

FORGE CLUSTER

THE REFERENCE SIMULATION TOOL FOR 2D AND 3D BULK METAL FORMING

FORGE CLUSTER

FORGE CLUSTER FEATURES...

FORGE has been supported for many years on a parallel platform and continues to be so. Prior to the introduction of the cluster, the parallel version was used by more than 80% of FORGE licensees, mainly on dual processor PCs. FORGE cluster enables operation of more than two processors on readily available PCs. A cluster consists of several single processor PCs connected with high bandwidth and short time latency network communication cards.

The Cluster version of FORGE has many advantages. For instance it is possible to carry out trimming simulations on complex parts in a reasonable computing time with the cluster version when combined with the damage computation improvements in FORGE.

Another advantage is being able to compute meshes constituted of 150,000 nodes or more in a few hours, and to observe details with an unequalled level of precision.

The CPU power (in terms of MegaFlops) obtained using a 9 CPU Cluster is greater than that obtained on a four-processor Unix computer and is achieved at a lower hardware cost.

FORGE CLUSTER IS AVAILABLE IN
WINDOWS XP & SUSE LINUX ENTERPRISE
SERVER VERSIONS

ADVANTAGES OF FORGE CLUSTER VERSION :

- Shorter computation time
- More simulation possibilities
- Ease-of-use and very flexible
- Improved accuracy of results
- Robust and stable
- Computation of large models

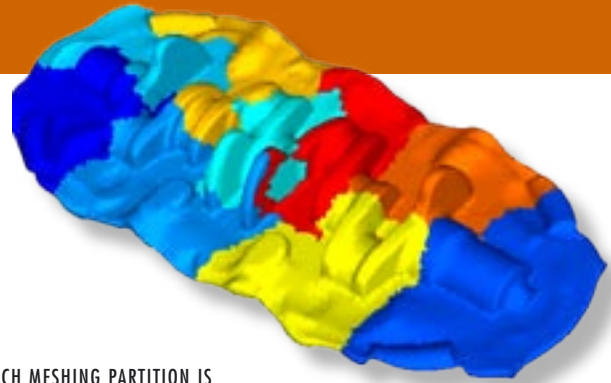
PERFORMANCE ON A 9 PROCESSOR CLUSTER

COMPUTATION TIME:

- > BLOCKER STAGE: 3H50
- > FINISHER STAGE: 18H30

NUMBER OF NODES:

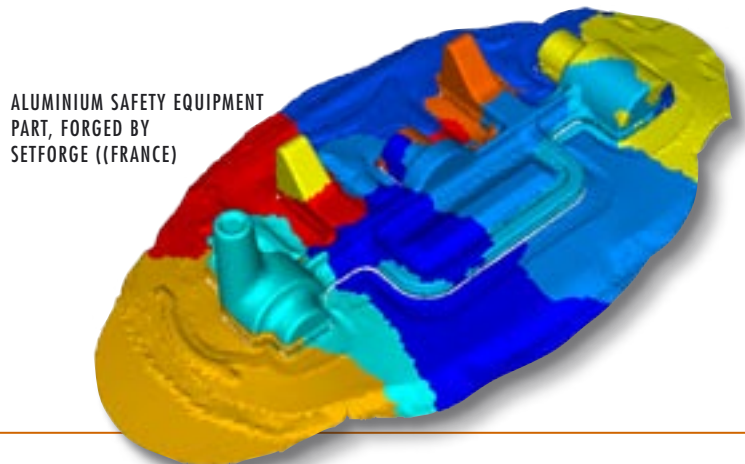
- > BLOCKER STAGE: 54 380
- > FINISHER STAGE: 77 350



