transtec and Windows CCS

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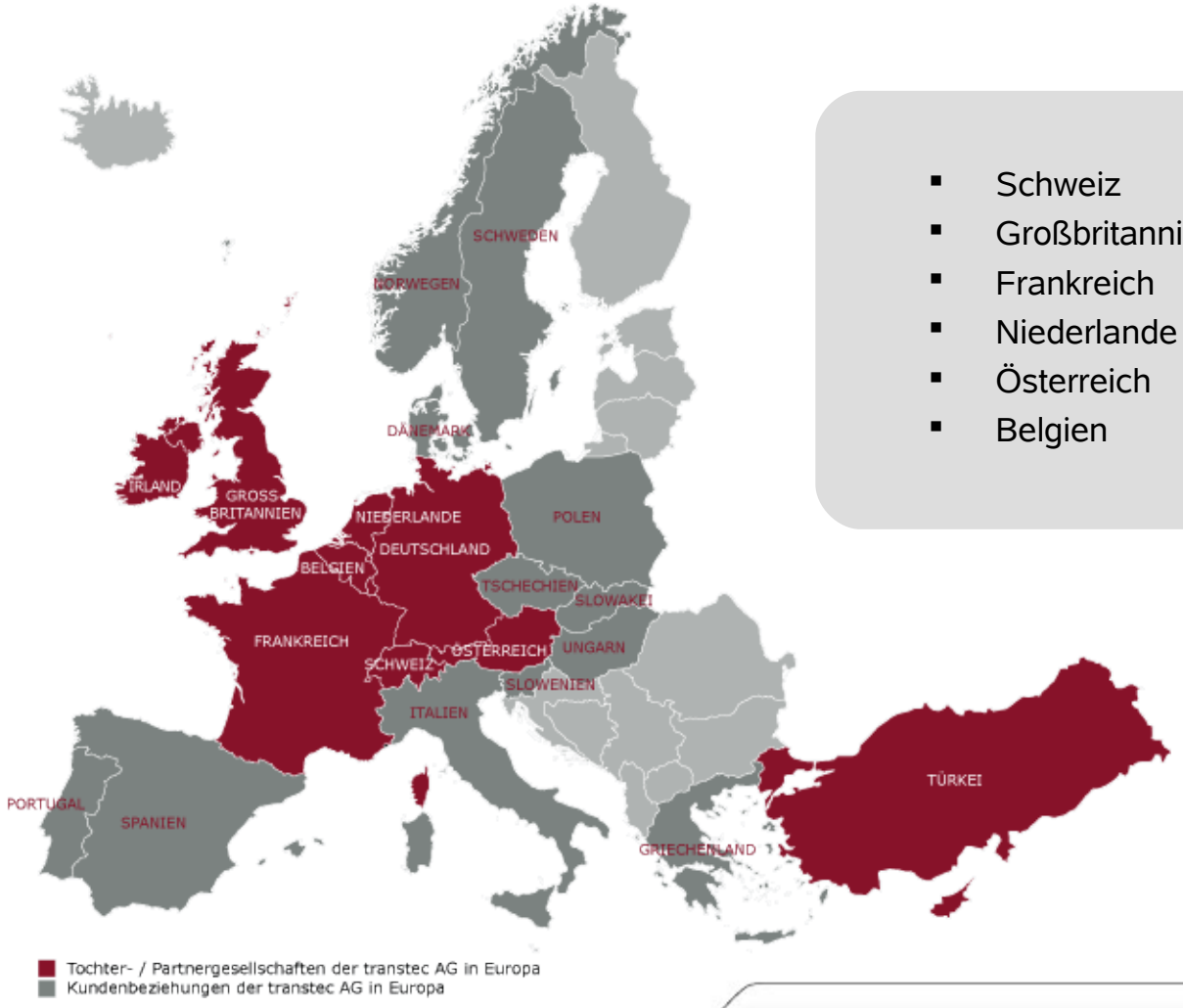
transtec AG - Locations



