The Digital Future of PLM

Oleg Shilovitsky,
CEO OpenBOM, Blogger BeyondPLM

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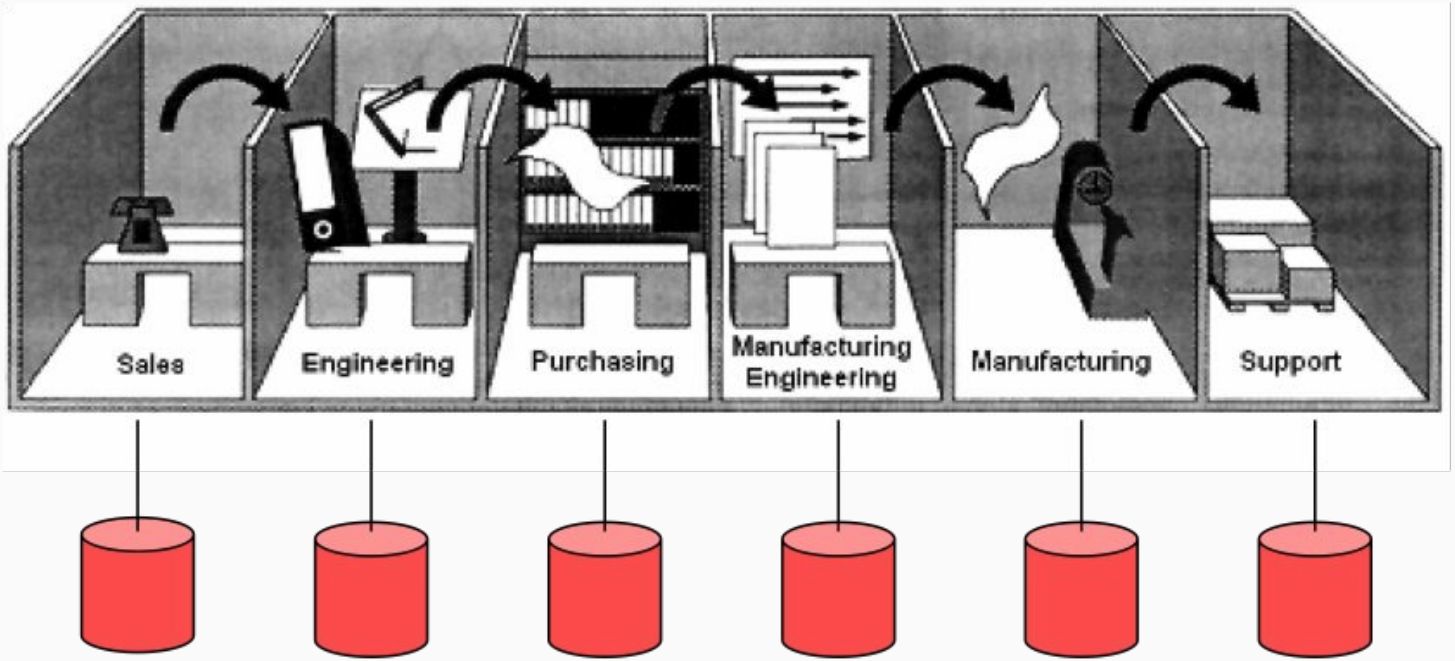
PLM Problem Over Years



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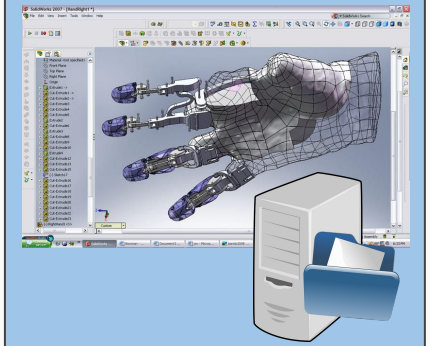
PLM Digital Evolution - Networks and Connected Apps

