The use of simulation technologies has proven to be an effective way for companies to drive innovation and evaluate product performance more efficiently than physical testing. However, the IP generated in this activity is often simply lost. In fact, companies are spending millions on performing simulation but wasting much of the generated value.

SIMULIA SLM is a new product—built on the ENOVIA world-class PLM infrastructure—that accelerates product development by providing timely access to the right information through secure storage, search, and retrieval functionality specific to simulation processes and data. It maximizes the value of company-generated IP through the capture, re-use, and deployment of simulation data and best practices for collaborative product development.

Critical elements of the simulation lifecycle:

**Collaboration**
Product designs involve trade-offs between multiple performance disciplines such as strength, weight, vibration, and durability. SIMULIA SLM supports collaboration among all key stakeholders so that innovative products satisfying wide-ranging performance requirements can be developed quickly and efficiently.

**Simulation Data Management**
SIMULIA SLM enables simulation-related data to be collected, secured, managed, and associated with related product data in a central repository. It maintains the relationship between engineering targets and key simulation results and provides a searchable environment for valuable related data. It also provides the ability to trace the history of individual simulation processes including parameters, assumptions, and results that influence key design decisions.

**Integration and Process Automation**
Product performance analysis is facilitated by a broad spectrum of best-in-class and proprietary simulation applications. SIMULIA SLM provides the capability to connect these various tools in an open, yet controlled manner. As organizations mature the management of their simulation data and processes, SIMULIA SLM provides the resources to capture, automate, and deploy approved simulation workflows to non-expert simulation users.

**Decision Support**
Simulation is used to predict the performance attributes of design candidates and their suitability toward meeting engineering targets. SIMULIA SLM provides decision support mechanisms that enable cross-functional insight and guide requirements-driven design decisions.

**Benefits**
- Improve simulation data quality and traceability
- Increase productivity by accessing the right data quickly
- Improve confidence in simulation results by deploying best practices
- Accelerate decision-making by sharing simulation information with distributed teams
- Secure intellectual property by controlling access privileges
SIMULIA SLM Features & Capabilities

User Interface
SIMULIA SLM can be accessed via:

- A standard web-based thin client browser application such as Microsoft Internet Explorer.
- 3DLive, which provides read-only, 3D, visual navigation over SIMULIA SLM entities.

Simulation Entities
Simulation – The top-level entity is a Simulation. This entity collects or references all of the data and controls all of the activities associated with building and executing a product or process simulation.

Simulation Category – Simulation data can be logically grouped and collected or referenced beneath a Simulation in folder-like entities named Categories. There are six default Categories: Product, Specifications, Internal Data, Validated Data, Context, and Results.

Simulation Activity – Most simulation processes consist of one or more activities. Often these activities are enabled by a simulation application such as Abaqus/CAE for pre-processing, or Abaqus/Standard for solving. Any number of Simulation Activities can be configured within a Simulation. These activities can collect or reference their own data in Categories and can integrate other simulation applications into SIMULIA SLM via Connectors.

Connector – The Connector framework allows a diverse set of applications to be deployed and executed from within the SIMULIA SLM environment. Connectors are currently available for Abaqus, CATIA, and select third-party simulation applications such as Nastran, HyperMesh, AcuSolve, and STAR-CD. The Connectors can be downloaded from the SIMULIA SLM website.

Simulation Type and Type-specific Attributes – A Simulation can be associated with a Simulation Type in order to assign a set of Type-specific Attributes to the Simulation and to pre-configure the number and name of the Categories associated with this Simulation Type.

Simulation Jobs – These job entities record detailed information about all instances of the execution of a Simulation or Simulation Activity.

Export/Import Rules – Pre-configured rules governing the specification of data that should be exported from SIMULIA SLM prior to executing a Simulation or Simulation Activity and imported into SIMULIA SLM upon completion of a Simulation Job can be established and maintained in the Export/Import Rules.

Document – Document management principles are enabled to manage versioned and/or non-versioned data files within simulation entities.

SLM Operations
The PLM operations listed below are available for most of the Simulation Entities:

Lifecycle – A SIMULIA SLM entity can be assigned a Lifecycle to govern the behavior of the object over the course of its useful life. Promotion or demotion of the entity through its lifecycle states can invoke a review cycle or determine entity behaviors such as access control policies.

Document – Document management principles are enabled to manage versioned and/or non-versioned data files within simulation entities.

Export/Import Rules
Rules governing the specification of data that should be exported from SIMULIA SLM prior to executing a Simulation or Simulation Activity and imported into SIMULIA SLM upon completion of a Simulation Job can be established and maintained in the Export/Import Rules.

Job Execution Framework
A Simulation or Simulation Activity can be launched and executed from SIMULIA SLM. A framework is provided to allow these jobs to be run on a local host or be distributed to a compute cluster and optionally utilize Distributed Resource Management (DRM) software.

Pricing and Licensing
SIMULIA SLM is priced and licensed on a Named User basis. Named User licenses are available in yearly or perpetual license with optional maintenance terms.

Hardware and Software Compatibility
For hardware and software compatibility information, please visit www.simulia.com/products/slm.

Documentation
Full online help is provided for SIMULIA SLM.

Product Support
SIMULIA SLM is supported in the same high-quality manner as all other SIMULIA products. The SIMULIA Online Support System is also available to provide answers to frequently asked questions and initiate support requests.

For more information on SIMULIA SLM, visit www.simulia.com/products/slm.