- Schweiz 1985
- Großbritannien 1991
- Frankreich 1993
- Niederlande 1996
- Österreich 1996
- Belgien 1999

The Competence Center

- Business unit founded in 2002
- Complex it-solutions based on transtec hardware
- about 15 engineers that cover nearly all topics of modern it-business

Services around complex it-solutions

Three core topics:

Virtualization
- XEN
- VMWare

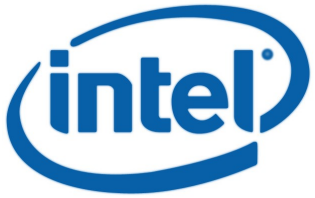
Storage
- NAS-Systeme
- SAN-Storage
- Storagevirtualisation

Cluster
- HA-Cluster
- HPC-Cluster

transtec HPC Clustering

- Started with Clustering in 2000
- Clusters from four up to more than 200 nodes
- More that 300 installed systems all over europe
- Based on Linux and Microsoft Operating Systems

transtec HPC Clustering – Technology partners



OPEN
HPC goes mainstream
Microsoft
Windows
Compute Cluster Server 2003

transtec MS ComputeCluster Server

Windows Compute Cluster Server 2003 contains:

- Windows Server 2003 – Compute Cluster Edition
  - Support for high performance Hardware (x64 Bit architecture)
  - Support for high performance interconnects (Infiniband, Myrinet)
- Compute Cluster Pack
  - MPICH2
  - Job Scheduler
  - Cluster Resource Management Tools

installation and mamagement

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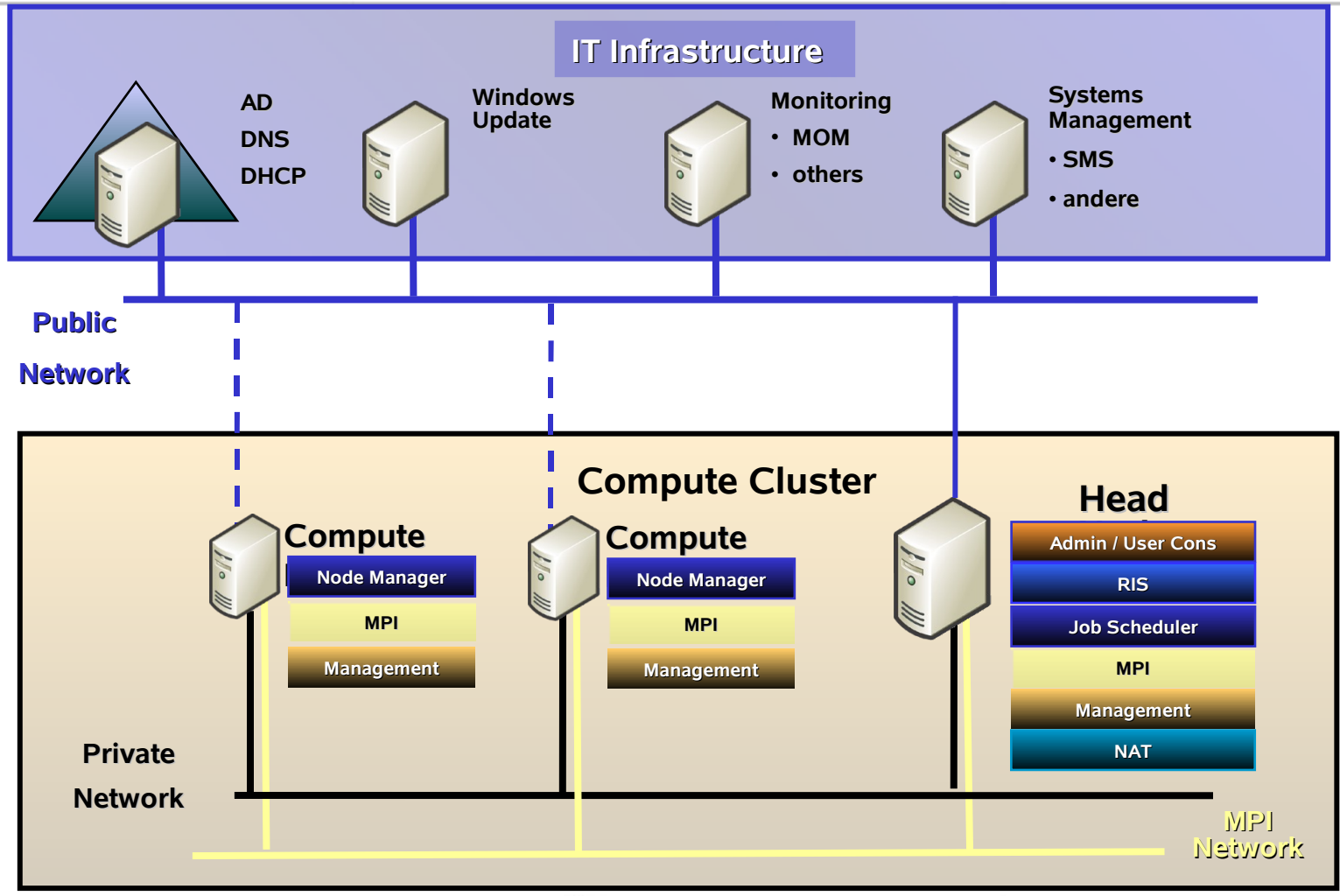
Compute Cluster Topology