Paper

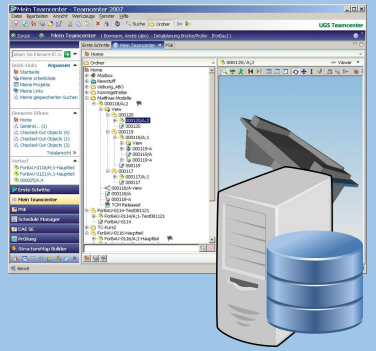
Drafting Boards

File



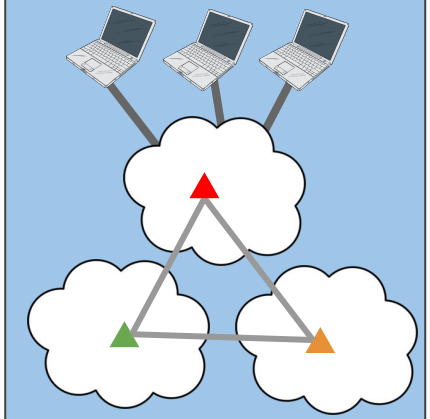
CAD Files

Data



PLM Database

Network



Connected Apps

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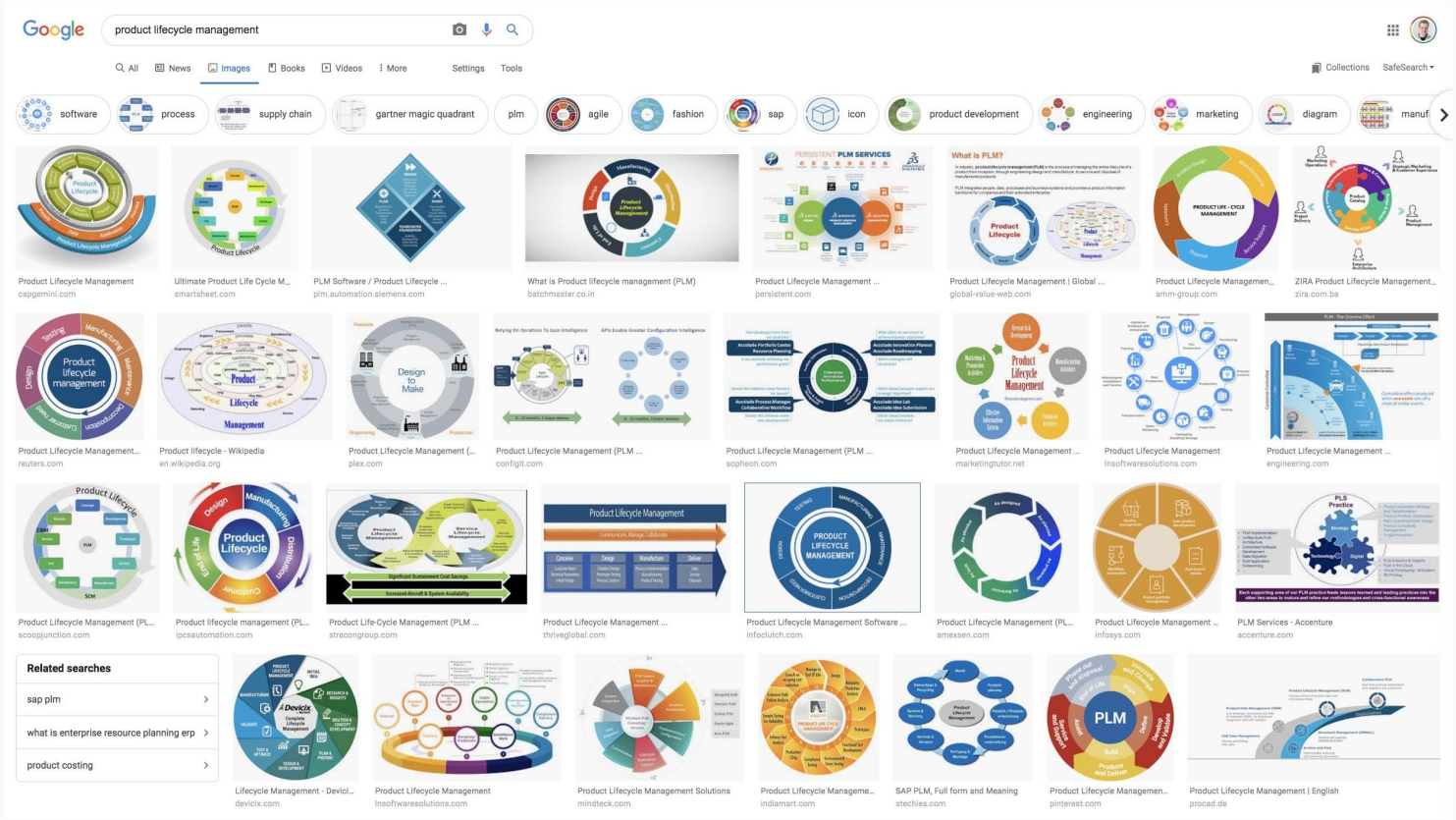
Single Source Of Truth - Still The Best Way To Sell PLM?



