



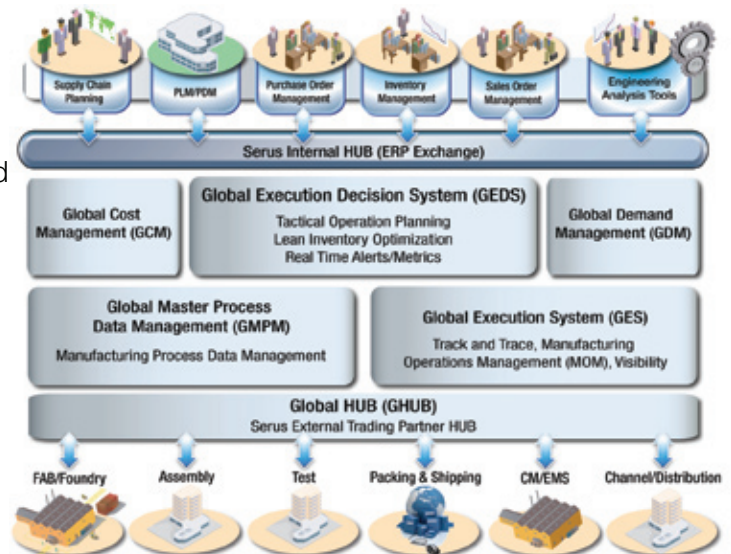
Intelligence for Outsourced Manufacturing



Automating Distributed and Outsourced Manufacturing and Operations Processes

Serus IOM automates key processes across your distributed and outsourced trading partner network, including:

- Product Engineering
- Inventory Control and Costing
- Operations Execution
- Operations Planning
- Key S&OP processes



Key Benefits:

- **Multi-Tier Visibility**
 - Track and trace
 - Raw material to point of sale
 - Real-time supplier performance monitoring to service level agreements including yield and cycle time to support planning and product costing
 - Rapid trading partner on-boarding
- **Decision Making**
 - Closed loop monitoring
 - Decision support for operations, speeding fulfillment response times
 - Bi-directional instruction management
- **Quality and Compliance**
 - Trading partner compliance with finance, inventory, fulfillment and process specifications
 - Standardized product, process, and recipe definition
 - Root cause analysis for corrective action

As companies move to improve their supply chain agility they are finding that their homegrown systems, heavy manual operations (Excel and Email), and custom ERP extensions are inhibiting attainment of corporate cost and quality goals.

Serus solutions enable agile and efficient supply and distribution chain operations. Serus connects you to your trading partner systems and provides a global operations platform that enables automated process execution across internal and trading partner systems and processes.

Global Manufacturing Process Management (GMPM)

Serus GMPM is an integrated assembly and process data modeling system. Serus GMPM eliminates manual transcription of master process data across supplier systems and integrates the ECO process across internal and external trading partner MDM/GMPM systems. Serus GMPM is based on a 3 dimensional network BOM allowing many to many relationships to be modeled efficiently and reduce maintenance overhead and proliferation of master data. Measureable results are improved NPI cycle times, Reduced workload on product engineering, reduced manufacturing errors and improved product quality.

Capabilities of Serus GMPM include:

Integrated data modeling for planning, finance, execution, manufacturing and fulfillment

- Integrated to supplier systems - automating master data changes across multiple trading partner
- Seamlessly combines assembly and manufacturing/transformation process modeling
- Closed loop validation of manufacturing and test actuals against specifications
- Network based modeling for efficient management of complex data relationships

Parametric Master Process Data Modeling

Master Process Data Management

- Reusable Components
 - Input Sets
 - Output Sets
 - Parts, Products, Product Hierarchies
 - Process Plans, Steps
 - BIN Sets, BIN Types, Downgrade Paths
 - Transformation Points (IOLINKS), ...
- Component Sharing
- Time phase Bin and Yield management
- User Defined Component Libraries
- Variables and Parameters
- Context Driven Specification Definition
- Dynamic Spec Context Resolution Engine
- Mass Split/Merge of Product Groups
- Data Driven Security
- Transaction Based Change Management
- Actual Tracking of Manufacturing Process
- Mass Revision Capabilities across Network Nodes
- System of Reference Capabilities
- Cross Referencing System
- PLM Data Transformation Tools

Product Data Management (PDM)

MDM - PDM Functions

- Parts
- Products
- Custom Part Attributes
- Materials
- Part Groups
- Group Hierarchies – Many To Many
- Custom Part Group Attributes
- Part & Group Types
- Documents & Document Refs
- Document Object Linking
- Document Ref to External Doc Sys
- Customer Parts & Codes
- Trading Partner Parts & Codes
- Bidirectional trading partner cross reference system
- ECO Workflows & Monitoring
- Approval & Task Workflows
- Dynamic Workflow Assignment