Management Features

Head Node Installation

- Operating
  - Windows 2003 Compute Cluster Edition
  - Windows 2003 SP1 Standard & Enterprise x64
  - Windows 2003 R2 x64
- Compute Cluster Pack (with SP1)

Integration with existing infrastructure

- Uses Active Directory and Windows security
- Integration with MS Management Technologies (MOM, SMS… usw.)

Simplified administration and node-installation

- Different ways to install compute nodes (RIS, CD, CLI)
- GUI and CLI for Node management
- Monitoring with Perfmon, MOM or managementtools of other suppliers

Compute Cluster Monitoring

Queue Monitoring

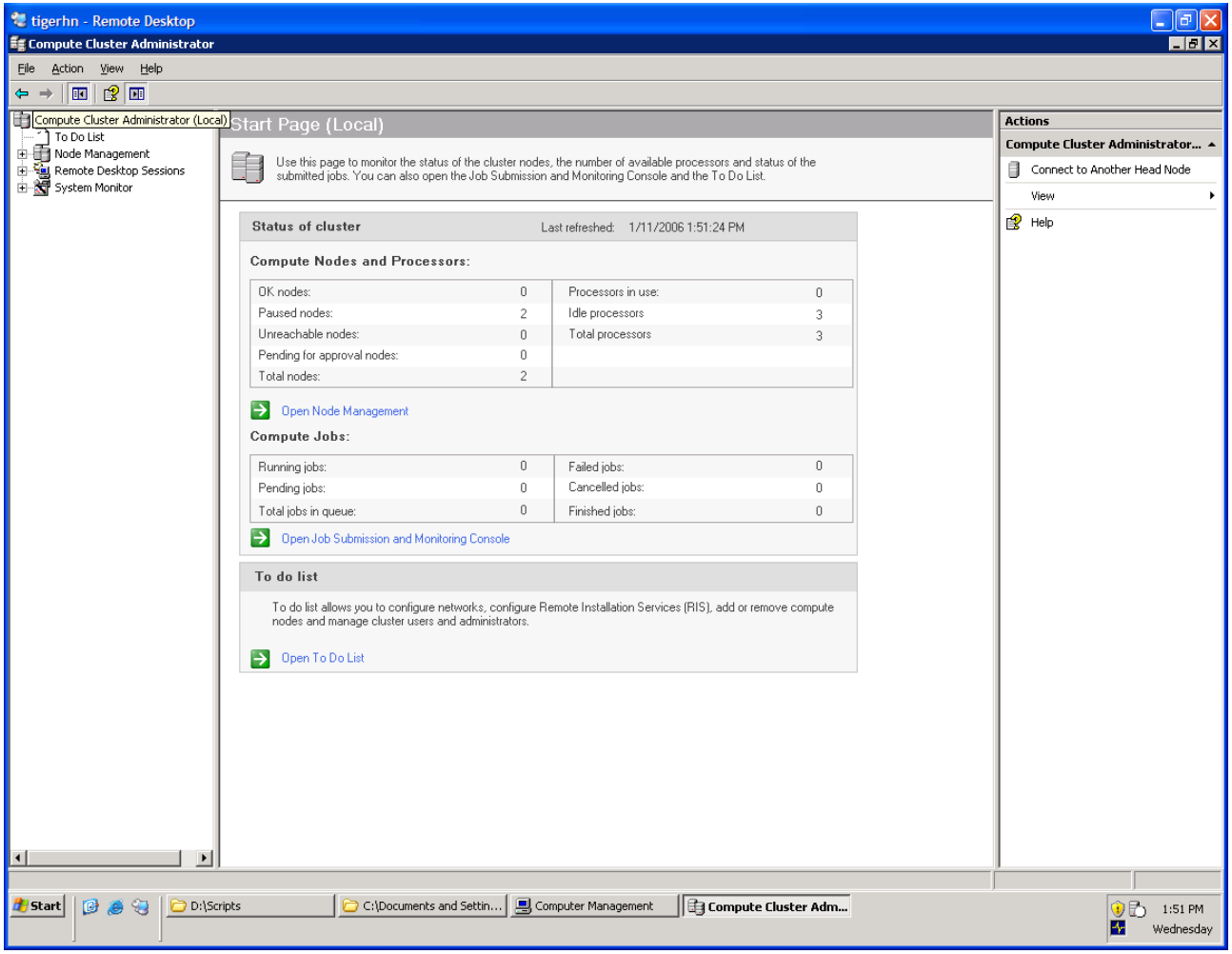
- Number of Jobs in the Queue (and their status)
- Number of Tasks in the Queue
- Number of Tasks in the Queue

