oil & Gas Exploration, Production
Semiconductor: Electronics
Design Automation
Life Sciences: Pharmaceutical &
Biomedical
Manufacturing: Aerospace &
Automotive

**High Productivity
Computing**

YESTERDAY

TODAY

TOMORROW

Customer Challenge



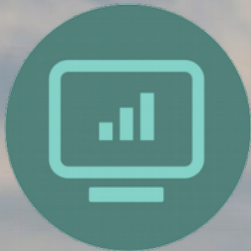
Performance

... increase amid IT budgets and staff reductions



Manage

... as business-critical, but with scientific mind set



Support

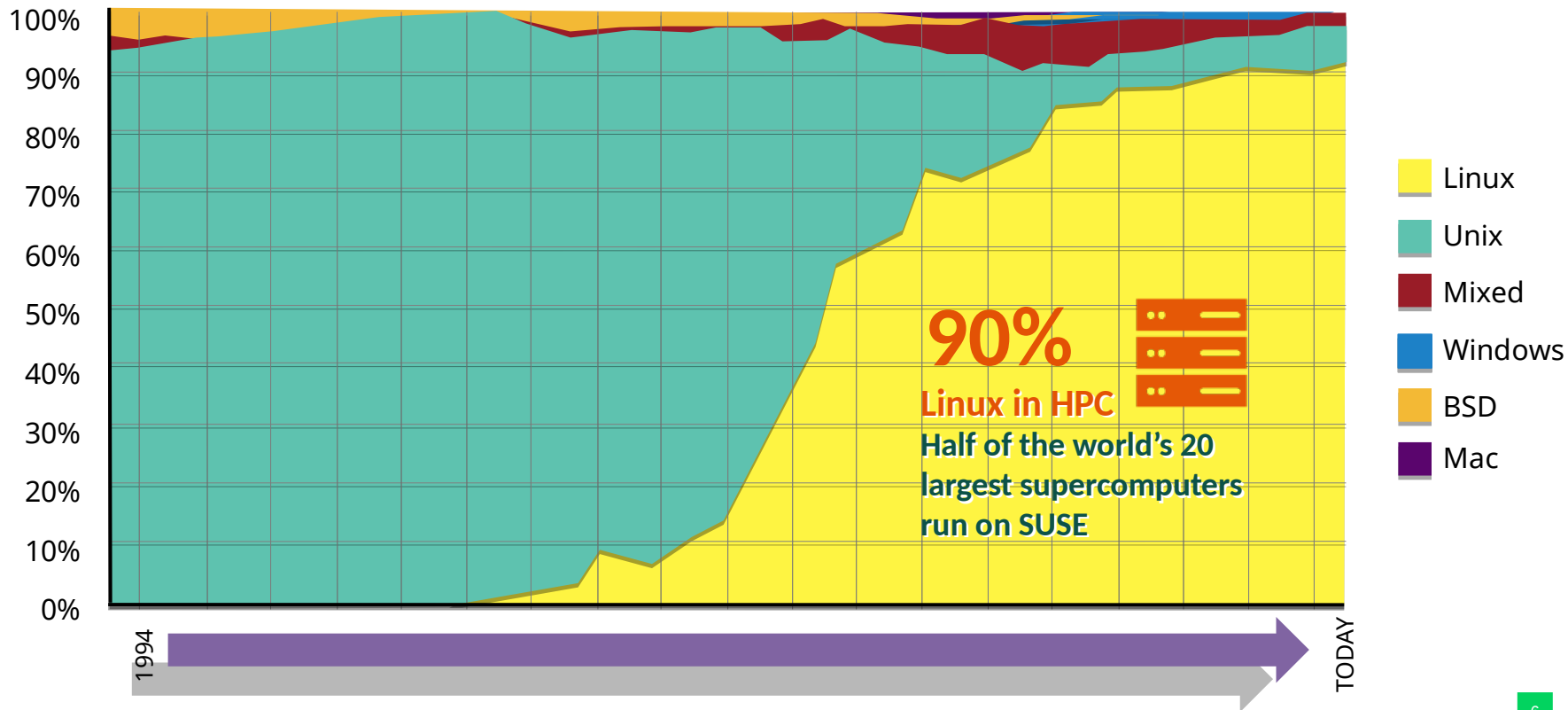
... across the entire HPC stack, reducing vendor lock-in



Market Evolution



SUSE on the Top 500 Supercomputers



Market Challenge



HPC market still developing



Not a standardized stack



Limited number of generic HPC applications



Many vendors and projects to form the stack



Segmented into commercial and scientific

SUSE Linux Enterprise Server for High Performance Computing

- **Simplifying** lives with a highly scalable, high performance open source operating system that harnesses the power of the supercomputer for your day-to-day business
- **Solving** computational, data-intensive, or numerically-intensive tasks
- **Reducing** the time and effort required to set up and maintain HPC clusters
- **Ensuring** that all components of the HPC stack work together



SUSE Linux Enterprise Server for High Performance Computing



Harness the power of supercomputing and solve your most demanding computational and data-intensive problems.

