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The Forrester Wave™: Product Life-Cycle Management Applications, Q2 2008

by Roy C. Wildeman
for Business Process & Applications Professionals

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CAD Players Retain Their Lead; ERP Players Are In Hot Pursuit

by Roy C. Wildeman
with Sharyn C. Leaver, Varun Sedov, and Andrew Magarie

EXECUTIVE SUMMARY

Forrester evaluated leading product life-cycle management (PLM) applications across approximately 70 criteria from the perspectives of both discrete-based and process-based manufacturers. In the established discrete-manufacturing market, we found that Dassault Systèmes, Siemens PLM, and PTC demonstrate frontrunner leadership due to their strong combination of current offerings and strategy. A pack of ERP players are close at their heels as Strong Performers: Oracle's gained advanced discrete-based and process-based functionality through last year's acquisition of Agile PLM; SAP is pursuing its vision to support end-to-end PLM processes across both industry segments; and IFS is differentiating through specialized processes for engineer-to-order (ETO) manufacturing environments. Infor retains a Strong Performer position in the nascent process industries market, but it has a way to go to compete with the Leaders in the prevailing discrete market.

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NOTES & RESOURCES

Forrester conducted lab-based evaluations in February 2008 and interviewed 22 vendor and user companies including Dassault Systèmes, IFS, Infor, Oracle, PTC, SAP, and Siemens PLM Software.

Related Research Documents

"Best Practices: Product Data Management"
February 12, 2008

"Process Overview: Product Life-Cycle Management"
July 23, 2007

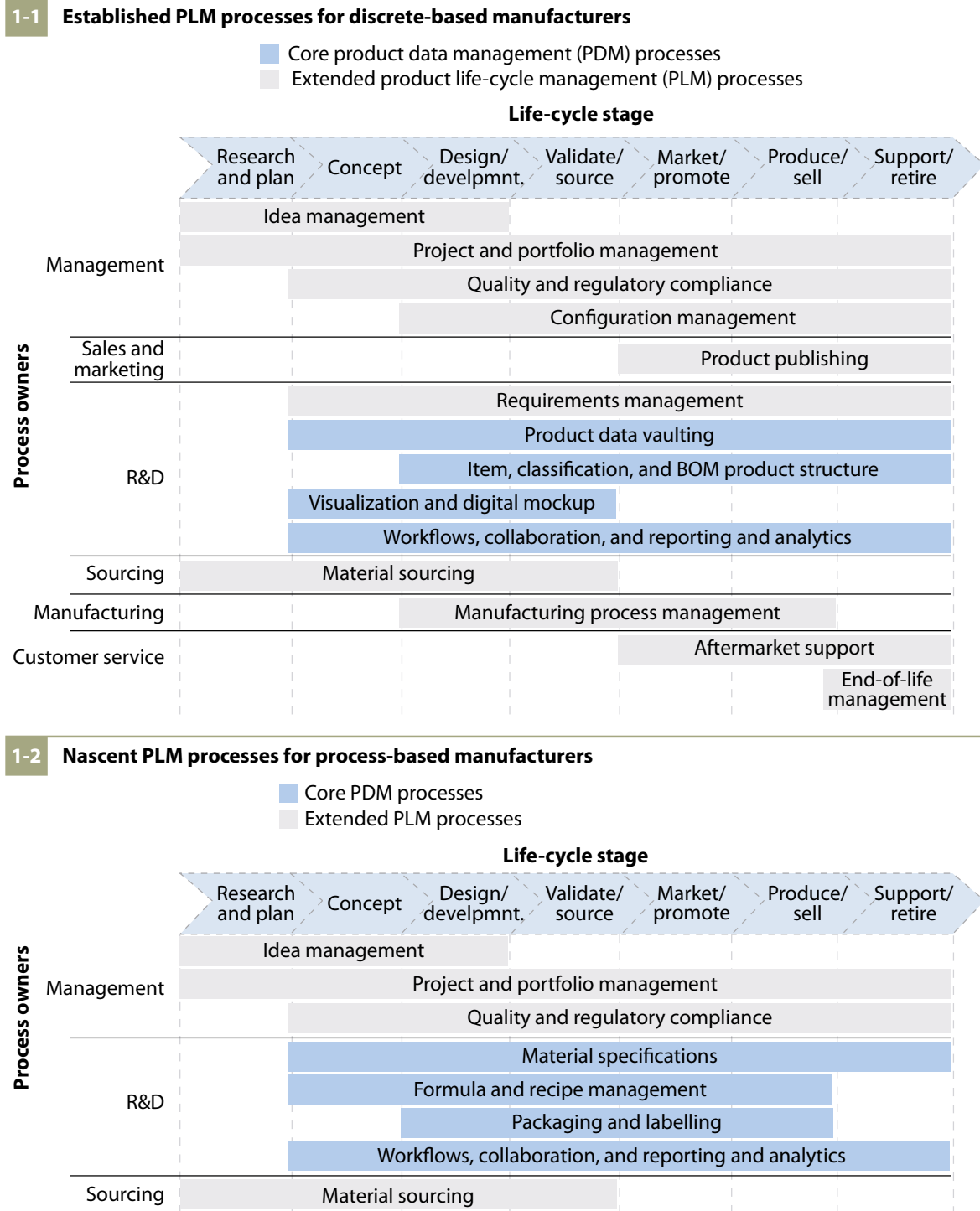"Oracle Customers Will Benefit From Agile Acquisition"
May 25, 2007

