



DIGITAL TRANSFORMS PHYSICAL

TECHNOLOGY DISRUPTION IN PLM: THE TRANSITION TO SAAS

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CIMdata PLM Road Map™ @ GPDIS 2022

*Digital Transformation and PLM – a call for PLM professionals to
re-define and re-position the benefits and value of PLM*

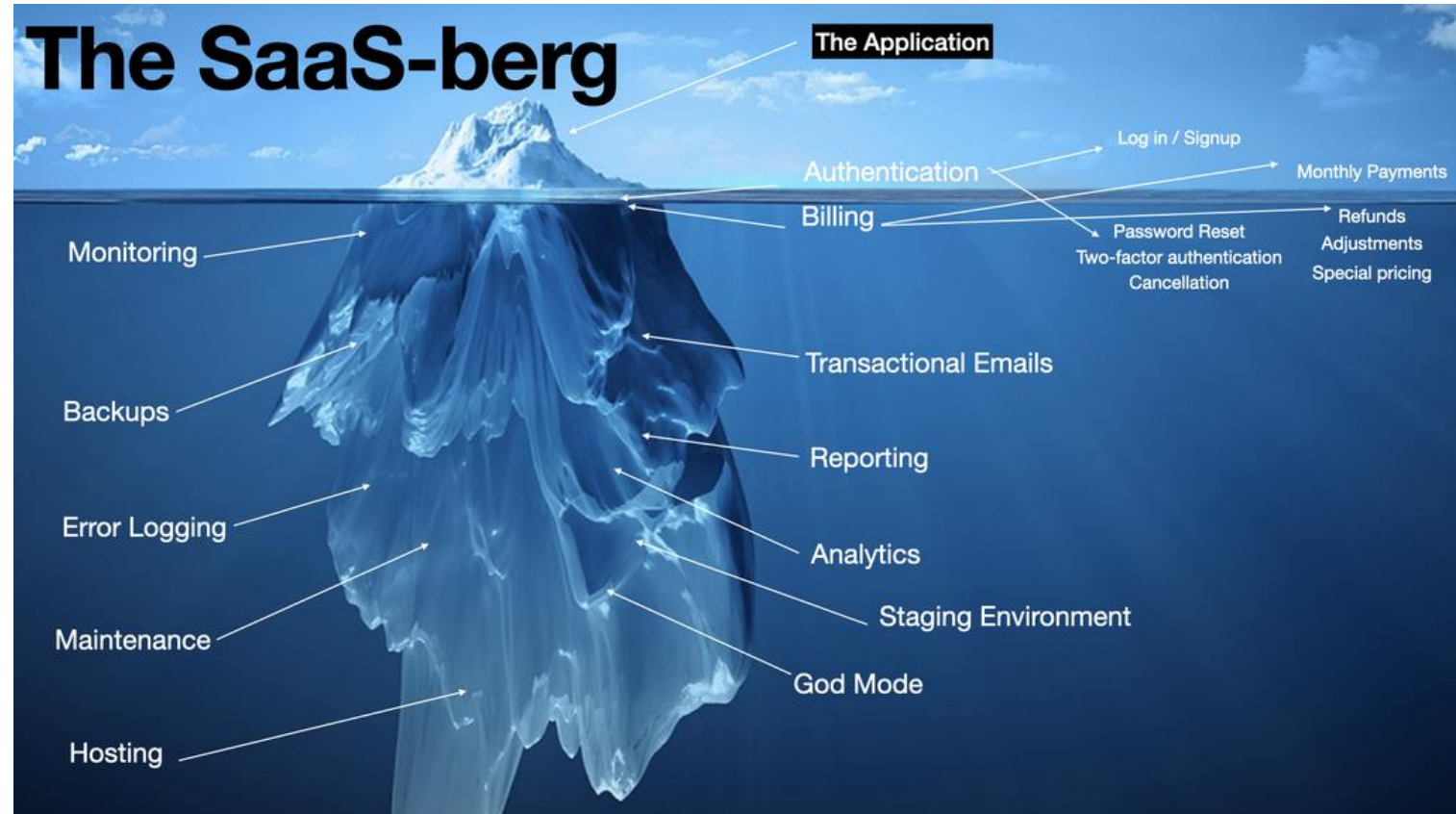
September 27

SYNOPSIS

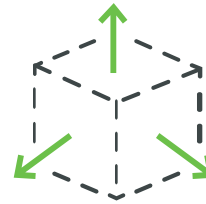
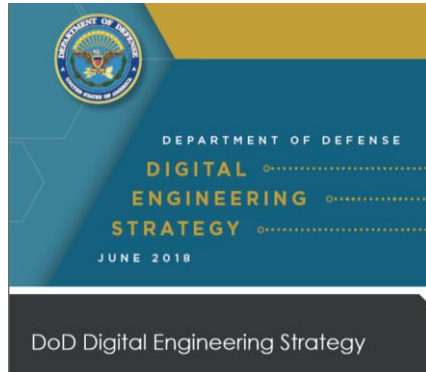
- In this session, we will discuss how the move towards Software as a Service (SaaS), driven by post pandemic lessons learned, supply chain issues and the A&D industry's economic recovery, are simultaneously impacting the PLM market. In an industry where security, IP protection and ITAR regulations govern much of what we do, we will discuss what do you need to know, to successfully plan and adopt your move to resilient, secure SaaS digital engineering solutions to meet the demands of the market and your customers.

WHAT IS SAAS?

- Software As a Service
- A solution focused on the delivery of turnkey capability to **end users**
- Software, Hosting and Administrative tasks are all bundled in the fees.
 - License
 - CPU Power/RAM
 - Storage
 - Access Control
 - Disaster Recovery
 - Compliance
 - Uptime



ALIGNED STRATEGY FOR TECHNOLOGY INNOVATION



- **Models** – Formalize development, integration, and curation / use to inform enterprise and program decision making. Engineering as a continuum across the lifecycle, **including product support models**, design models, management models.
- **Authoritative Source of Truth** – Plan and develop using OSLC (Open Svcs for Lifecycle Collaboration) data linkages vs. synchronizing. **Docs to digital models.**
- **Technological Innovation** – Establish end-to-end DE enterprise to improve engineering practices.
