

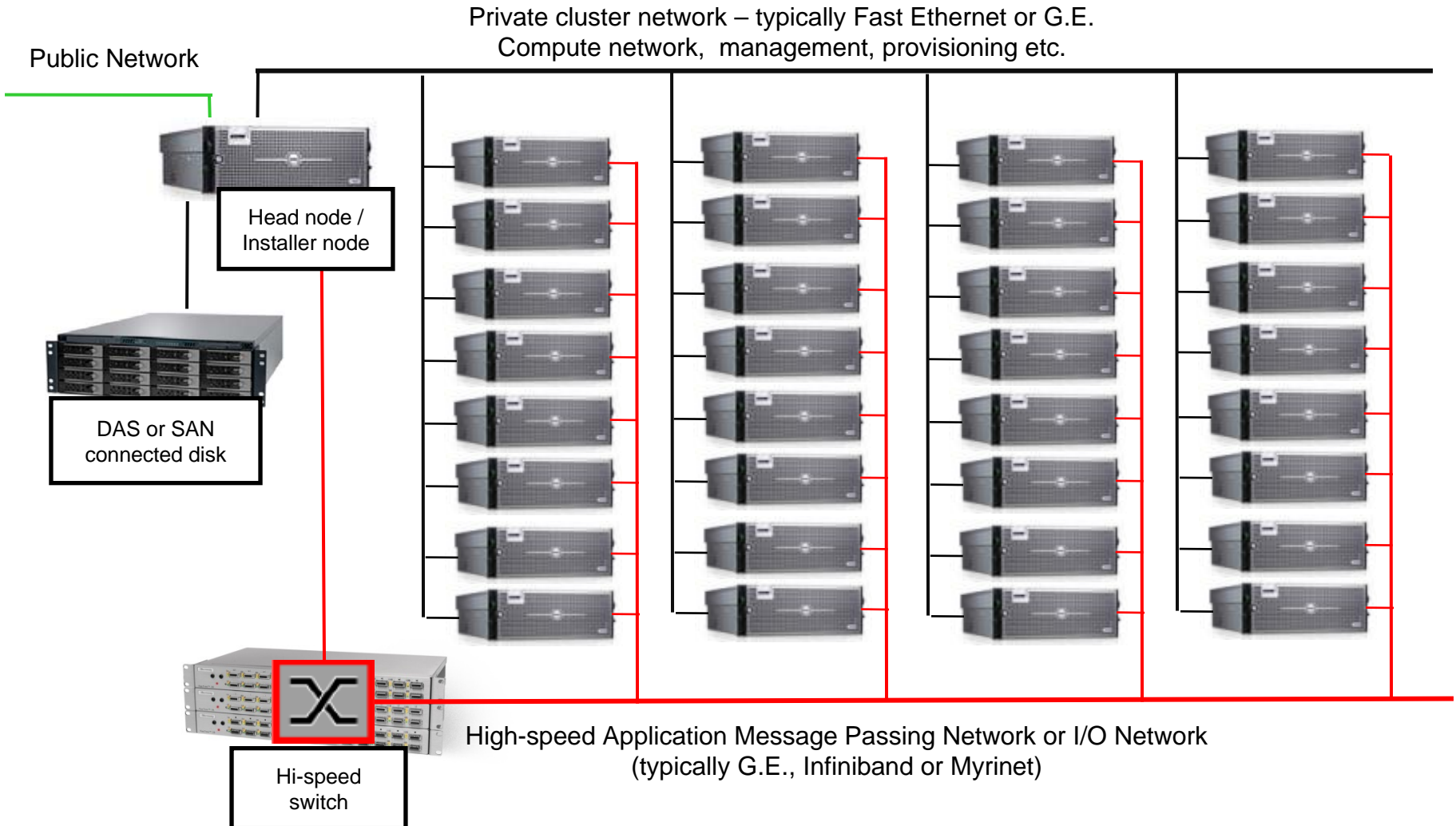


Improve Your Productivity with Simplified Cluster Management

Agenda

- Overview – Platform Computing & Fujitsu Partnership
- PCM Fujitsu Edition Overview
 - Basic Package
 - Enterprise Package
- University of Tokyo Use Case
- Key Advantages

A Typical HPC Cluster



Typical Cluster Management Solutions

Require customers to...