"Siemens Acquires UGS: Good News For Industrial Manufacturers"
February 2, 2007

A MULTIFACETED ENTERPRISE PLM MARKET OFFERS ASSORTED VALUE PROPOSITIONS

With today's relentless pressures to deliver innovative products to the marketplace, the opportunities and challenges to deploy product life-cycle management (PLM) systems to manage the complexity of product development processes have never been greater.[1] But as manufacturing firms investigate, select, and justify their investments in PLM platforms, process and applications professionals will encounter a variety of process support and benefit scenarios depending on their industry orientation.

- **Discrete-based manufacturers prove core value and tap extended PLM.** Industries like automotive, high-tech, and aerospace and defense have proven the conventional value of centralizing design images, documents, and records to support common reference, collaboration, and accelerated change processes across engineering teams — basically the product data management (PDM) component of PLM solutions. With PLM firmly embedded in their IT ecosystems, these long-time customers are now investigating extended functionality like project and portfolio management, direct material souring, and manufacturing process management.[2] This dynamic has also fostered new, cross-functional PLM value statements for emerging growth sectors — such as medical device companies seeking embedded quality and regulatory control (see Figure 1-1).

- **Process-based manufacturers demonstrate nascent PLM value.** Heeding the success of their discrete-based counterparts, PLM process and applications professionals in process-based industries like chemicals, pharmaceuticals, and consumer products are starting to invest in some of the same core and extended PLM process areas to support improved product development efficiency and compliance. Unlike discrete shops, however, process-based manufacturers require differentiated, specialized functionality to centralize specifications, formulations, and recipes to effectively articulate and share common product data across the enterprise (see Figure 1-2).

Figure 1 Enterprise PLM Applications Offer A Range Of Different Process Support

1-1   **Established PLM processes for discrete-based manufacturers**

■ Core product data management (PDM) processes
□ Extended product life-cycle management (PLM) processes

Life-cycle stage

Research and plan › Concept › Design/develpmnt. › Validate/source › Market/promote › Produce/sell › Support/retire

Process owners

Management
- Idea management
- Project and portfolio management
- Quality and regulatory compliance
- Configuration management

Sales and marketing
- Product publishing

R&D
- Requirements management
- Product data vaulting
- Item, classification, and BOM product structure
- Visualization and digital mockup
- Workflows, collaboration, and reporting and analytics

Sourcing
- Material sourcing

Manufacturing
- Manufacturing process management

Customer service
- Aftermarket support
- End-of-life management

1-2   **Nascent PLM processes for process-based manufacturers**

■ Core PDM processes
□ Extended PLM processes

Life-cycle stage

Research and plan › Concept › Design/develpmnt. › Validate/source › Market/promote › Produce/sell › Support/retire

Process owners

Management
- Idea management
- Project and portfolio management
- Quality and regulatory compliance

R&D
- Material specifications
- Formula and recipe management
- Packaging and labelling
- Workflows, collaboration, and reporting and analytics

Sourcing
- Material sourcing

44830   Source: Forrester Research, Inc.

Major PLM Players Reshuffle As Market Consolidation Continues

The PLM application market has experienced major consolidation in the past two years: Core vendors Agile and MatrixOne were successful acquisition targets of Oracle and Dassault Systèmes, respectively, which rendered the pure-play segment virtually extinct. The remaining CAD-heritage and ERP-oriented segments continue to jockey for competitive position, balancing vertical industry specialization with extended horizontal offerings to capture market share beyond the established PLM category.