Node-Monitoring

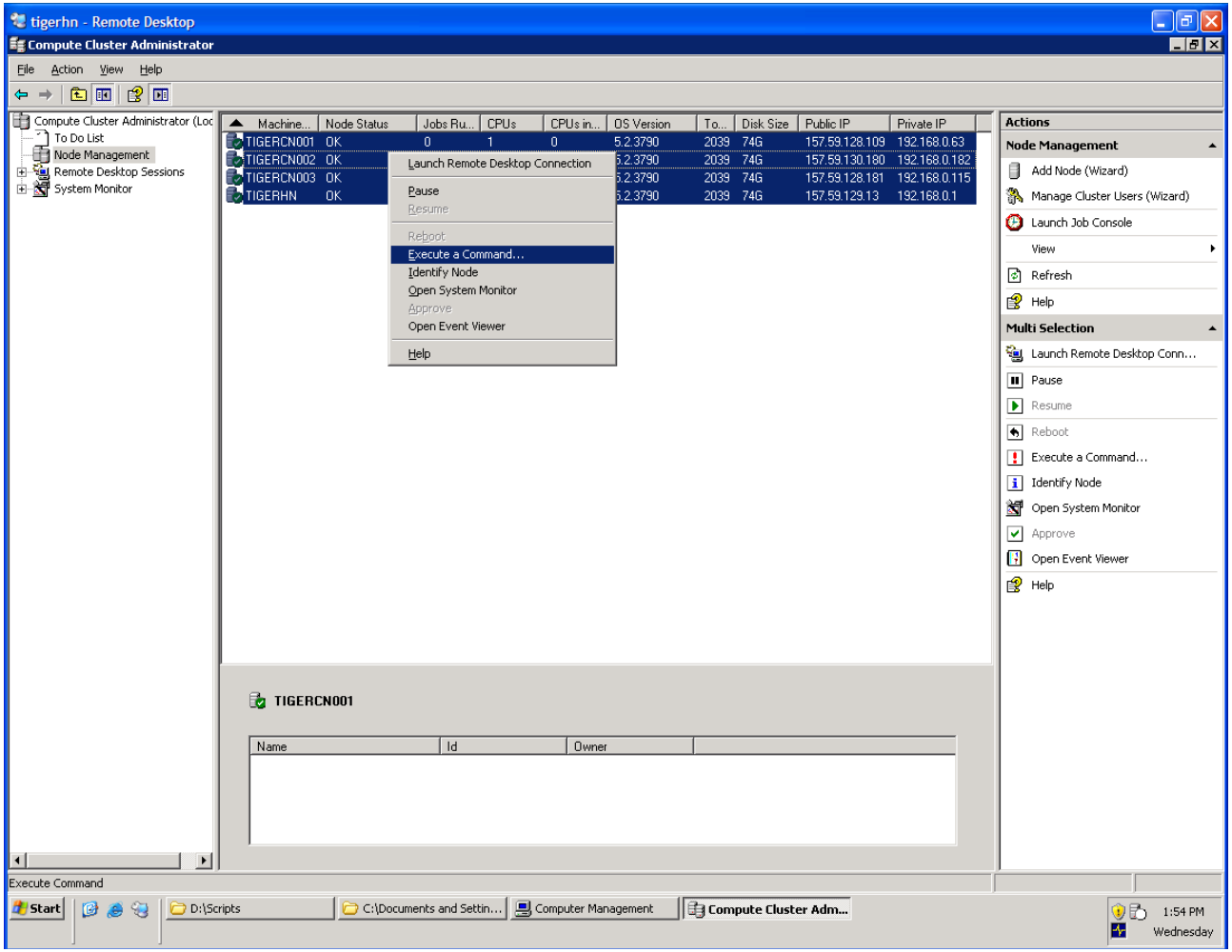
- Number of nodes
- Nodes with certain status
- Number of CPUs
- Number of used CPUs

