

# Taking to the Cloud: Accenture's Cloud Powered Product Engineering

*Bringing Siemens Xcelerator Portfolio to Microsoft Azure*

## CIMdata Commentary

Key takeaways:

- *Interest in and adoption of cloud-based enterprise software is accelerating, but rates vary by segment. Just as in on-premises software, industrial customers want a choice of Infrastructure-as-a-Service (IaaS) providers to support their own cloud strategies.*
- *Accenture leveraged work with their industrial clients to support Siemens Digital Industries Software offerings on Microsoft Azure to create new capabilities in cloud powered product engineering for those clients.*
- *Their strategic consulting approach is powered by accelerators and reference architectures jointly developed with Microsoft and Siemens that speed implementation while also limiting risk. Interest in their approach is high and early returns promising.*

## Introduction

While on-premises software powered Industry 3.0, the digitalization of product platforms and manufacturing of Industry 4.0 is focused on the cloud. Product lifecycle management (PLM) implementations most often rely on offerings from multiple solution providers and can be heterogenous in the extreme. In a cloud-centric future, this means that industrial companies will have workloads that span multiple cloud infrastructure providers, often desiring support on a cloud environment that is not the focus of their chosen PLM solution provider. To help address this issue, Accenture created their Cloud Powered Product Engineering (CPPE) initiative that leverages capabilities in their Industry X practice and other centers of excellence within the company. This commentary focuses on their Siemens Xcelerator on Azure capabilities, which bring much of the Siemens Digital Industries Software Xcelerator portfolio to the Microsoft Azure cloud. Their early results are impressive and their approach should help their customers move to the cloud more quickly, consistently, and with a more rapid time to value.<sup>1</sup>

## Taking to the Cloud

From a historical perspective, the application of digital technology to the product lifecycle has been a small blip, dating to the 1940s with early numerical control (NC) machining solutions. The bounty of Moore's law, the notion that the speed and capability of computers can be expected to double every two years, as a result of increases in the number of transistors a microchip can contain, powered a computing revolution over the following decades with the creations and widespread adoption of minicomputers, workstations, and PCs, putting computing power literally in the hands of users with modern mobile devices.

Over the last decade, these same technologies were used to power a new computing paradigm, the cloud, where the resources are again distant from the users, while at the same time offering a wide range of technical and business benefits. Today, the global cloud infrastructure market is dominated by Amazon Web Services (AWS) with Microsoft Azure

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<sup>1</sup> Research for this commentary was partially supported by Accenture.

continuing to gain market strength. Other cloud infrastructure leaders include Google, Alibaba, and Huawei.<sup>2</sup>

Some categories of enterprise software are leading the charge to the cloud, most notably Salesforce in customer relationship management (CRM). The evolution in PLM offerings on the cloud was somewhat slower. In fact, in 2017, CIMdata executed research focused on this differential rate of adoption, and repeated this study in 2020. In the earlier 2017 research, users were hesitant to embrace the cloud, as were their main independent software vendors (ISVs). The results of our 2020 research saw both more adoption of cloud-based offerings and significantly more interest in them. Our research showed that end users expected to lower infrastructure costs but were still reticent about the security implications. At the same time, they hoped to better support more use cases that are complex in an on-premises world, such as enabling the digital thread, leveraging vast data sources using artificial intelligence (AI), and better support for sustainability objectives across global value chains.

Clearly the future of computing is on the cloud. CIMdata expects that just as the on-premises PLM world is heterogenous in terms of software adopted and used, so will the cloud, but with a twist. In our cloud future both the applications and the cloud infrastructure used will be heterogeneous, with an emphasis on multi-cloud support.

Today leading PLM ISVs focus on at least one IaaS provider, with AWS being the most common choice. Some ISVs rely on proprietary clouds. But their industrial customers are on different timelines and have often made different cloud infrastructure decisions. Accenture, a leading global professional services and technology company, helped some of their leading customers on their cloud PLM journey and built upon their successes to create a new approach to enabling PLM on the cloud.