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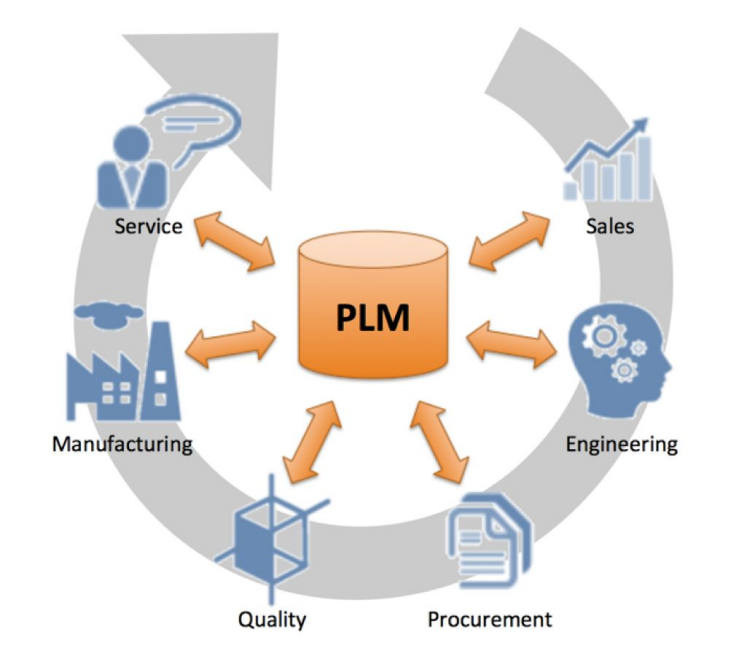
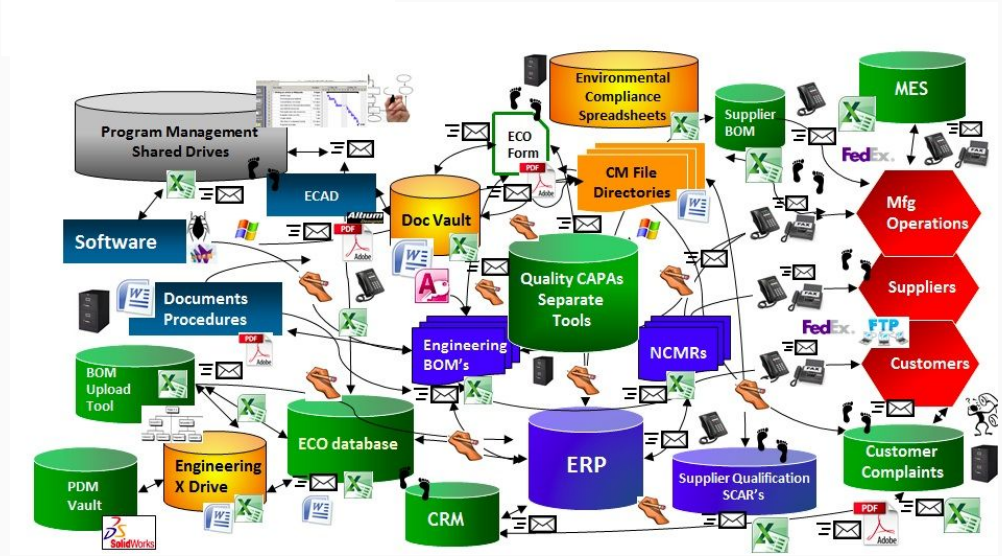
Vision vs Reality