- **CAD players compete on technical prowess and data interoperability.** The competitive triumvirate of Dassault Systèmes, PTC, and Siemens PLM Software (formerly UGS) continues to evolve, with all three vendors promoting technical competencies that resonate with engineering audiences. With strong legacies in the discrete-based manufacturing market, each vendor has tight links between their digital design tools and their PLM applications — although today's PLM process and applications professionals are demanding multi-CAD interoperability from their vendors (just as their users demand support for multiple CAD tools), as well as out-of-the box linkages to other enterprise systems.

- **ERP platforms sell the value of end-to-end integration.** ERP players like IFS, Infor, Oracle, and SAP bank on PLM business from existing customers that weigh the value of an integrated PLM/ERP solution over specialized requirements to manage a complex range of technical product data. It's also no accident that the top three PLM applications for process industries are now owned by ERP companies; process areas such as sourcing specifications and quality and regulatory compliance are not only strong points of intersection with ERP but also perennial focus areas in the food and beverage, chemicals, and pharmaceutical industries.

PLM EVALUATION OVERVIEW

To assess the state of the PLM market and see how the vendors stack up against each other, Forrester evaluated the strengths and weaknesses of the top PLM products for both discrete-based and process-based manufacturing segments.

Evaluation Criteria Target A Broad Range Of PLM Requirements

After examining past research, user need assessments, and vendor and expert interviews, we developed a comprehensive set of evaluation criteria. We evaluated vendors against approximately 70 criteria, which we grouped into three high-level buckets:

- **Current offering.** This section evaluated each vendor's features and functions for industry-specific PDM requirements (such as item management, BOM structures, and visualization capabilities for discrete-based manufacturers; material specifications, formulations, and recipe management for process-based manufacturers) and universal functionality like workflow,

collaboration, and reporting. Extended PLM functionality such as ideation, project and portfolio management, quality and regulatory compliance, requirements management, material sourcing, manufacturing process planning, product publishing, aftermarket support, end-of-life management, and the overall product architecture were also evaluated as appropriate for each industry sector.

· **Strategy.** We evaluated this section based on the vendor's product strategy and vision, the pricing models and maintenance costs of its products, and vendor partnerships with system integrators.

· **Market presence.** To evaluate each vendor's market presence, we looked at its PLM install base, overall number of employees and dedication to the PLM product line, global reach across North America, Europe, and Asia, as well as the company's PLM and overall financials.

Evaluated Products Offer Enterprisewide Support And Are Consistently Shortlisted

Forrester included seven vendors in our assessment: Dassault Systèmes, IFS, Infor, Oracle, PTC, SAP, and Siemens PLM Software (formerly UGS). Each of these vendors (see Figure 2):

· **Offers PLM solutions that can scale to enterprise-level deployments.** We evaluated vendor products with a track record of enterprise-scale deployments with a sizable number of users and sites.

· **Goes beyond core PDM functionality into extended PLM processes.** In addition to established PDM functionality, process and applications professionals are looking for a PLM platform that will support extended areas such as quality and regulatory compliance, project and portfolio management, and direct materials souring. As such, we evaluated product offerings that include more than just the traditional PDM features.

· **Is consistently shortlisted in product selections.** Forrester observes a significant number of PLM selections, and we have only evaluated those vendors and products we consistently see shortlisted.

Figure 2 Evaluated Vendors: Product Information And Selection Criteria

	Vendor	Product evaluated	Product version evaluated	Version release date
Discrete industry solutions	Dassault Systèmes	ENOVIA MatrixOne	10.8	January 2008
	IFS	IFS Applications	7.5	October 2007
	Infor	PLM 8	8.1	March 2008
	Oracle	Agile PLM	9.2.2	March 2007
	PTC	Windchill	9.0	June 2007
	SAP	SAP PLM*	n/a*	October 2006
	Siemens PLM Software	Teamcenter	2007	October 2007

	Vendor	Product evaluated	Product version evaluated	Version release date
Process industry solutions	Infor	PLM Optiva	5.2	July 2007
	Oracle	Prodika	5.1	August 2007
	SAP	SAP PLM*	n/a*	October 2006

Vendor qualification criteria

Does the PLM solution have a track record of enterprise-scale deployments?
Does the solution go beyond core PDM functionality by offering extended PLM processes?
Is the PLM solution consistently shortlisted in product selections?

* ERP 2005 v6.0 EhP3, PD v2.0, RPM v4.0, and cProjects v4.0 are the SAP PLM products included in our evaluations.

