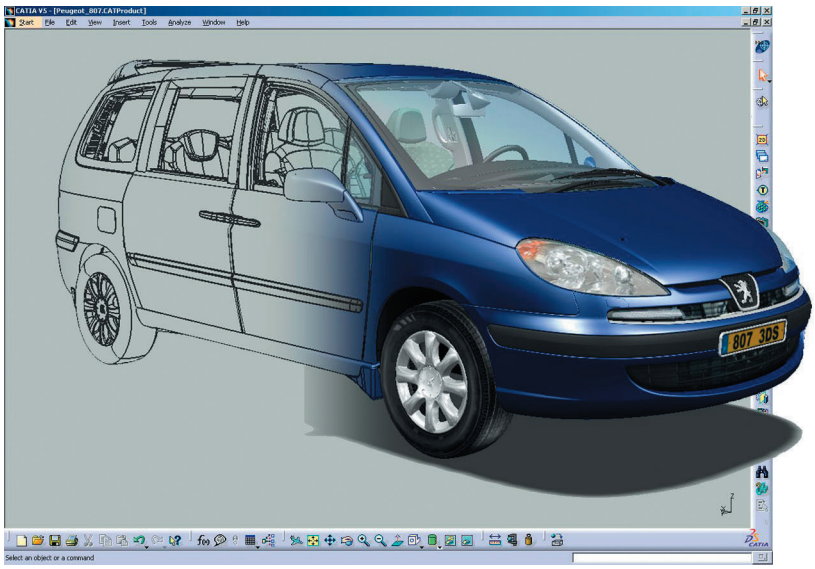
Collaboration between IBM and Dassault Systèmes fast-tracks automotive product development



Highlights

- *The IBM® Engineering Innovation Framework (EIF) helps companies streamline their engineering processes by providing innovative infrastructure offerings to help optimize compute resources, computer-aided design (CAD) processes and computer-aided engineering (CAE) processes while addressing data management issues*
- *Grid-enabled CATIA® and ENOVIA® software accelerates the clash analysis process, improving product quality and speeding time to market*
- *IBM Deep Computing Visualization middleware enables engineers to remotely access visualization and collaboration tools for faster, more effective design integration and troubleshooting*

The traditional vertically integrated structure of the automotive supply chain is evolving into a global modular supply network. One company makes the engine, another the body and yet another the seats, and automakers and supplier partners rely increasingly on virtual prototyping and simulation to collaborate effectively as they integrate complex design elements. Within this modular network, suppliers now share more of the design risk and thus have become more sensitive to costly errors early in the design cycle. To participate efficiently in an iterative design and analysis cycle, automakers and their suppliers must transform their core IT infrastructures to realign with this network model—competitiveness is at stake.

At the same time, success in the market requires more niche products and customized features, such as traction control and side-impact airbags. Yet pressures from global competition are constantly forcing automakers to subsidize sales with attractive incentives that

erode profits and shrink time to market for new vehicles. With consumers demanding more for less money, automotive manufacturers are forced to lower production costs and speed time to market, so engineers have to perform more complex analyses in less time.

IBM and Dassault Systèmes help automotive designers reduce design costs

IBM Product Lifecycle Management (PLM) Solutions improve product quality and reduce design and manufacturing costs. These PLM solutions include the industry-leading software applications CATIA, ENOVIA, and SMARTEAM which are developed by Dassault Systèmes as part of a decades long partnership. They address the automotive industry requirements for product development, product modeling, lifecycle management, and Web-enabled decision support.

Through the extensive experience derived from their strategic partnership, IBM and Dassault Systèmes can help automotive manufacturers design and implement a PLM infrastructure tailored to their unique needs while minimizing deployment time and system expenditures. IBM is a major provider of high-performance computing capabilities that support analysis and simulation workloads, helping automotive companies manage the complexities and costs of CAD/CAE environments.

IBM EIF initiative provides an integrated design platform

Customers have chosen IBM platforms to deploy PLM products for more than 20 years and many PLM customers use IBM PLM consulting, middleware and high-performance computing solutions. This vast experience and expertise led IBM to develop the EIF initiative. The IBM EIF initiative provides automotive and aerospace manufacturers and suppliers with innovative solutions based on a common, open standards–based architecture that helps speed time to market and improve design quality through optimized analysis, design services and offerings. Sample EIF offerings include CAE application optimization, simulation data management, resource virtualization and grid computing, process integration and design optimization, Deep Computing Visualization, Deep Computing Capacity on Demand and CAD/CAE integration. IBM Centers of Design Innovation in Europe and the Americas showcase these capabilities and develop future offerings from IBM and IBM Business Partners.

