

Leveling the Playing Field for Small Companies and Startups

Engineering and Operations Software-as-a-Service provides smaller manufacturers opportunities to compete more effectively in their markets

CIMdata Commentary

Key takeaways:

- *SMBs face the same IT and innovation challenges as larger enterprises, but often don't have the resources available to address them.*
- *SMBs must be ultra-responsive to the dynamics of their position in the value chain—whether they are an OEM or a lower-level supplier.*
- *Startups and SMBs trying to disrupt a market need to leverage the latest cloud architectures and functional capabilities available to gain an advantage over incumbents still utilizing legacy solutions.*
- *SaaS-delivered PLM solutions can enable SMBs to compete more effectively in today's market of rapidly evolving customer expectations, increasing product and value chain complexity, and global competition.*
- *SaaS-delivered PLM solutions can provide fast, cost-effective access to a full range of PLM capabilities to enable business flexibility and agility while expanding and scaling quickly across product lifecycle activities.*

Introduction

Product complexity is increasing along with customer expectations. Today's (and future) products incorporate more software and electronics, are smart and connected to other products and systems, and are often part of systems of systems. Supply and value chains are also becoming more complex, with participants scattered around the globe, each working with their chosen set of applications and product-supporting technologies. To maintain competitiveness, small- to medium-sized businesses (SMBs) must *embrace* this increasing complexity in their product, business, and value chain. They need to use modern technology environments and applications that can help them maximize business and resource flexibility and adaptability.¹

SMBs have the same issues as larger enterprises. They must develop and deliver products faster and provide better service, but with fewer resources—people and money. They need to use modern product lifecycle management (PLM) environments and applications that help them maximize the utilization, flexibility, and adaptability of their business and limited resources.

SMBs must understand and proactively adjust their position in the value chain to achieve and maintain market differentiation and competitiveness—particularly important when they participate in multiple value chains that bring together and utilize different enterprises and technology suites.

SMBs need more affordable and flexible PLM solutions that they can use, as required, to achieve the business flexibility and agility needed to attain and maintain a competitive market position and a high level of customer loyalty. SMBs need to access an increasingly broader range of PLM enabling technology than their limited capital budgets normally would allow.

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They, too, need to support and work within globally distributed teams in a collaborative and concurrent development environment. This requires:

- A single source of the truth with anytime, anywhere, any device, secure access to needed information in the context of a specific user's role and responsibility.
- Ability to rapidly support changes to requirements dictated by their customers, partners, and their products themselves as used in the field.
- Immediate access to updated and new functionality and capabilities to drive innovation agility.

Using Software-as-a-Service (SaaS) can help an SMB have more and faster access to functional capabilities and computing infrastructure at a significantly lower cost, thus reducing the initial and potentially the total cost of ownership. By letting the solution provider deploy and operate the technical infrastructure, an SMB eliminates the need to hire and maintain dedicated support staff and facilities as IT and PLM needs grow with the business. No longer do small companies need to pay for their software upfront using scarce capital budgets.

SMB personnel can take advantage of more prescriptive and guided functional capabilities (i.e., pre-defined and OOTB) that reflects known best practices, as they frequently must wear multiple hats and use a wider range of functionality than individuals working in larger, more structured enterprises using more narrowly defined, pre-existing workflows, processes, and rules.

What is SaaS?

SaaS is a licensing and delivery model in which application software is purchased on a subscription basis, centrally hosted, and whose functionality is delivered via the Internet. SaaS applications are also known as on-demand software, and cloud-based or cloud-hosted software.

SaaS solution providers generally price applications using a subscription fee, most commonly a monthly or an annual fee. The customer typically pays a recurring price at regular intervals for access to a defined set of functional capabilities (e.g., document and BOM creation and management), including ongoing improvements, enhancements, and innovations to those capabilities.

SaaS applications are typically accessed by users using a thin client via an Internet connection to the computing infrastructure resident in the cloud. A benefit of most SaaS applications is that they can also be accessed in a "multi-experience way," such as from desktops, laptops, tablets, and smartphones.

There are three types of SaaS application hosting and delivery:

1. **Dedicated servers**, where the hosting company provides servers, as needed, for each customer, usually housed in a data center and connected to the Internet. Customers can run anything they want (including web servers, databases, and others, i.e., application servers). Each customer has their version of the hosted applications. This is generally referred to as a single-tenant implementation.
2. **Shared hosting**, where the hosting company provides services for multiple customers on one physical server and shares the hosted resources. Each customer uses the common version of the hosted applications. This is generally referred to as a multi-tenant implementation and can result in better economics for the buyer and host.
3. **Hybrid model** in which a combination of single- and multi-tenant architectures is involved. Applications are hosted both on-premises and on the cloud, depending

on their functionality and need. Host locations may be defined based on characteristics such as performance or security.

SaaS Enables SMBs

SaaS provides faster setup and access (e.g., on-demand and instant-on) to licensed software—SMBs get up and running quickly, without (or with minimal) IT involvement and resources. SaaS also provides on-demand access to high-performance computing resources when, and for how long, they may be needed (e.g., providing additional computing cores to run a complex simulation or analysis).

Managed, periodic updates are automatically delivered by the provider, so the SMB receives updates and enhancements in a timely manner. Being able to use the cloud infrastructure enables updates to be delivered globally to all users without delay and without administrative burden.

SaaS provides the flexibility to add and remove licenses as business needs change. Businesses can try out and add new capabilities when needed and for only as long as needed. This enables a flexible, quick responding business—both to its own needs and the changing demands of its customers.

A SaaS approach frees an SMB from acquiring, installing, and/or managing the operating infrastructure—a significant capital cost savings. SaaS providers develop, deliver, and manage a globally secure collaboration environment that supports a logical, single source of the truth with any time, any device global access. Using this managed infrastructure enables all personnel in an SMB to work with internal, and importantly, with external value chain participants, regardless of location.

A key benefit is that new and/or expanded functionality is easily deployed and used. An SMB can “try and buy” new capabilities without incurring significant licensing and distribution costs. The support part of “service” (i.e., guided UI, learning tools, etc.) also help SMB personnel to more rapidly and easily adopt new technology and solutions.

Conclusion

SMBs face the same IT and innovation challenges as larger enterprises, but often don't have the resources available to address them. They must develop and deliver increasingly complex products while providing better service than their often much larger competitors, but have constraints on the financial, physical, and human resources available to them. The good news is that modern IT and related technologies enable PLM environments and applications to maximize the utilization, flexibility, and adaptability of an SMB's business and all its resources.

SaaS-delivered PLM solutions can enable SMBs to compete more effectively in today's market of rapidly evolving customer expectations, increasing product and value chain complexity, and global competition. SaaS provides fast, cost-effective access to a full range of PLM capabilities to enable business flexibility and agility while expanding and scaling quickly and profitably across all product lifecycle activities. Hosted delivery significantly reduces or eliminates the capital cost of acquiring and managing the IT infrastructure required by the increasing range of PLM applications and solutions. SaaS coupled with hosted delivery enables SMBs to compete effectively regardless of their position in the value chain, and its value grows as the SMB grows.

CIMdata recommends that SMB companies consider SaaS solutions when evaluating their PLM technology and solution requirements.

About CIMdata

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