Source: Forrester Research, Inc.

### CAD PLAYERS LEAD WHILE ERP PLAYERS KEEP PACE

The evaluation uncovered a market in which (see Figure 3 and see Figure 4):

- **Dassault Systèmes and Siemens PLM are the frontrunners, but for different reasons.** These two vendors provide excellent core PDM and extended PLM functionality, but offer two distinct approaches to PLM. Siemens PLM continues to build on its legacy of innovation in the PLM space by constantly raising the bar with the depth and breadth of their product offerings.

Dassault Systèmes is bringing new functionality to the table as well, but the flexibility of its ENOVIA MatrixOne product architecture continues to be its best feature.

· **PTC's latest release helps it retain a leadership position.** PTC's aggressive investments in its Web-based Windchill 9.0 platform, with its strong and balanced support for all aspects of discrete-based PDM functionality and select areas of extended PLM processes, keeps pace with frontrunner PLM solutions.

· **IFS, Infor PLM Optiva, Oracle, and SAP offer competitive options.** Unsurprisingly, PLM buyers are starting to consider the offerings from their ERP vendor as a viable alternative to best-of-breed PLM. Oracle added advanced discrete- and process-based functionality through last year's acquisition of Agile PLM, while archrival SAP supports end-to-end PLM processes across both industry segments. Similarly, IFS differentiates through specialized processes for engineer-to-order (ETO) manufacturing environments, and Infor Optiva PLM leads with depth and breadth for process-based manufacturers.

· **Infor PLM 8 trails the pack but is a viable option for Infor ERP customers.** Infor PLM 8 supports basic PDM requirements with limited support for extended PLM processes, but it can be a good match for existing Infor ERP customers or SMB companies looking for a single ERP and PLM vendor solution in a variety of industries within the discrete-based manufacturing sector.

Figure 3 Forrester Wave™: PLM For Discrete Manufacturers Q2 '08
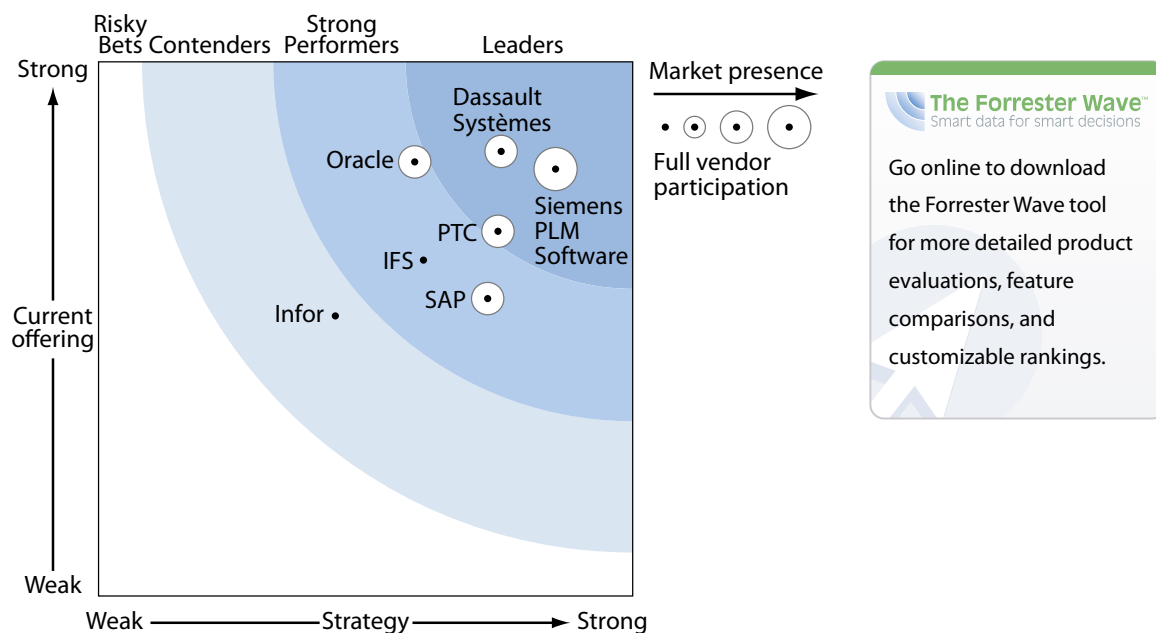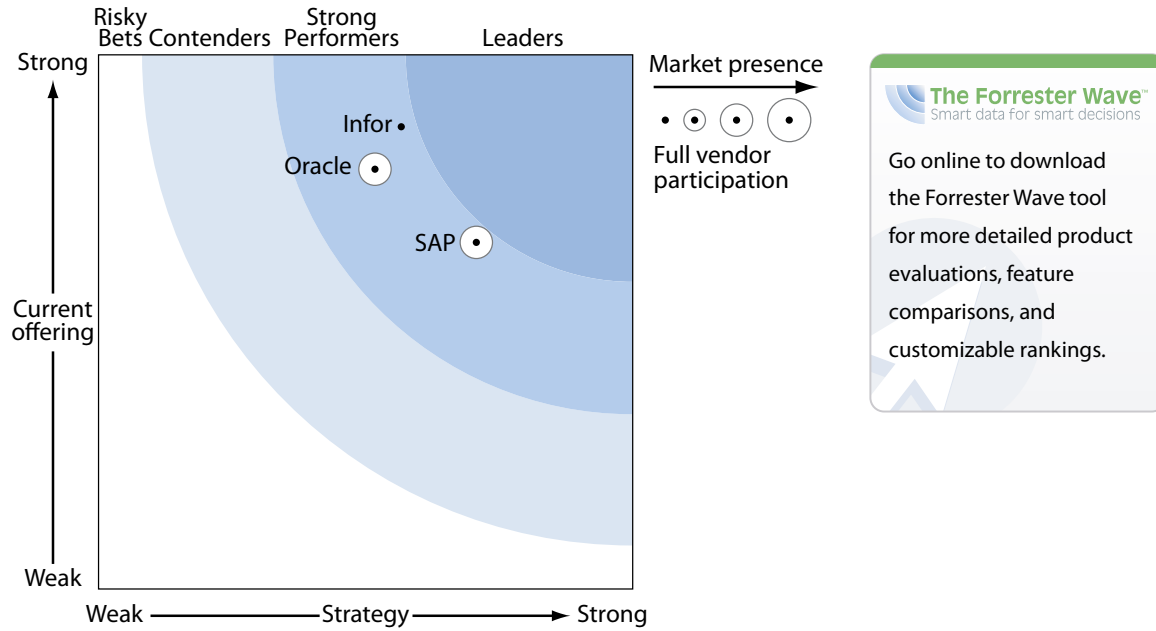