IBM grid computing improves resource allocation for cost-effectiveness

An engineering grid can optimize computing resources to accelerate computation and manage workloads according to predefined priorities for greater efficiency and lower costs. A key component of the EIF initiative is the IBM Grid Offering for Engineering Design: Clash Analysis in Automotive and Aerospace. It includes scalable tools, systems and services based on standards developed by the Global Grid Forum, an international body of scientists and researchers dedicated to the

development of grid computing. With the IBM grid offering, multiple heterogeneous systems can be seamlessly integrated into one powerful system, providing automotive designers with the high performance necessary for large-scale design data analysis.

Deep Computing Visualization helps improve design decisions

IBM Deep Computing Visualization middleware is designed to help automotive designers rapidly evaluate massive amounts of complex design data through intuitive visual analysis and to facilitate collaboration with remote visualization capabilities. Deep Computing Visualization software can display data on large, multi-projector display walls using high-resolution IBM IntelliStation® workstations with NVIDIA® graphics adapters. Design data is maintained in a central location to avoid unnecessary, costly and potentially insecure transfers to remote collaborators. Design engineers in multiple locations can collaborate in real time to improve the quality of design and identify costly errors early in the design cycle.

IBM IntelliStation POWER workstations pack a unique 64-bit punch

IBM provides a range of IntelliStation workstations to match budget and workload needs. With 64-bit processing capability, IBM IntelliStation POWER™ workstations can help meet the automotive industry's demanding data-intensive technical simulations. In 2004, the IntelliStation POWER Model 275 was ranked the fastest machine on the market in the Albert Group Interactive Throughput Test (TAGITT), with superior graphics compute and better 4DNavigator results than its competitors. IBM IntelliStation POWER workstations support both CATIA V4 and V5, potentially protecting past, present and future design investments.

IntelliStation Pro workstations tuned for CATIA

For automotive designers using the Microsoft® Windows® or Linux® operating systems, IntelliStation M Pro and Z Pro workstations help fast-track workflow with leading-edge 32- and 64-bit processors in single or dual processor configurations. The IBM IntelliStation application enablement team works onsite with Dassault Systèmes to refine and tune its systems for optimum performance. The IntelliStation Pro series has been optimized to help CATIA V5 excel during the rigorous CATIA certification tests, which gives companies, users and business partners a common index to measure their CATIA knowledge and skills.

IBM @server servers provide a flexible, scalable and powerful platform

IBM @server® pSeries® and xSeries® servers are designed to handle the rapid growth and high-performance needs of a collaborative PLM environment. In addition to providing a unique 64-bit capacity for ENOVIA Digital Mock-up (DMU) and CATIA V5 running AIX 5L™, pSeries servers with IBM POWER processors are designed for scalability, security and reliability, and feature exceptional processing power, I/O and memory capabilities. xSeries servers are high-performance, scalable, Intel® processor-based servers that offer attractive pricing options for large and small enterprises.

The IBM TotalStorage DS family simplifies storage infrastructure

The IBM TotalStorage® DS family of storage servers is based on open standards to allow businesses to maximize existing investments while expanding the choices for storage infrastructures. TotalStorage DS8000 and DS6000 storage servers are designed to provide continuous availability of CATIA and other PLM data. The DS4000 disk storage system is a flexible, high-performance platform that allows businesses to build a storage infrastructure with "pay-as-you-grow" upgrades.

IBM TotalStorage products aid collaboration

The IBM TotalStorage network-attached storage (NAS) system and the TotalStorage NAS gateway provide the building blocks for networked storage, enabling design engineers from multiple sites to securely collaborate on design data across large, distributed storage infrastructures.

IBM PLM systems promote innovation

As automakers rely more on virtual prototyping and testing, IBM PLM products provide a broad range of capabilities to support product development, design and innovation across an IT infrastructure. These capabilities include leading hardware for scalability and performance, advanced visualization for improved collaboration and a reference architecture that simplifies CAE design environments. IBM PLM systems enable an automotive enterprise to effectively and efficiently innovate and manage the overall product lifecycle, from inception to end of life.

For more information

To learn more about IBM @server and Dassault Systèmes PLM systems, please contact your IBM representative or IBM Business Partner, or visit:

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