Serus provides key solutions that enable proactive decision making, rapid response, operations efficiency, fast supplier on boarding, automated execution and collaboration across all key operations processes. Using Serus ensures accountability, traceability, compliance and execution precision across both the supply and distribution chains

High Level Meta Model Capabilities

One Data Model for Manufacturing, Planning & Finance

- Assembly & Transformation Models
- Network Modeling / Network BOM
- Execution Models
 - Flow Control Model
 - Fulfillment, Drop Ship, VMI, Reserve
 - Shipment, Return, Scrap, Rework
- Manufacturing Models
 - Processes and Specifications
 - Instructions
- Financial Models
 - Standard Cost
 - Valuation & Payment
- Physical Models
 - Physical Supply Chain
 - Physical Distribution Chain
 - Logical Flow
 - Warehouse & 3PL
- Planning Models
 - Logical Supply Chain Planning
 - Fulfillment Planning
 - Operations Planning
 - Lean/Replenishment Planning
 - Operations Scheduling

Unit Life Cycle Management (ULM)

MPM As Built Tracking (ULM)

- Unit & Lot based as built tracking
- Assembly As Built Tracking
- Unit component serial # tracking
- Test Result Tracking
- Process as built tracking
- Route/Step recording
- Unit level fulfillment tracking
- Unit Document tracking
- Unit Level resource usage tracking
- Compliance Tracking
- Unit level security management

Integrated Workflow Across Internal and Trading Partner MPM Systems

GMPM Workflow

- ECO + ECR Workflow Definition Editor
- ECO Workflow Engine
- ECR Workflow & GUI
- ECO master tracking across supplier MDM systems
- ECO Triggering of MPM Synchronization to trading partner systems
- Graphical Workflow Designer
- Email notification
- Parallel workflow routes
- Workflow driven GUI
- Security based workflow constraints
- Workflow Cycle Time monitoring
- Workflow Alerts
- Multi level approval support

Benefits of Serus GMPM include:

For Business:

- Improve Product Quality
- Accelerate NPI
- Improve Product Engineering Productivity
- Reduce Manufacturing Errors
- Reduce Yield Loss
- Reduce ECO Cycle Time

For IT:

- Fast time to deploy – typically 3-4 months
- Speed to ROI – typically 4 months after go live
- Low TCO – Improved IT performance
- Leverages your ERP investment



Global Execution System (GES)

Serus Global Execution System enables you to monitor and control your operations and value-chain with real-time supply and demand information. With the Serus B2B Hub, Serus Global Execution System provides complete visibility, monitoring, and control across all in-house and outsourced unfinished, semi-finished and finished goods. Serus GES's rules engine flags exceptions and alerts those responsible so they can be addressed before they become costly problems. The Serus Operations Command and Control Dashboard alerts you to supply or demand disruptions so you can provide timely instructions that ensure quick and accurate order fulfillment.

Capabilities of Serus GES include:

Global Inventory Tracking

- Supply Inventory Tracking
- Finished Goods Inventory Tracking
- PO/Invoice/Inventory Tracking
- POS Tracking
- Material Tracking
- Consumption Tracking
- Lot, Wafer & Die Tracking
- Fulfillment Tracking
- In Transit Tracking
- Resource Tracking
- Rework, Return and Scrap Tracking

Inventory Traceability

- Lot Genealogy
- Recall Management
- Fulfillment Genealogy
- As Built Traceability
- As Tested Traceability
- Test Result Tracking
- PO & Invoice Traceability
- Unit Status History (Hold, Release, Ship, etc...)

Enhance your ERP

- Oracle, Oracle OSFM and SAP Bidirectional Transaction Interfaces
- Automates Supplier PO & Invoice Process
- Self Invoicing

Execution Control

- Transaction Error Management
- Drop Ship Execution
- SS/VMI Monitoring & Replenishment Execution
- Fulfillment Execution
- Electronic Instruction Dispatching
- Starts Management
- Lot Execution Control
- Return Execution
- Lot File Management
- Ship Execution, Ship Monitoring, Ship Alerts
- Supplier to Supplier collaboration
- Schedule Collaboration

Metrics / KPIs

- Cycle Time by Part, Resource, Lot, Supplier
- Inventory Aging by Location,
- Stage/Step, DateCode
- Yields by lot, part, step, stage, resource
- Bin Metrics
- Bin Variance
- Yield Variance
- Inventory Levels
- Inventory Turns
- Inventory Moves & Thruput
- Fulfillment - OTD
- Resource Usage - OEE