- **Infrastructure** – Develop supporting infrastructure and environment to perform activities, collaborate, and communicate across stakeholders. **IP protections, cybersecurity, info classifications.**
- **Culture / Workforce** – Transform the culture and workforce to adopt and support digital engineering across the lifecycle. **Best practices of change mngt.**

- **MBSE/MBPS Open Integration Framework** for Multi-discipline connected lifecycle, model-driven design and simulation
- **Integrated Product Lifecycle management** for enterprise level operations (downstream value chains collaboration and technical data management)
- **IIoT-driven digital command and control**, predictive analytics, AR-enabled operations, Additive Manufacturing and Generative Design
- **Secure Cloud and SaaS.** PTC infrastructure and applications compliance with cybersecurity regulations (FedRAMP, IL5 Cloud, etc.)
- **Augmented Reality (AR) Enabled** knowledge retainment and transfer, workforce training and smart-enterprise operations

PTC'S CLOUD CERTIFICATIONS IN U.S. GOV'T

- DoD granted authorization for PTC Cloud Services for Impact Level 5 (IL5) data. 2/12/2019.
- Only software vendor that provides FedRAMP certified PLM, SLM and IoT to the U.S. Gov't. 2/27/2019.
- Rapid cloud capability to any DoD customer who needs digital engineering solution.

Take Away:

If you can meet DoD's stringent requirements, you can generally do it anywhere.



NEWS & EVENTS

DISA grants provisional authorization at data impact level 5 to PTC Cloud Services

The Defense Information Systems Agency authorizing official granted a 12-month Department of Defense (DOD) provisional authorization for PTC Cloud Services' DOD community cloud. PTC Cloud Services (CS) offers a software as a service (SaaS) for systems hosting Impact Level 5 (IL5) controlled unclassified information data.