OS-performancecounter (CPU, Memory, Disk, Network usw.)

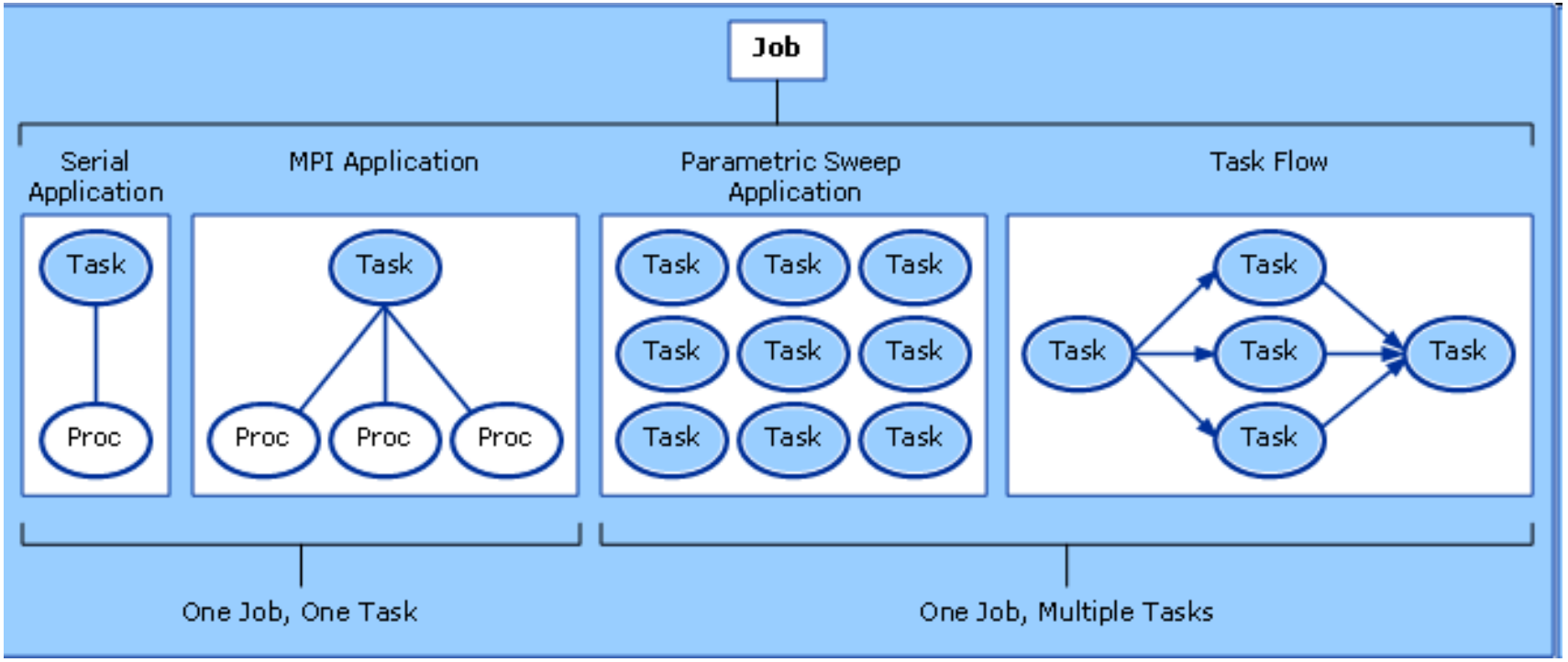
Admin Console (Start page)