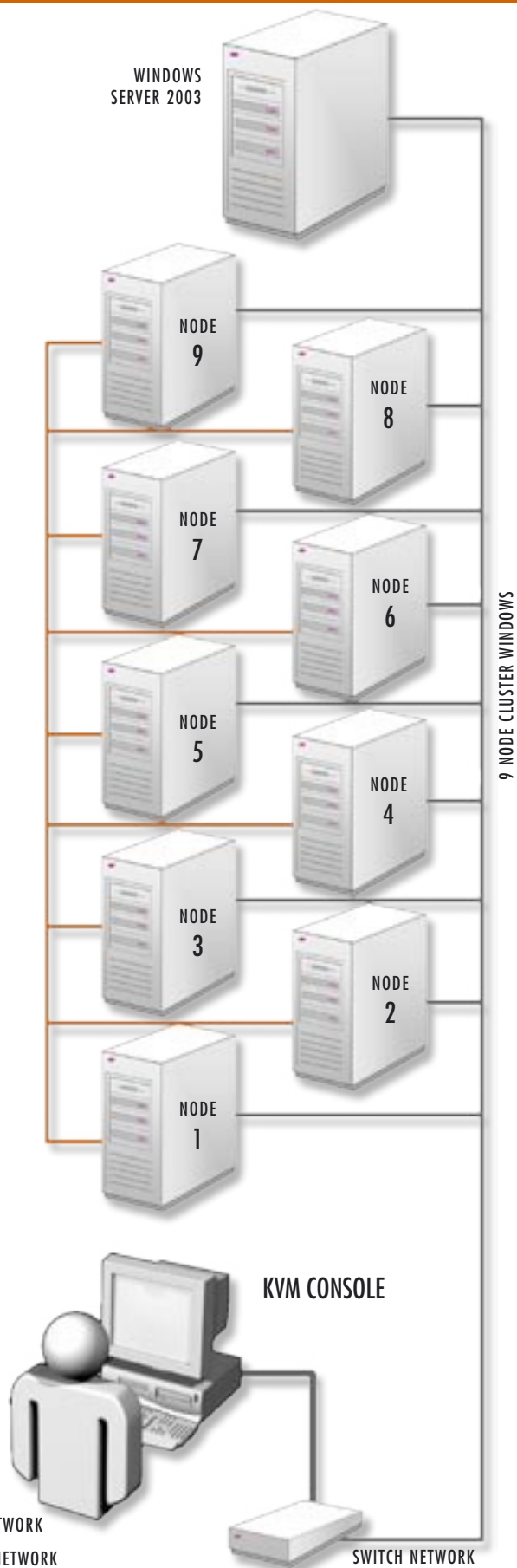
EACH MESHING PARTITION IS
REPRESENTED BY A DIFFERENT COLOUR

FLASH TRIMMING PROCESS :

Some forming processes are difficult to simulate on single and dual processor PCs, either because of the high level of precision required (such as trimming), or because of the long simulation time of the process (such as ring rolling). The cluster power brings an industrial solution to overcome these difficulties. The picture below shows the trimming of an aluminium safety equipment part.



ALUMINIUM SAFETY EQUIPMENT
PART, FORGED BY
SETFORGE ((FRANCE))



AN EXAMPLE OF A WINDOWS CLUSTER CONFIGURATION WITH 9 PROCESSORS :

TYPICAL CONFIGURATION OF A COMPUTATION NODE :

- A FAST PROCESSOR
- A FAST HARD DISK (USED ONLY FOR THE SYSTEM)
- MEMORY : 1 TO 2 GB RAM
- AN AVAILABLE SLOT DEDICATED TO THE HIGH-SPEED NETWORK CARD
- SUPPORTED FROM WINDOWS XP PRO SP2 (OR MORE RECENT VERSION)

PERFORMANCE :

A COMPUTATION WHICH TAKES 12 HOURS OF CPU-TIME ON A SINGLE PROCESSOR CAN BE REDUCED TO 2 OF CPU-TIME ON A 9 PROCESSORS CLUSTER.

USE :

THE OPPORTUNITY TO LAUNCH SIMULTANEOUS COMPUTATIONS EFFICIENTLY.

SERVICE & TRAINING

TRANSVALOR provides installation and training on site and is committed to supplying high quality software and technical support to its customers.



FORGE CLUSTER IS USED BY MANY CUSTOMERS WORLDWIDE.



FORGE CLUSTER

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TRANSVALOR IS AN ASSOCIATED MEMBER OF :



FRENCH FORGING ASSOCIATION (France)



INDUSTRIEVERBAND MASSIVUMFORMUNG (Germany)



CONFEDERATION OF CHINESE METALFORMING INDUSTRY (China)



TRANSVALOR HAS BEEN CERTIFIED ISO 9001 : 2000 BY THE BUREAU VERITAS QUALITY INTERNATIONAL (BVQI) FOR THE DEVELOPMENT, INDUSTRIALISATION AND LICENSING OF COMPUTED-AIDED ENGINEERING SOFTWARE AND RELATED SERVICES. THIS CERTIFICATION SHOWS THE WILL OF TRANSVALOR TO PROGRESS AND TO ANSWER BETTER ITS CUSTOMERS' EXPECTATIONS.



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