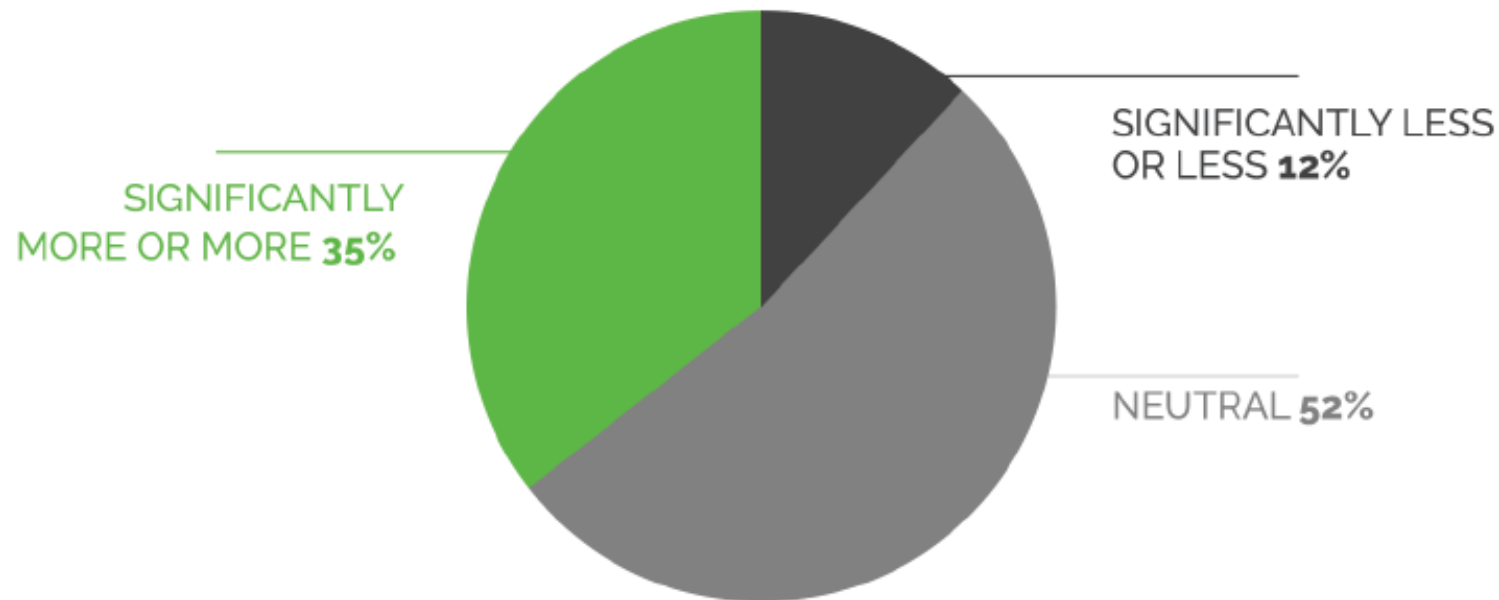
WHY ALL THE INTEREST?

- Today's PLM systems must serve as the product backbone of the digital enterprise.
- But too many companies are stuck on old, outdated versions of their PLM system or need to move to the cloud to support their efficiency/security goals.
- Cloud SaaS can provide the modern, full featured PLM capabilities companies need while increasing agility, speed, collaboration, performance, availability, and security and simultaneously reduce cost, time to value, risk, and IT overhead.
- **SaaS offers rapid time to capability and value**

FORCING FUNCTIONS

- To validate the speculation that COVID-19 has encouraged companies to evaluate new technologies to cope with challenges of remote work and working-from-home we asked survey takers how the current crisis has affected their interest in SaaS-based solutions. Aligning with our expectation, we found that 35 percent of survey takers say that the COVID crisis has increased their interest in SaaS for CAD and PLM

HAS THE COVID-19 CRISIS AFFECTED YOUR INTEREST IN ADOPTING SAAS?