The ideal picture of PLM



A typical company picture of PLM



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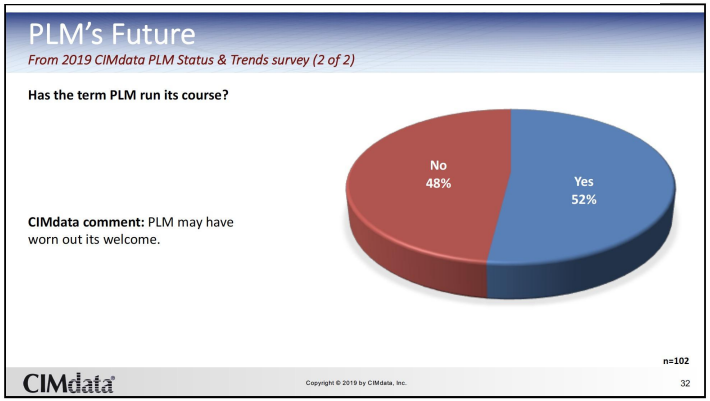
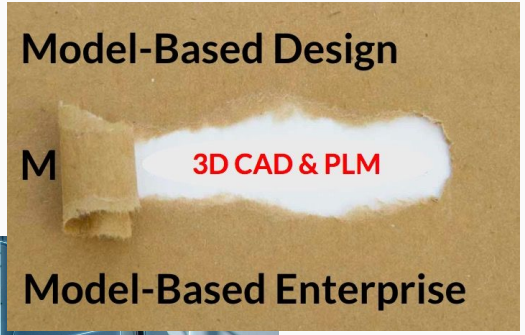
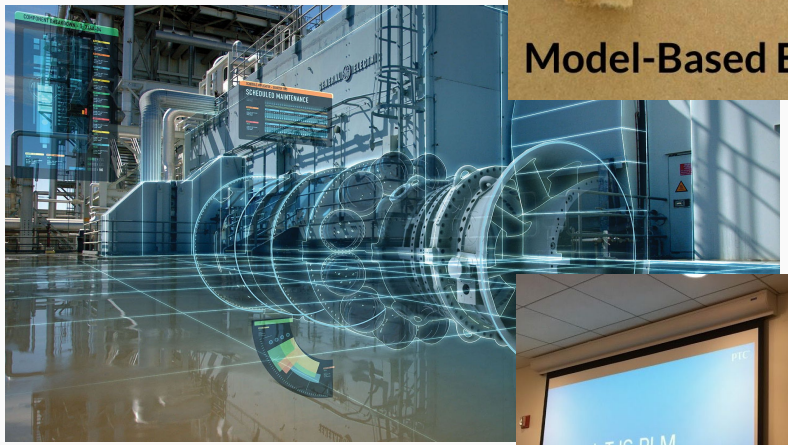
Has The Term PLM Run Its Course?

Business process + Technology + Products



PLM ? → MBx, Digital Twin, IoT





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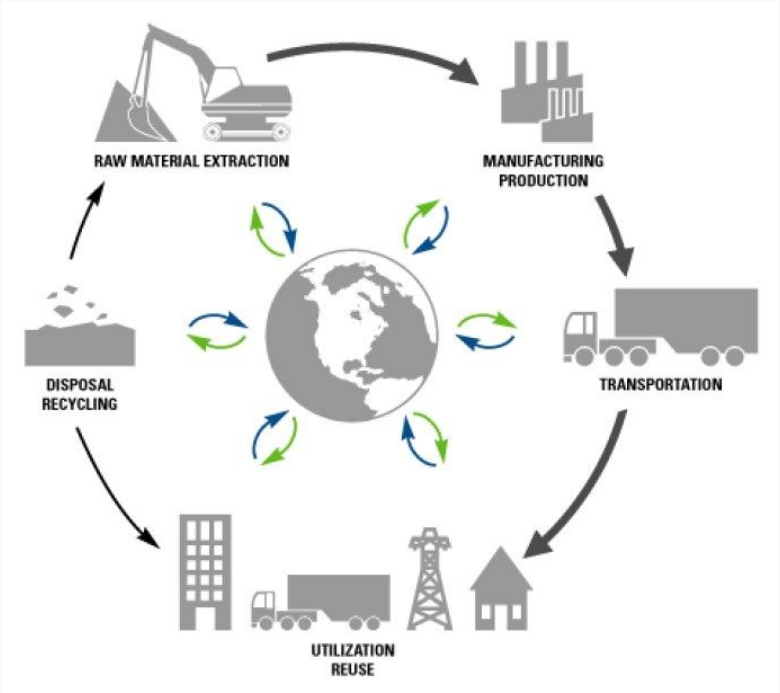
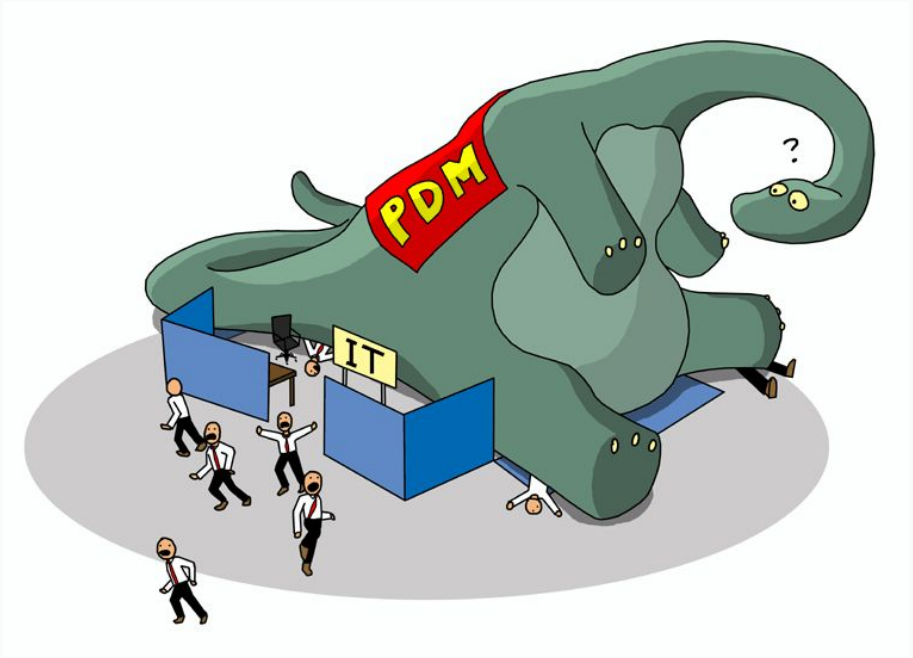
PLM Vision vs Reality of CAD Data Management