Admin Console (Node Management)

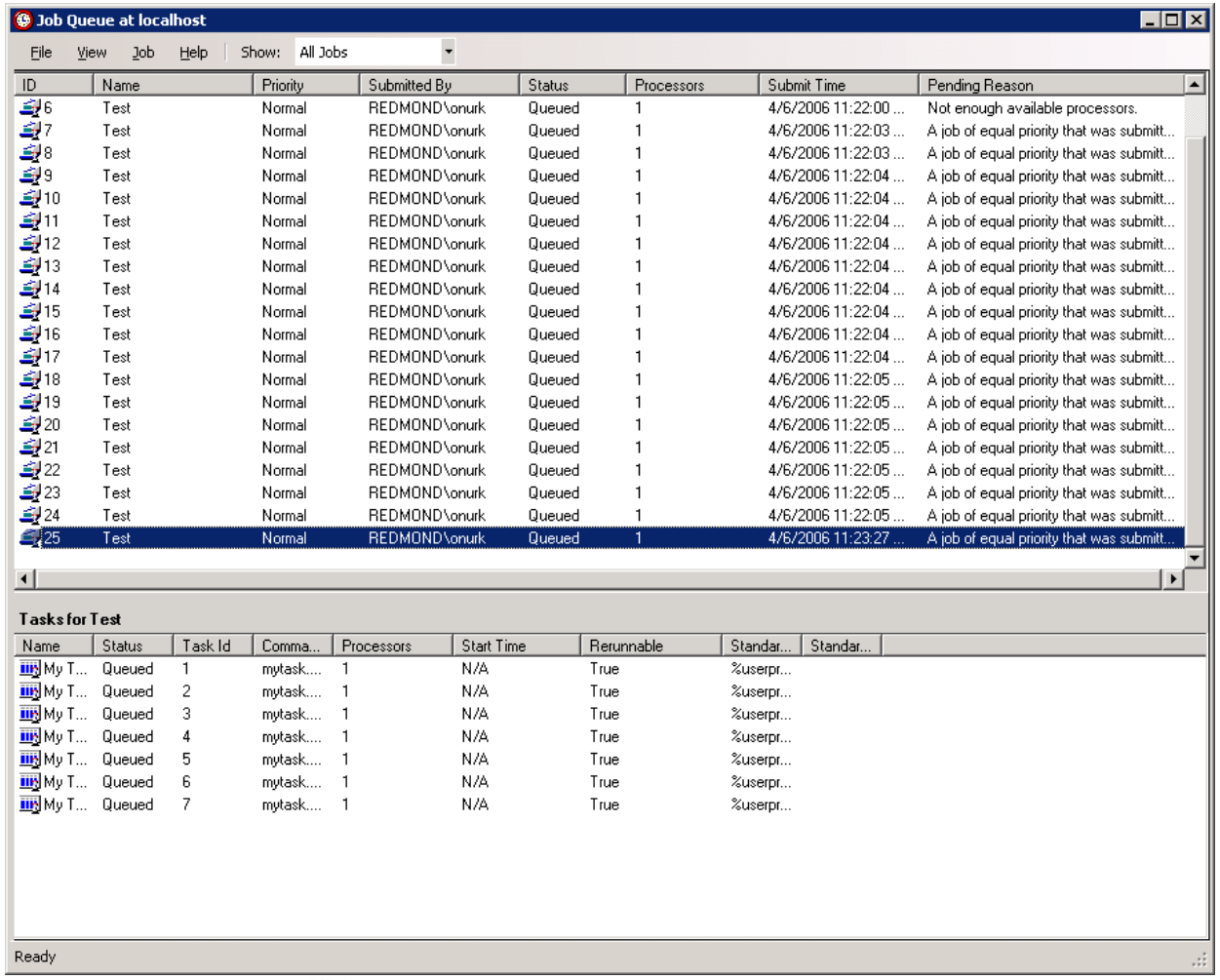


Common Job / Task Types

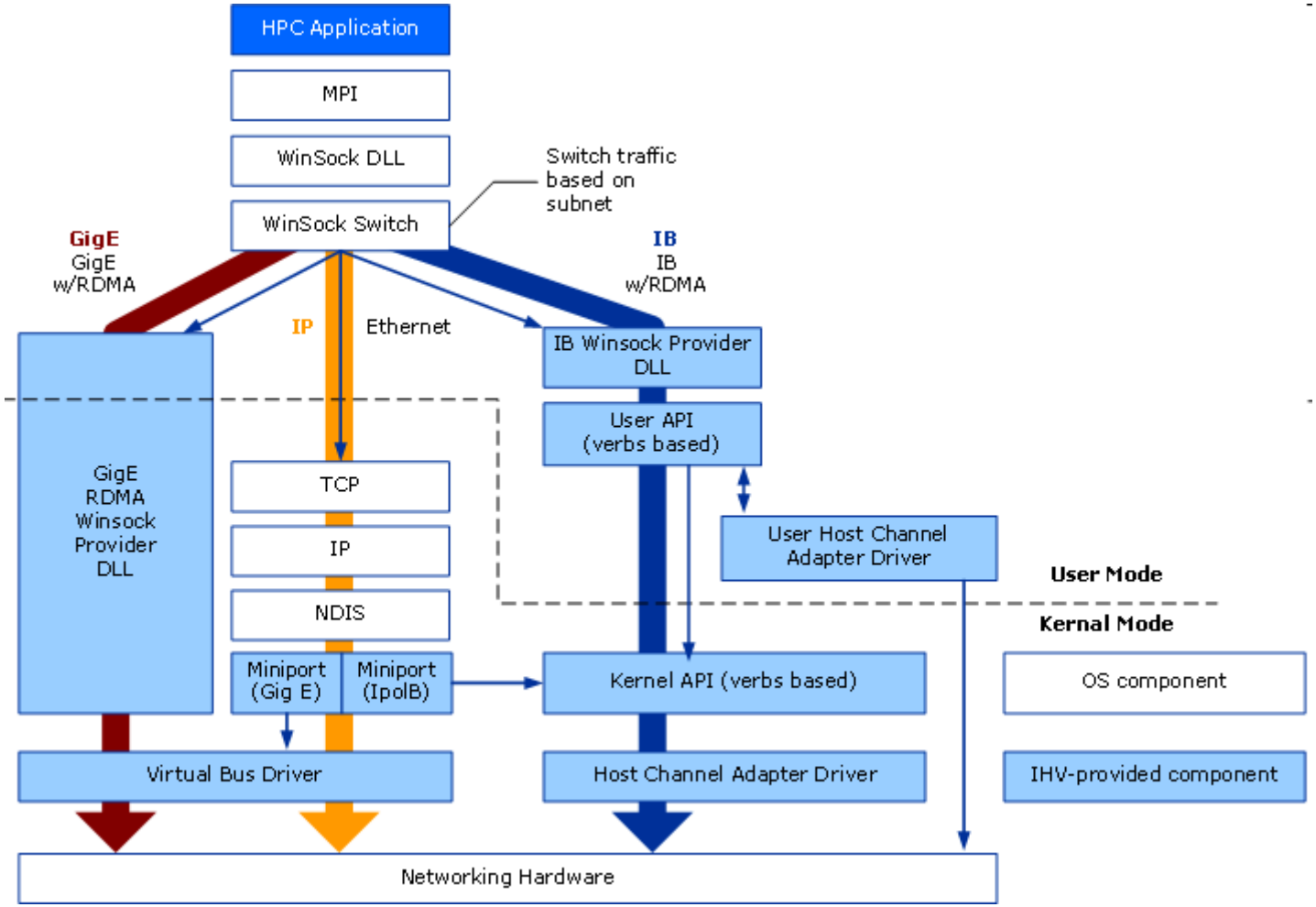


Compute Cluster Job Manager

- Centrally manage the entire job queue
- Print queue manager like experience
- Ability to save and submit jobs using templates
- Automatically create “Parametric Sweep”



Driver Model



hardware for Windows CCS