Source: Forrester Research, Inc.

Figure 3 Forrester Wave™: PLM For Discrete Manufacturers Q2 '08 (Cont.)

	Forrester's Weighting	Dassault Systèmes	IFS	Infor	Oracle	PTC	SAP	Siemens PLM Software
CURRENT OFFERING	50%	4.15	3.12	2.60	4.05	3.39	2.76	3.97
Product data management (PDM)	50%	4.48	3.23	3.00	4.53	3.88	3.10	4.03
Product life-cycle management (PLM)	30%	3.33	3.21	1.74	3.04	2.58	2.47	3.71
Product architecture	20%	4.58	2.70	2.88	4.40	3.40	2.34	4.24
STRATEGY	50%	3.77	3.04	2.22	2.98	3.74	3.64	4.28
Product strategy and vision	80%	3.90	2.80	2.30	3.10	3.80	3.70	4.60
Pricing	10%	3.00	5.00	3.00	2.00	2.00	4.00	2.00
Technology partners	10%	3.50	3.00	0.75	3.00	5.00	2.75	4.00
MARKET PRESENCE	0%	3.43	1.88	1.51	3.53	3.80	3.87	4.24
Installed base	40%	3.40	3.30	2.00	3.60	4.40	3.30	4.20
Employees	5%	3.00	2.00	2.75	4.00	3.75	3.75	4.25
Global reach	10%	3.40	1.60	4.00	4.40	3.00	3.40	4.00
PLM financials	40%	3.50	0.75	0.00	3.00	3.50	4.50	4.50
Overall financials	5%	3.50	0.00	3.50	5.00	3.00	4.50	3.00

All scores are based on a scale of 0 (weak) to 5 (strong).

Source: Forrester Research, Inc.

Figure 4 Forrester Wave™: PLM For Process Manufacturers Q2 '08

Figure 4 Forrester Wave™: PLM For Process Manufacturers Q2 '08 (Cont.)