Source Wikipedia: https://en.wikipedia.org/wiki/Product_lifecycle

vs.



Source: Solidworks blog
(https://blogs.solidworks.com/solidworksblog/2017/08/feeding-dinosaur-pdmplm-landscape.html)

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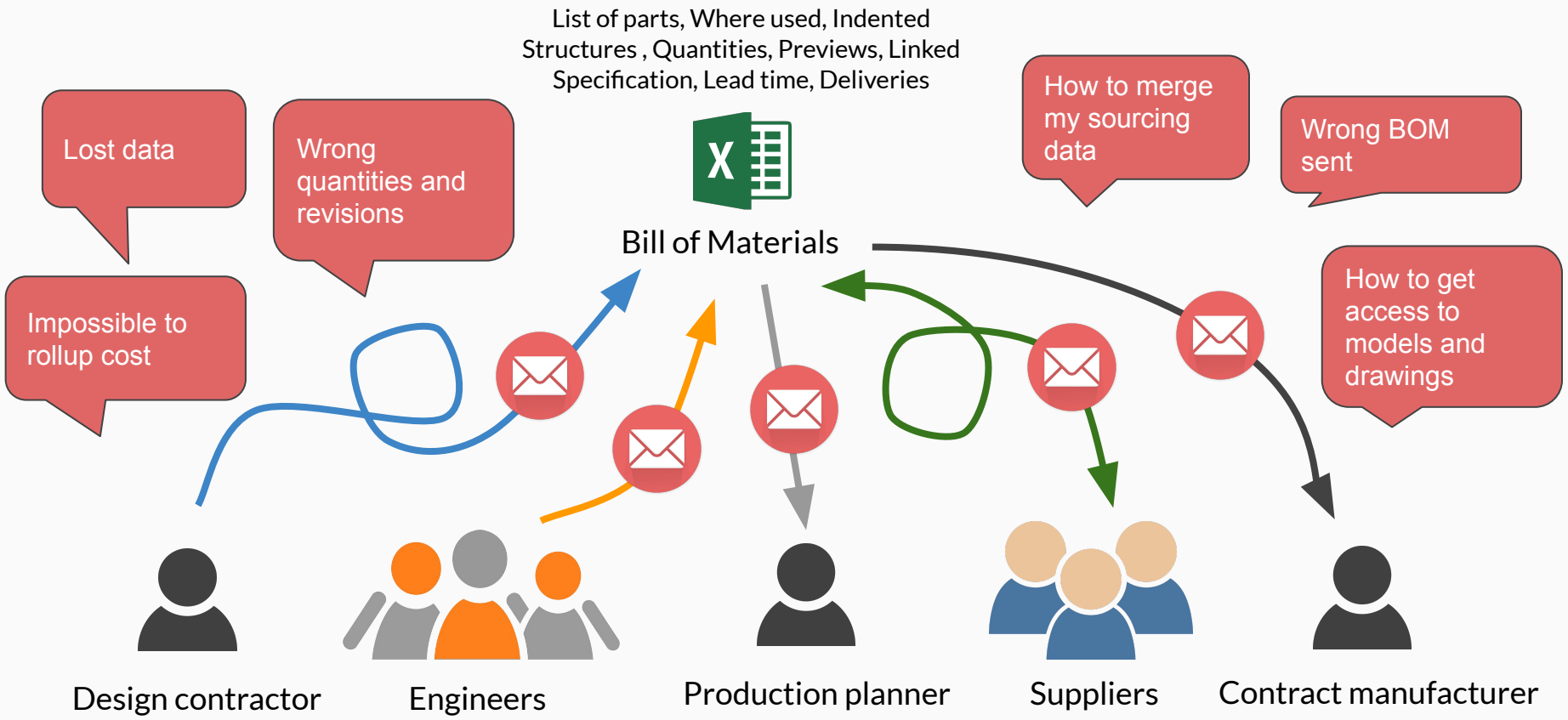
PLM Excels Are Representing Ages Of Pain