- Assemble disparate software components
 - Open source components
 - Multiple commercial components
- Certify each component individually
- Get support from multiple vendors

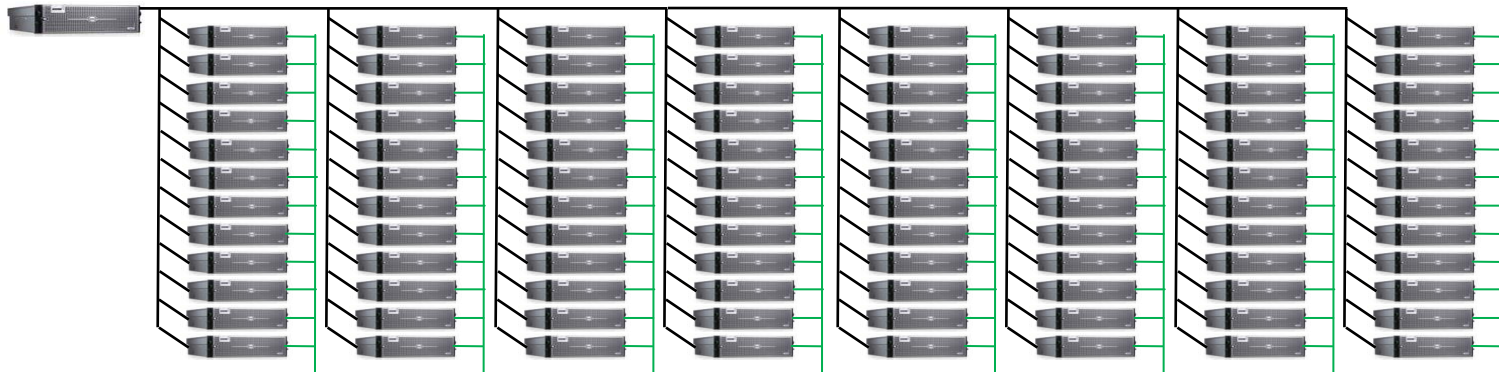
However, many customers...

- Lack Linux® OS commercial app support
- Experience different quality levels for each component



Introducing PCM Fujitsu Edition

- A pre-integrated, vendor certified, software product that enables the installation, management & usage of pre-packaged Linux® clusters
- Includes all the capabilities required to deploy, run and manage clusters with ease
- Appropriate for both small and large clusters.
- Represents Platform's cumulative experience & best practices deploying and managing open HPC clusters
- Optimized and certified for Fujitsu systems
- A better way to deploy and manage clusters



PCM Fujitsu Edition - Basic Package

Cluster Provisioning

- Install certified clusters quickly and easily
- Manage node personalities
- Multiple provisioning modes, repository snapshots

Cluster Management

- Proactive alerting, configurable exception conditions
- Graphing & reporting, network analysis

Workload Management

- Feature-rich workload management
- Integrated web-based management & job submission
- Integrated commercial application support

HPC Developer Tools

- Best-in class parallel application development environment
- Open MPIs, benchmark tools & HPC libraries

Pre-tested, Certified, Supported

- Qualified with Fujitsu on a range of servers, storage subsystems & interconnect technologies
- Supported by a premier HPC support organization

Web-Based Interface

Dashboard with Rack View

- Overview of the entire system
- Zoom in for detailed information



Rich Charts & Reports

- Correlate workload with system performance
- Short term views & long term trends

HPC Developer Tools

Key libraries & HPC components built-in, ready to run

- MPICH1, MPICH2 with Ethernet
- MVAPICH1, MVAPICH2 with Infiniband®
- OpenMPI with Ethernet, Infiniband and Myrinet®
- Atlas, BLACS for use with MPICH1, MVAPICH1 and OpenMPI
- MPIBLAS, ScaLAPACK for use with MPICH1, MVAPICH1 and OpenMPI
- FFTW V3
- HDF5 with MPICH1 and OpenMPI
- NetCDF
- MPI libraries integrated and tested with OFED 1.4
- An array of verification and benchmark tools:
 - Izone, Bonnie++, Stream, Iperf, HPL with G77 for use with MPICH1, MVAPICH1 and OpenMPI

PCM Fujitsu Edition includes everything that cluster users will require, pre-optimized, certified and “ready to run”

PCM Fujitsu Edition – Enterprise Package

Cluster Provisioning

- Install certified clusters quickly and easily
- Manage node personalities
- Multiple provisioning modes, repository snapshots

Cluster Management

- Proactive alerting, configurable exception conditions
- Graphing & reporting, network analysis

Workload Management

- Platform LSF
- Integrated web-based management & job submission
- Integrated commercial application support