## Cloud Powered Product Engineering at Accenture

Accenture's support for PLM is focused within their Industry X practice. According to Accenture "With our global team of experts in design, engineering, technology, consulting, and operations, we work together at speed to find solutions to our clients' challenges with a focus on Intelligent Products and Platforms."<sup>3</sup> Their Industry X practice is part of a much larger Accenture commitment to the cloud. In September 2020, Accenture announced their cloud-first initiative, planning to invest \$3 billion over three years "to help clients across all industries rapidly become 'cloud first' businesses and accelerate their digital transformation to realize greater value at speed and scale."<sup>4</sup>

In CIMdata's discussions with Accenture, they stated that it can be difficult to get executives at industrial companies to understand the potential offered by moving to the cloud. The most common refrain is "my current approach is working for me; I do not have a need to make that change." Accenture believes, and CIMdata agrees, that most industrial companies do not fully comprehend that moving to the cloud can offer a step change improvement in supporting their current use cases and offers many additional capabilities that are impractical in an on-premises environment.

Accenture partners with many of the leading PLM ISVs. This commentary focuses on their joint partnership with Siemens Digital Industries Software (Siemens) and Microsoft Azure to bring

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<sup>2</sup> <https://www.gartner.com/en/newsroom/press-releases/2021-06-28-gartner-says-worldwide-iaas-public-w-services-market-grew-40-7-percent-in-2020>

<sup>3</sup> <https://www.accenture.com/us-en/services/industry-x-index>

<sup>4</sup> <https://newsroom.accenture.com/news/accenture-cloud-first-launches-with-3-billion-investment-to-accelerate-clients-move-to-cloud-and-digital-transformation.htm>

Siemens' offerings to the Microsoft Azure cloud. This three-way collaboration helped ensure that Siemens offerings perform well on Microsoft Azure. This includes work by the three partners to co-develop a Siemens-on-Azure reference architecture which underpins their joint offering delivery.

As often happens with such initiatives, it began with some Accenture customer engagements to implement Teamcenter and other Siemens offerings on Microsoft Azure, which is not the default cloud infrastructure choice offered by Siemens. Helping a large European automotive original equipment manufacturer (OEM) was their first such project, followed by work with a large European energy company. Other engagements with small- and medium-sized manufacturers quickly followed. As part of their efforts, Accenture created a framework to help support their customers' requirements more consistently and to deploy the needed capabilities more rapidly. Today, Accenture's Siemens Xcelerator on Azure enables 35 Siemens applications and toolsets on Microsoft Azure, a large part of the full Siemens Xcelerator portfolio, as highlighted in Figure 1.

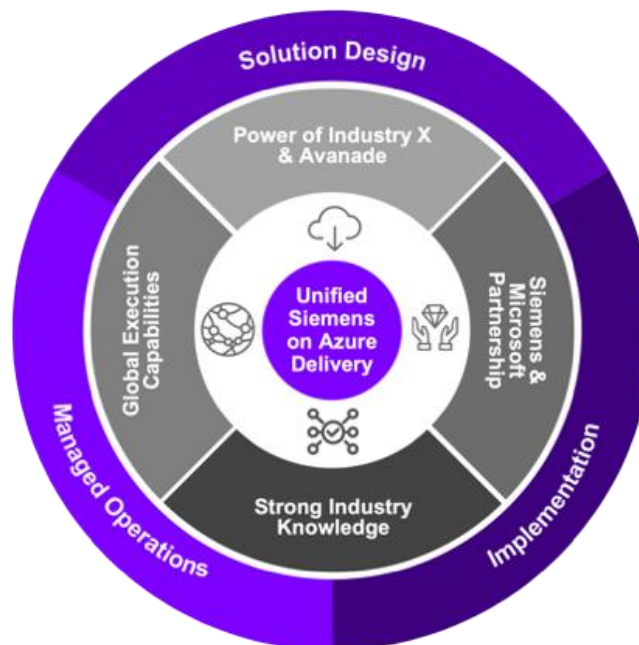


Figure 1—Siemens Xcelerator on Azure  
(Courtesy of Accenture)

To more effectively promote their approach to management at their industrial clients, Accenture is driving their Cloud Powered Product Engineering initiative. Their approach is to conduct a value assessment as the first step, quickly followed by proving technical feasibility. In Accenture's opinion, these are the two most important things to communicate to cross the barrier of cloud adoption. Their engagement model relies on Accenture Industry X teams to deploy and configure the necessary engineering platforms, working with Accenture Technology/Avanade to help migrate workloads to the cloud.<sup>5</sup>