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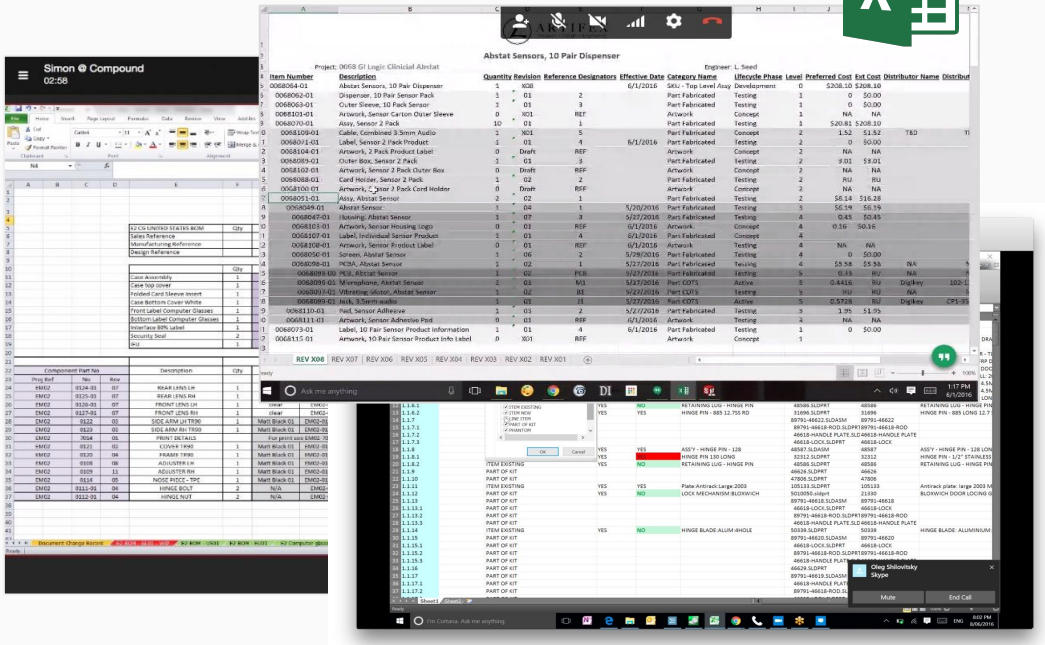
The Reality of Many Manufacturing Organizations