	Forrester's Weighting	Infor	Oracle	SAP
CURRENT OFFERING	50%	4.31	3.92	3.22
Product data management (PDM)	60%	4.66	4.26	3.35
Product life-cycle management (PLM)	20%	3.37	3.41	3.04
Product architecture	20%	4.20	3.40	3.00
STRATEGY	50%	2.83	2.58	3.54
Product strategy and vision	80%	3.00	2.60	3.87
Pricing	10%	3.00	2.00	3.00
Technology partners	10%	1.25	3.00	2.75
MARKET PRESENCE	0%	1.51	3.49	3.19
Installed base	40%	2.00	3.60	3.10
Employees	5%	2.75	4.00	3.75
Global reach	10%	4.00	4.00	3.40
PLM financials	40%	0.00	3.00	3.00
Overall financials	5%	3.50	5.00	4.50

All scores are based on a scale of 0 (weak) to 5 (strong).

Source: Forrester Research, Inc.

This evaluation of the PLM market is intended to be a starting point only. Readers are encouraged to view detailed product evaluations and adapt the criteria weightings to fit their individual needs through the Forrester Wave Excel-based vendor comparison tool.

VENDOR PROFILES

Leaders: Dassault Systèmes And Siemens PLM Are Frontrunners; PTC Retains Its Lead

- **Siemens PLM Teamcenter offers dominant breadth and a leading strategy.** Industrial giant Siemens acquired UGS in 2007, forming the Siemens PLM Software business unit under the company's Automation & Drives division.[3] Although Siemens corporate offers some additional PLM support for process-based industries through its SIMATIC automation systems, we focused our evaluation on Siemens PLM's discrete-based Teamcenter software given its market presence and process breadth. Teamcenter 2007 offers advanced support for the core PLM requirements of discrete manufacturers of complex products — such as an integrated bill-of-materials and bill-of-process (BOM-BOP) data model and embedded visualization and active mock-up of multi-CAD drawings — and dominant depth and breadth in its extended PLM functionality. Siemens PLM also leads in overall strategy; the latest Teamcenter 2007 platform

formalizes many prior investments in shared services and common components into a unified architecture that will facilitate more industry-focused solutions and a tighter end-to-end PLM data model. Customers we spoke with conveyed Siemens PLM Software's strategy as a key differentiator, specifically citing the company's vision for an open product/process data platform and industry-leading integrations that drives future value. Areas of relative weakness include the product's configurability and "stickiness" in getting both engineers and non-engineers to adopt its out-of-the-box usability. Teamcenter offers leading PLM functionality for discrete-based manufacturers of complex products looking to standardize on a single, enterprise PLM platform for both their product design and manufacturing process data.

· **Dassault Systèmes ENOVIA MatrixOne leads with the most flexible offering.** Though Dassault Systèmes actively sells three different PLM solutions today, we chose to evaluate ENOVIA MatrixOne 10.8, given its process breadth and enterprise scalability relative to the company's other products. With industry-leading flexibility, ENOVIA MatrixOne led our current offering evaluation of discrete-based solutions in the majority of the core PDM areas like product data vaulting, item classification, and BOM structure management. We also found solid extended PLM functionality in every area except manufacturing process management, aftermarket support, and product publishing. Dassault Systèmes PLM strategy is also strong, as the planned ENOVIA 6 release promises to offers customers a single PLM platform leveraging the strong data indexing and federation capabilities of the ENOVIA MatrixOne product. Areas of relative weaknesses include customer challenges with legacy data migration, lack of integration to Dassault Systèmes' full suite of digital design products (e.g., Simulia and Delmia), risk of scope creep, and excessive configuration time arising from *too much* flexibility. Customers have adapted ENOVIA MatrixOne to support a wide range of discrete-based manufacturing verticals as well as some nontraditional industries such as consumer products, retail, and semiconductor.

· **PTC Windchill keeps pace with aggressive investments and enhancements.** PTC Windchill 9.0 remains a leading PLM solution with its strong, balanced support for all aspect of discrete-based manufacturing PDM functionality and select areas of extended PLM processes such as project and portfolio management (per the ProjectLink module), material sourcing (per the PartLink module), and manufacturing process management (per the company's 2005 acquisition of PolyPlan, now the MPMLink module).[4] Although we found Windchill's functionality to be less mature than the other PLM Leaders, customers we spoke with recognize significant improvements in the Web-based version 9 release and expressed confidence that the company will continue to deliver on its dual vision to support more end-to-end PLM processes and industry specialization. PTC has predominantly had success in selling Windchill to product engineers, but planned enhancements in ProductView will help enable broader cross-functional adoption and enterprise support. Windchill is a good fit for manufacturers in a variety of discrete industries, and it should be shortlisted when tight integration between ProENGINEER CAD software and product BOM is a requirement.