- **Accelerate innovation** with a strong ecosystem of partners.
- **Optimize scalability and performance** with Linux clustering.
- **Realize faster time to value** through simplified configuration of HPC workloads.

50%

Reduction in administration

20%

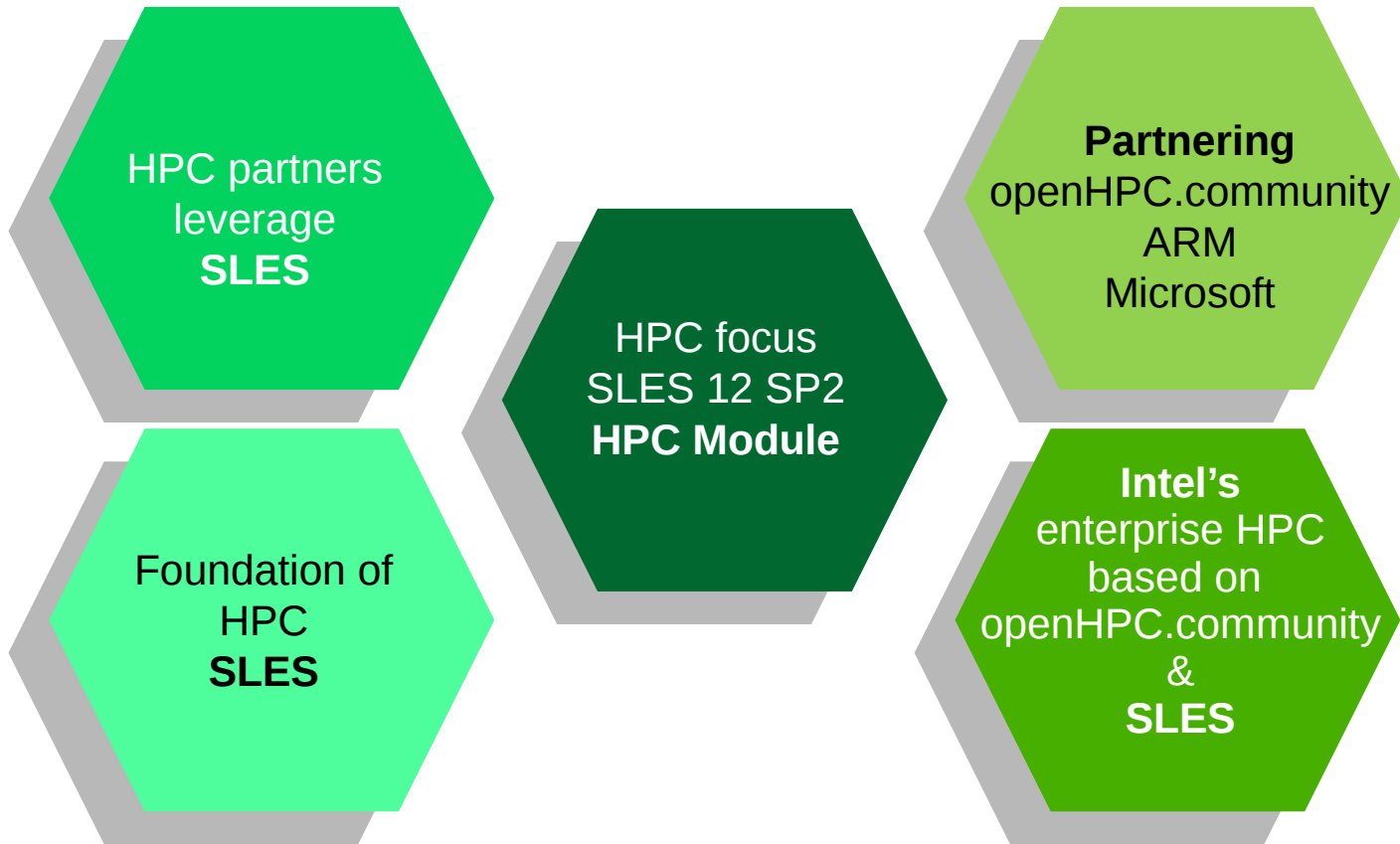
Boost in productivity

99.999%

Stable and reliable

www.suse.com/products/server/hpc.html

SUSE HPC Ecosystem



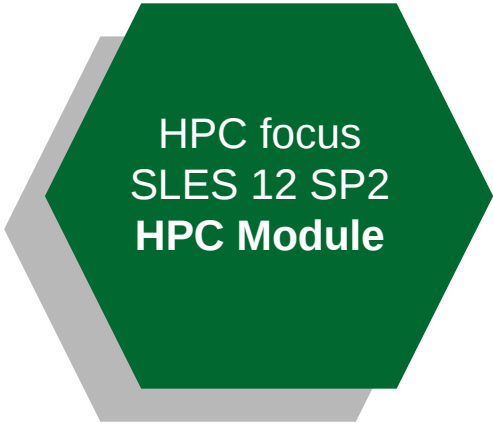
The SUSE HPC Stack

- It's **SUSE Linux Enterprise Server**
- **New!** **Ceph File System** supported
- **New!** available as part of **Intel HPC Orchestrator**
- **New!** **Microsoft Azure** Test Drive includes SLES for HPC
- Recent developments
 - SUSE Storage with Infiniband support
 - ARM64 partnering with **Cavium**
 - Microsoft Azure: RDMA and Infiniband