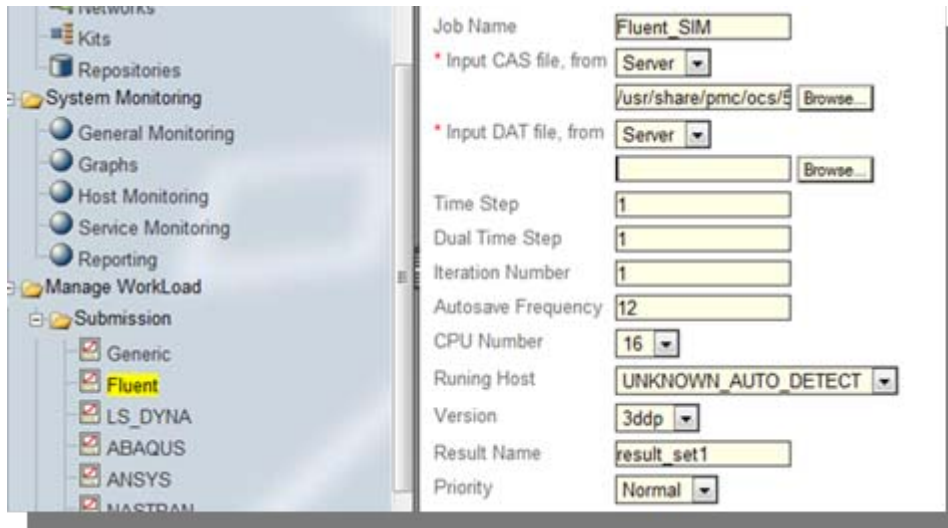
HPC Developer Tools

- Includes Platform MPI, the industry's fastest MPI
- Best-in class parallel application development environment
- Open MPIs, benchmark tools & HPC libraries

Pre-tested, Certified, Supported

- Qualified with Fujitsu on a range of servers, storage subsystems & interconnect technologies
- Supported by a premier HPC support organization

Includes all of this functionality plus Platform LSF and the industry's most advanced MPI, Platform MPI



- Fully-featured Platform LSF
- Pre-configured, ready to run
- Advanced features
- Integrated web-based management
- Job submission portal
- Application-centric interfaces
- GPU job scheduling

Jobs

View By Job Array

<input type="checkbox"/>	<u>Job ID</u>	<u>User</u>	<u>Status</u>	<u>Queue</u>	<u>Execution Host</u>	<u>Job Name</u>
<input type="checkbox"/>	106	gord	PEND	normal	-	MATLAB
<input type="checkbox"/>	105	gord	PEND	normal	-	PriorityJob
<input type="checkbox"/>	104	gabor	PSUSP	normal	-	MySIM2
<input type="checkbox"/>	103	gabor	PEND	normal	-	CAE001
<input type="checkbox"/>	102	gabor	PSUSP	normal	-	CFD001
<input type="checkbox"/>	101	gabor	PEND	normal	-	MySim1

Workload management is *built-in and ready to run.*

Platform MPI

The industry's most advanced MPI

- Up to 40% faster than competing implementations
- Improved scalability, higher node counts
- Core-aware, multi-threaded
- Broad interconnect support
- Debugging and verification tools
- Support for third party debuggers
- Application tracing and timing tools included
- Simpler development models
- Use a single MPI and a single executable with a range of interconnects

More ISVs have standardized on Platform MPI and distribute Platform MPI than any other commercial MPI

Supported by Fujitsu & Platform, a premier HPC support organization:

- Pre-tested HPC solutions
- Significant investment in certification & validation
- Support “from the source” – developers on staff
- 7 x 24, around the globe
- Deep Linux & HPC competency

“I really don’t know how we would have done it without Platform and the support that we get.”

Dr. Athanasoulis, Harvard Medical School

“This was a great support experience for me. One of the best I have had. Even better considering the fact we are in different parts of the world.”

Major Asian Energy Corporation

“Thanks a lot. You saved me. All my budget for Platform Support over the past few years has yielded a return as good as gold.” *Prestigious US School of Public Health*

Use Case: Research Center for Advanced Science and Technology (RCAST) - University of Tokyo

Challenge:

- Anticancer drug development simulation took at least 3-4 years

Solution:

- Supercomputer with Fujitsu's PRIMERGY BX922 S2 blade servers (38.3 teraflops) & PCM Fujitsu Edition (Enterprise Package) to develop drugs to treat cancer relapse and metastasis

Results:

- Use computer simulations to design genome-based antibody drugs for cancer – reduce drug side effects
- Shorten the design process to a few months from 3-4 years



Key Advantages

PCM Fujitsu Edition: Easy to use HPC cluster management solution

- Easy to deploy, run and manage
- Pre-optimized for performance
- Complete turn-key cluster solution
- User-friendly web-based interfaces
- Everything you need, included and pre-integrated
- Advanced workload management
- HPC developer tools
- Backed by a premier HPC support organization

Focus on your work – not your cluster!

Thank You!

Email: partnersales@platform.com

http://ts.fujitsu.com/products/standard_servers/high_performance_computing/