Strong Performers: IFS, Infor (Optiva), Oracle, And SAP Offer Competitive Options

- **IFS offers differentiated life-cycle support for complex engineering projects**. IFS Applications has some differentiating features in support of complex, engineer-to-order manufacturing environments such as an Engineering Register tool that vaults the documentation and engineering structures of a facility design, as well as project management and aftermarket services functionality with tight financial integrations to other IFS ERP components to support contract-based manufacturing. Customers we spoke with cited the company's strong partnership model and investments in select extended PLM areas, such as configuration management, as important differentiators in their selection process, but they were mixed on the software's ability to lower installation and maintenance costs over time. IFS is a good match for existing IFS customers seeking value from integrated IFS application components or extended life-cycle support for complex, engineer-to-order or configure-to-order products.

- **Infor PLM Optiva delivers depth and breadth for process-based manufacturers.** Infor actively sells three different PLM solutions today, each oriented toward discrete, process, and apparel manufacturing businesses. For process industry requirements, we evaluated Infor's PLM Optiva 5.2 software, which offers differentiated PLM functionality including deep support for core PDM requirements such as material specification, formula management, and change management processes, as well as breadth of support for extended quality and regulatory compliance and material sourcing requirements. Weaknesses include the tool's basic portfolio management capabilities and a lack of technology partnerships to extend the product's reach beyond its existing market segments. Infor PLM Optiva is a good match for a variety of industries within process-based manufacturing, although most of its customer base is made up of SMB clients in North America and Europe.

- **Oracle closes the current offering gap with Agile PLM.** Oracle's 2007 purchase of Agile Software closed a major gap in the ERP titan's functional application portfolio.[5] For discrete manufacturers, we evaluated Oracle Agile PLM 9.2.2, which leads all other vendors in its support for discrete-based PDM requirements through its configurable data model, workflow speed, and security-based collaboration capabilities. Oracle Agile PLM 9.2.2 also offers extended support in select areas like project and portfolio management, material sourcing, and quality and regulatory compliance for discrete customers. For process-based manufacturers, we evaluated Oracle Agile PLM for Process (originally Prodika, purchased by Agile in 2006), which has a strong integrated data model across ingredient, manufacturing process, and packaging hierarchies along with advanced formulation management functionality tailored to food and beverage manufacturing. In terms of strategy, Oracle's vision to expand Agile software into broader enterprisewide use cases with data connectors — such as integration between Agile and Oracle Demantra for portfolio optimization or Agile and Siebel for capturing voice of the customer — could position the company for market leadership but is still largely conceptual and predominantly addresses the needs of discrete-based manufacturers. Customers we spoke

with are aligned to the combined Oracle/Agile product strategy, but many feel that service and support have dropped during the acquisition transition. Oracle Agile PLM 9.2.2 can be deployed in a variety of discrete environments, but it has the strongest match for companies seeking the flexibility and collaboration required to support outsourced supply chains, such as in electronics and high-tech. Oracle Prodika has the best match with manufacturers in the food and beverage industries.

- **SAP PLM offers a strong vision and breadth of support across industries.** SAP's PLM solution development has been a story of evolution starting with document and image vaulting and steadily expanding to include both discrete-based and process-based PLM functionality such as BOM management, specifications and recipe management, engineering change workflows, and most recently a suite of tools for New Product Development & Introduction (NPDI).[6] Strengths include support for extended PLM processes such as ideation, portfolio and project management functionality, quality and regulatory compliance, and material sourcing — though the levels of ERP integration and customer adoption in these areas vary between discrete-based and process-based segments. Weaknesses include basic support for discrete-based PDM processes and a transaction-oriented usability that can influence user adoption rates.[7] In terms of strategy and vision, SAP's PLM road map addresses tactical customer concerns like usability while tapping its ERP presence for more integrated and end-to-end PLM process support.[8] Customers consistently cited the benefits of reusing common master data from SAP ERP, such as item masters, compliance data, and costing tables, to help lower deployment and maintenance costs. SAP is a good fit for SAP ERP customers in a wide variety of industries looking to leverage their existing ERP modules toward their enterprisewide PLM requirements.