A key element to their approach is Accenture's Siemens Xcelerator on Azure Proof-of-Concept Accelerator. This Accelerator echoes key Siemens' lifecycle concepts: support for the digital product, digital production, and real production. It is used to help validate a customer's PLM

<sup>5</sup> <https://www.avanade.com/en-us/about-avanade/partnerships/accenture-avanade-microsoft-alliance> – Formed in 2000, "Avanade is Accenture's engine for innovation and solutions with Microsoft. Whether improving customer experiences with artificial intelligence or addressing the unique needs of industries, we partner closely with Avanade to deliver cloud to edge solutions and services that maximize the value and impact that customers realize from their Microsoft investments."

use cases, to highlight key cloud capabilities, and to verify integration scenarios. It includes a range of best practice templates to quickly implement the needed capabilities on a turnkey architecture. This focuses on configuring the Azure-based solution, including high performance computing (HPC) and Engineering Desktop support, the Internet of Things (IoT), Infrastructure Monitoring, Development Operations (DevOps) capabilities that are critical for IT support teams, and security. Key capabilities in their Microsoft Azure-based solutions include Engineering On Cloud, Unified BOM Management, Industrial IoT (MindSphere), PLM-MES-ERP integration, and Mendix.

Accenture claims significant benefits from their Siemens Xcelerator on Azure approach, including up to 60% savings on infrastructure operations and a 15-20% reduction in security efforts. They also believe that their delivery approach is 40% faster due to their tools and accelerators enabling the process, and up to 30% savings on provisioning and builds. CIMdata reviewed Accenture's Siemens Xcelerator on Azure solution and it demonstrates the promise of reinventing a wide range of PLM-enabling solutions for cloud deployment. It incorporates powerful DevOps solutions and infrastructure automation capabilities, bringing much-needed efficiency in how organizations deliver engineering capabilities. CIMdata is impressed by the results to date and is excited to learn more as their customer base expands.

While this commentary focuses on Accenture's work around PLM solutions deployed on Microsoft Azure's cloud solution, Accenture has created parallel solutions/accelerators for deploying on the AWS cloud as well. This is critical in a multi-cloud world where each customer may want to support an IT infrastructure spanning many cloud infrastructure providers.

## Conclusion

On-premises computing has served industrial companies well, powering the Industry 3.0 revolution and evolving to Industry 4.0 today. But that Industry 4.0 vision relies on the cloud to animate global value chains and our increasingly smart, connected world. For most companies, cloud migration is not a question of if but when. The path to the cloud varies widely by company and cloud infrastructure enables most PLM use cases as well as an exciting range of new capabilities. While many ISVs rely on a narrow set of cloud infrastructure providers, including both public and private cloud offerings, industrial companies want to leverage multi-cloud infrastructure. To support their industrial clients, Accenture developed their CPPE initiative. This commentary focuses on one instance of CPPE, Siemens Xcelerator on Azure, which supports a wide range of solutions that are part of Siemens Xcelerator portfolio. Their results to date are impressive and, as the move to cloud accelerates, their approach will help their clients to consistently achieve rapid time to value for their key PLM use cases and workloads.

## About CIMdata

CIMdata, an independent worldwide firm, provides strategic management consulting to maximize an enterprise's ability to design, deliver, and support innovative products and services through the identification and implementation of appropriate digital initiatives. Since its founding nearly forty years ago, CIMdata has delivered world-class knowledge, expertise, and best-practice methods on a broad set of product lifecycle management (PLM) solutions and the digital transformation they enable. CIMdata also offers research, subscription services, publications, and education through certificate programs and international conferences. To learn more about CIMdata's services, visit our website at <http://www.CIMdata.com> or contact CIMdata at: 3909 Research Park Drive, Ann Arbor, MI 48108, USA. Tel: +1 734.668.9922. Fax: +1 734.668.1957; or at Oogststraat 20, 6004 CV Weert, The Netherlands. Tel: +31 (0) 495.533.666.