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Clusternodes

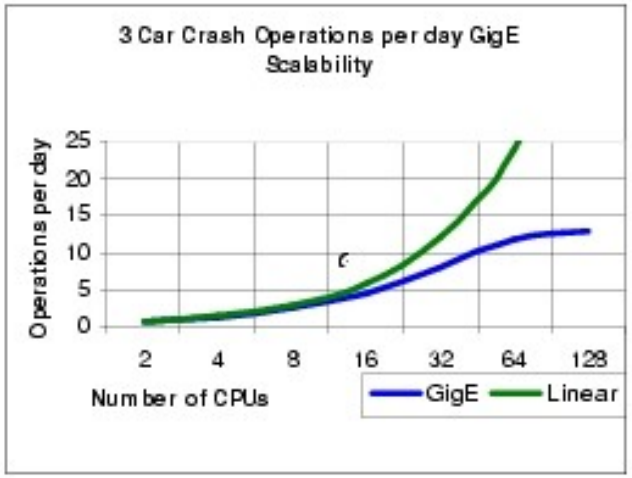
Clusternodes

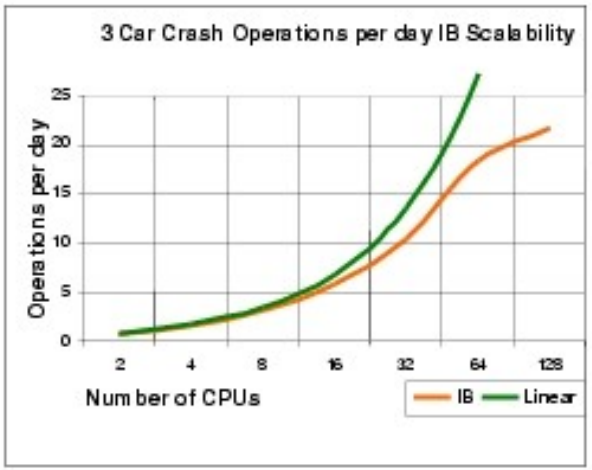
Clusternodes

- Flexible and upgradable systems
- 19“ form factor – 1U or 2U
- Dual Opteron or Dual Xeon
- Dual- or QuadCore CPUs

Networking

- All clusters equipped with Gigabit Ethernet
- High speed interconnect as an option
- Infiniband and Myrinet are certified for MS CCS





transtec services for MS CCS

- turnkey Windows HPC Solution includes:
  - Setup of WDS/RIS for automatic node installation
  - Installation, setup and test of MPI and job scheduler
  - Integration in an existing Active Direcory environment

Thanks for your attention

- Website: http://www.transtec.de
- Solutions: http://www.transtec.de/D/D/solutions.html
- Contact: michael.linke@transtec.de