Contenders: Infor (PLM 8) Trails The Pack But Is A Viable Option For Infor ERP Customers

- **Infor PLM 8 is a good option for discrete manufacturers running Infor ERP.** For discrete manufacturing environments, we evaluated Infor PLM 8.1, which supports the basic requirements of core PDM functionality with limited support for extended PLM processes. Within Infor's target SMB market, the offering helps win deals against other ERP competitors that do not offer PLM support. Infor has plans to build out some extended PLM capabilities, such as portfolio management and analytics, as well as to SOA-certify its PLM products over the next 18 months to help lower integration challenges. Infor PLM 8 is a good match for existing Infor ERP customers or SMB companies looking for a single ERP and PLM vendor solution in a variety of industries within the discrete-based manufacturing sector.[9]

SUPPLEMENTAL MATERIAL

Online Resource

The online versions of Figure 3 and Figure 4 are Excel-based vendor comparison tools that provide detailed product evaluations and customizable rankings.

Data Sources Used In This Forrester Wave

Forrester used a combination of three data sources to assess the strengths and weaknesses of each solution:

- **Vendor surveys.** Forrester surveyed vendors on their capabilities as they relate to the evaluation criteria. Once we analyzed the completed vendor surveys, we conducted vendor calls where necessary to gather details of vendor qualifications.

- **Product demos.** We asked vendors to conduct demonstrations of their product's functionality. We used findings from these product demos to validate details of each vendor's product capabilities.

- **Customer reference calls.** To validate product and vendor qualifications, Forrester also conducted reference calls with one to three of each vendor's current customers.

The Forrester Wave Methodology

We conduct primary research to develop a list of vendors that meet our criteria to be evaluated in this market. From that initial pool of vendors, we then narrow our final list. We choose these vendors based on: 1) product fit; 2) customer success; and 3) Forrester client demand. We eliminate vendors that have limited customer references and products that don't fit the scope of our evaluation.

After examining past research, user need assessments, and vendor and expert interviews, we develop the initial evaluation criteria. To evaluate the vendors and their products against our set of criteria, we gather details of product qualifications through a combination of lab evaluations, questionnaires, demos, and/or discussions with client references. We send evaluations to the vendors for their review, and we adjust the evaluations to provide the most accurate view of vendor offerings and strategies.

We set default weightings to reflect our analysis of the needs of large user companies — and/or other scenarios as outlined in the Forrester Wave document — and then score the vendors based on a clearly defined scale. These default weightings are intended only as a starting point, and readers are encouraged to adapt the weightings to fit their individual needs through the Excel-based tool. The final scores generate the graphical depiction of the market based on current offering, strategy, and market presence. Forrester intends to update vendor evaluations regularly as product capabilities and vendor strategies evolve.

ENDNOTES

[1] Manufacturing firms typically face both technical and organizational challenges when implementing PLM. See the February 12, 2008, "Best Practices: Product Data Management" report.

[2] The scope and limits of such expansion vary widely by individual company deployment. See the July 23, 2007, "Process Overview: Product Life-Cycle Management" report.

[3] The Siemens acquisition of UGS presented the market with a unique vision for tighter electronic collaboration between product design and manufacturing across the PLM process. See the February 2, 2007, "Siemens Acquires UGS: Good News For Industrial Manufacturers" report.

[4] PTC also acquired Arbortext in 2005 to offer a dynamic publishing solution that supports the needs of services firms alongside its long-time, manufacturing-centric Windchill PLM suite. See the March 24, 2008, "Product Life-Cycle Management for Services?" report.

[5] Forrester predicted a combined Oracle/Agile deal way back in 2000. See the May 25, 2007, "Oracle Customers Will Benefit From Agile Acquisition" report.

[6] The NPDI suite includes cProjects for phase-gate project management, xRPM for resource and portfolio management, and xPD for ideation and concept management.

[7] There are two sides to SAP usability — on the one hand it provides a familiar, standardized UI to users outside of engineering who are using other aspects of SAP. On the other hand, the command-and-control form designs can restrict the flexibility and exploration engineers require.

[8] SAP is positioning its PLM tools under a new, enterprise wide theme entitled "Product & Service Leadership" What does this new theme mean for SAP PLM customers? Less emphasis on singleton tools and more emphasis on longer-term, end-to-end process support. For example, the NPDI application suite is now captured under the "Continuous Product Innovation" value scenario where portfolio, project, and product analytic capabilities will be more tightly integrated. Similarly, the value scenarios of "Integrated Product Development," "Product as a Service," and "Embedded Product Compliance" should prompt discussions — and upselling opportunities — with SAP customers around their long-term application strategy to manage product data across the enterprise.

[9] Although Infor's PLM 8 customer base is generally made up of SMB clients in North America and Europe, we do see customers with more than 1,000 users deploying the solution.

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