EXAMPLE SAAS IMPLEMENTATION POA&M – EST 90 DAY TIMELINE

Work Stream	Timeline											
	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11	Week 12
PO received/Team Mobilization												
Infrastructure Deployment of all base servers (Windchill, databases, Navigate, CAD workers, etc (Includes Production, Test and Development Servers and supporting infrastructure)												
Base software install for all systems including Windchill modules (Includes Production, Test and Development Servers)												
Customer SSO/Access and Permissions modeled (CAC/PKI/Soft Certs)												
System Smoke Testing and Validation												
URL Delivery to Customer												
Access Granted to Customer/Partner												

SAAS PLM Value Drivers

Pre-configured best-practices are instantly available



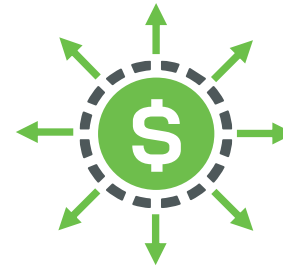
Eliminate up to 30% of work required for on-premise/private cloud systems

Eliminating customization accelerates velocity



On-premises PLM systems often have customizations that **makes upgrades very difficult & lengthens timelines**

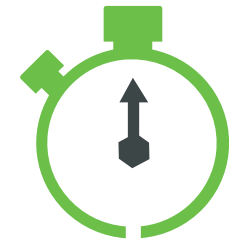
Frictionless expansion of PLM capabilities & group adoption



Rapidly make PLM available to **additional product development functions**

Rapidly **turn on advanced PLM capabilities** within integral cloud environment

Zero downtime upgrades automatically installs updates



Upgrades & updates **no longer require lengthy & complex upgrades**

PTC automatically **handles upgrades & product enhancements**

CUSTOMER READINESS FOR SAAS

WHAT IS YOUR WILLINGNESS TO EXPLORE SAAS WHEN EVALUATING NEW CAD SOLUTIONS?



n - 150 product development leaders with sole or shared CAD, PLM, and PDM software purchasing power. Survey conducted April 17, 2020 - April 27, 2020.

Figure B

WHAT IS YOUR WILLINGNESS TO EXPLORE SAAS WHEN EVALUATING NEW PLM SOLUTIONS?



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WHO DOES SAAS PLM?

You might be surprised.....

US NAVY



The United States Navy selected Windchill SaaS to manage full 3D renderings of ship, weapon, and support systems with all the right configurations creating efficient processes for logistics and service.



KEY BENEFITS: COST SAVINGS/PROCESS EFFICIENCIES



The US Army E-PLM initiative is migrating their on prem Windchill PLM Instance to C-ARMY their Enterprise Secure Cloud





DMDV Digital Manufacturing Data Vault

U.S. Marine Corps: PLM SAAS for Additive Manufacturing

The USMC AMOC repository is a secure PLM SAAS solution where Marines can upload their part designs for approval and share with their fellow Marines across the globe

Capabilities include: decision support, cost analysis, CAD data management, configuration management, dashboard reporting and workflow.

Data is automatically available through a USMC Navigate UX that guides Marines through search, view, print requests i.a.w. Marine Corps Order 4700.4

BENEFITS:

- 90% cycle time reduction in obtaining special parts/tools via “print on demand”
- Authority to operate (ATO) and Go Live in secure cloud attained in < 12 months





INFLUENCE ON PRODUCT DIRECTION

SAAS IS DISRUPTING THE PLM AND CAD INDUSTRY



Acquisition

PTC Completes Acquisition of Arena Solutions

January 19, 2021



- *Combination of Arena Solutions and Onshape Positions PTC as the Market Leader in SaaS CAD + PLM*
- *Expanded SaaS Business Unit to be Led by Mike DiTullio; Jamie Pappas Elevated to Succeed DiTullio in Global Sales Leadership Role*

windchill+™ **FASTER TIME TO ENTERPRISE VALUE**

- A **pre-configured secure service** ready to jump start product development
- **Enterprise adoption** drives the **majority PLM value**
 - Reduced Time to Market
 - Increased Capacity
 - Reduced Costs
 - Increased Quality
- Rapidly expand to **new enterprise users & external partners**





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THANK YOU

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