

## *Globalising the optimisation process and enabling remote visualisation of partial results*

Fujitsu and Noesis Solutions have streamlined multi-disciplinary simulation through a combination of the Optimus™ automation tool and SynfiniWay™'s global virtual IT framework and remote data access

### **Background**

Manufacturing enterprises are under increasing pressure to bring higher quality products to market in a shorter time scale.

This in turn puts pressure on the product design cycle making it necessary to have absolute efficiency in all steps of the design process. Failures and re-runs can bring significant delays to project targets and increased usage of optimisation processes escalate the demands and scope placed on IT resources.

The product design cycle which includes, data pre-processing, simulation solver and post-processing visualisation must be globalised to ensure the business objectives of quality and time to market are met.

### **Customer problem**

Optimisation processes require the use of significant resources. Higher usage of optimisation processes cause overloads of local resources leading to execution delays.

Too many of the executed simulations do not converge successfully resulting in wasted IT resources and engineering time. However, it is difficult to detect diverging simulations in real-time over distributed resources. As a consequence project deadlines come under further pressure from engineers having to make re-runs of unsuccessful simulations.

The current process chain is very IT dependent (network topology, data location) and cannot easily be duplicated when more IT resources are made available.

### **Our offer**

With SynfiniWay's global and virtual view of IT resources, Optimus is empowered with capabilities to efficiently spread optimisation tasks over a global scope of compute resources.

SynfiniWay's meta-scheduler manages the execution of Optimus tasks on the most appropriate resources and through prioritised scheduling ensures best turnaround times for high priority tasks.

The global remote data access capability gives end-users access to real-time execution data regardless of the runtime location.

### **Solution**

The Optimus desktop is fully integrated with SynfiniWay's virtualised IT framework enabling engineers to work with their familiar Optimus interface. Thanks to this integration the Optimus process chain can run on virtualised services spread over a global enterprise network without change.

Since SynfiniWay provides direct access to the data of the running process regardless of its execution location, engineers using Optimus now have the ability to remotely visualise the partial results, enabling early detection of diverging simulations. Valuable engineering time as well as IT resources can be saved by cancelling worthless simulations early in the run time.

Through the use of a service oriented virtual view of IT resources once a process chain is created it can be usable by any user from any location in the framework.

### **Benefits**

The engineering process chain can easily be run on any of the global resources leading to optimised execution and best turnaround for individual users.

Remote visualisation enables quick detection of diverging simulations enabling re-runs to happen quickly and efficiently. This reduces overall project times and makes engineers more effective.

Built-in resiliency features of the virtualised framework ensure that results are reliably returned to the engineers' desktop without any user intervention even when certain failures occur. This results in higher efficiency for the whole engineering process cycle.

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