HPC Module

- Packages dedicated to HPC
- Lifecycle towards up-to-date
- Includes leading edge components
- Available for x86_64, ARM in consideration
- Existing packages kept in SLES, adds new packages

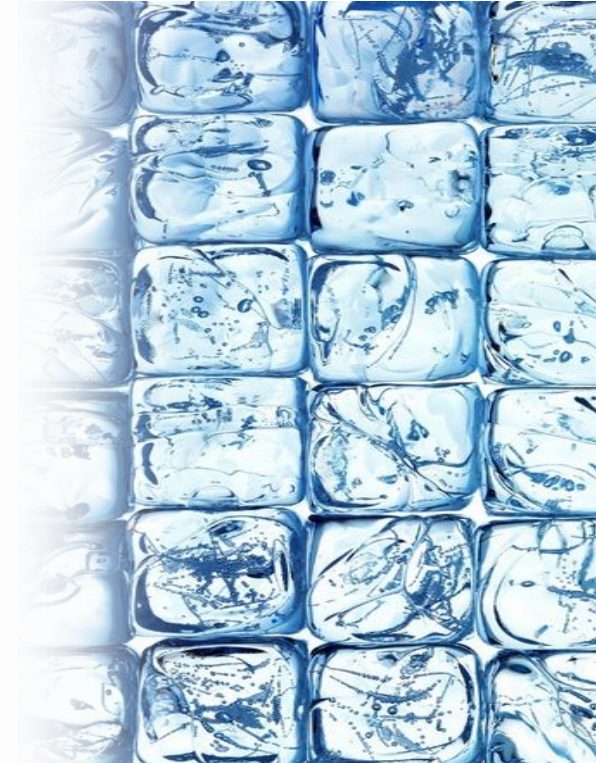


HPC focus
SLES 12 SP2
HPC Module

OpenHPC Open Source Community

openhpc.community

- Linux Foundation project – SUSE is founding member
- Provides common platform – standard HPC stack – for collaboration and innovation
- Provides full HPC stack on top of SLES
- Build with SUSE build service
<http://build.openhpc.community>
- Simplifies installation, configuration, and maintenance of the software stack



OpenHPC Members

OEMs



Users



ISV-OSV



SUSE within Microsoft Azure



SUSE is the only supported enterprise Linux HPC workload on Microsoft Azure public cloud

It offers cloud-based SLES, including automated updates enterprise customers.

New! SLES for HPC is part of the Microsoft Test Drive program, freely available via the Azure Marketplace



Partnering with Intel

Intel distribute **SUSE Linux Enterprise Server for High Performance Computing** as part of the *Intel HPC Orchestrator*

SUSE is the commercial Linux supported by the Intel HPC stack

- Accelerate research/innovation and time to insight
- Aligns new optimized components driven by the broader **openHPC.community**
- Simplifies ongoing maintenance and support



Outlook

- openHPC community contributions will continue to grow
- Foster growing partner ecosystem
- Wider HPC adoption across many industries
- Increase in hybrid cloud deployments mixed with on-premise
- **Coming Soon with SP2!** HPC Module packaging
- **Coming Soon with SP2!** Support for Intel Omni-Path

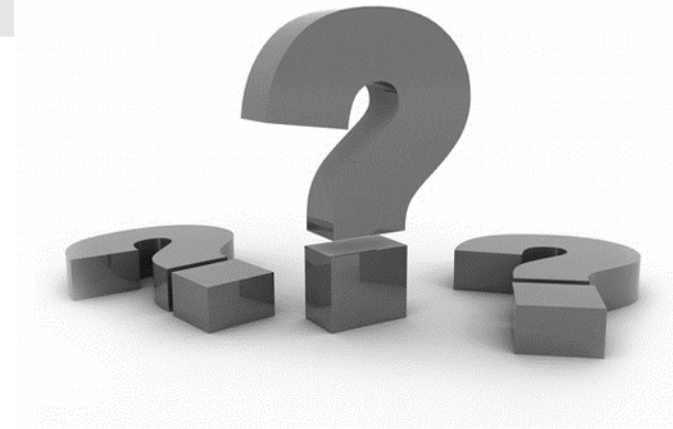


Learn more at

www.suse.com/products/server/hpc.html



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