Inventory and Purchase Order

BOM, Parts, Vendors



Digital Transformation

Data Management

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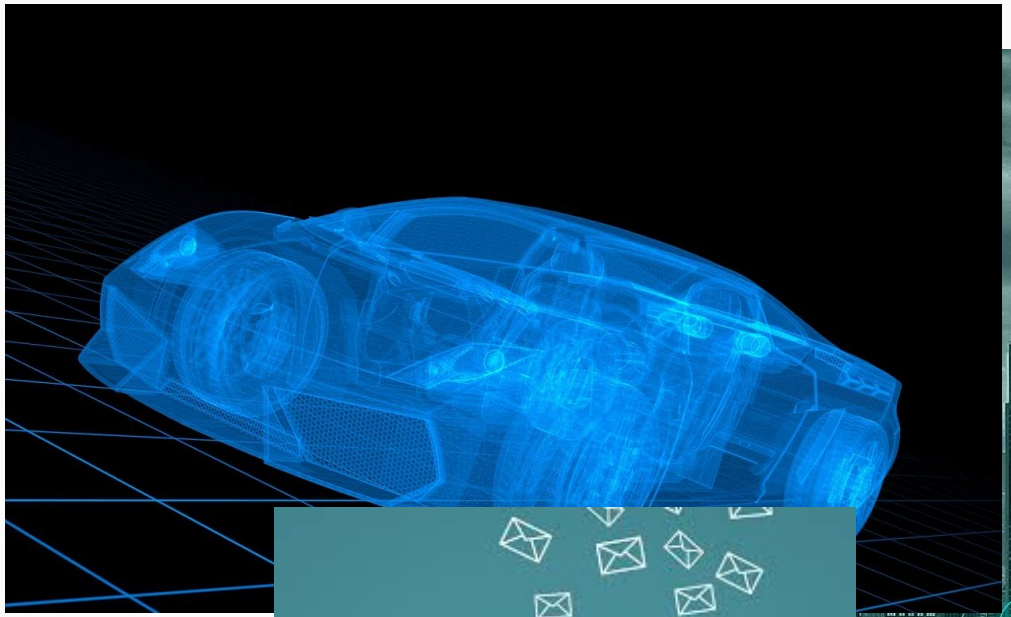
Digital…. What?



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Digital Transformation of Driving - 30 years

Siloed information - maps, locations, shops, traffic, changes, hotels, restaurants, gas stations...

Organized network of data about roads, traffic, weather, hotels, cars, places of interest, people and many others...

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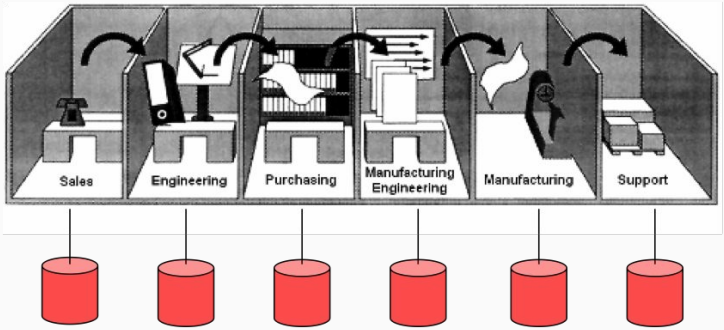
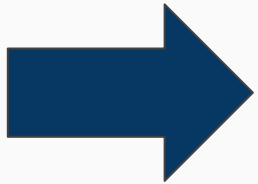
What is Digital PLM?





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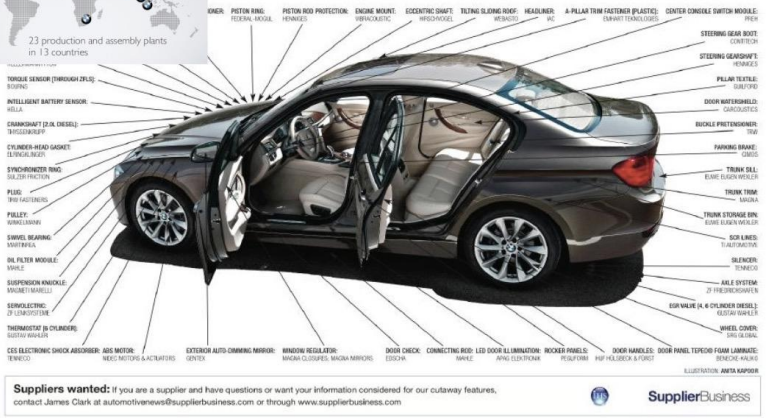
Digital PLM - Work Is Not Done In A Single Place Anymore

Network coordination and manufacturing efficiency

Ford Rouge Factory

Ford Model T (1918)
41 hours (from raw materials into a completed car)
Network: assembly conveyor system

23 assembly plants in 5 countries



BMW 3 Series (2018)
~20 hours final assembly
Network: 100+ major suppliers located globally

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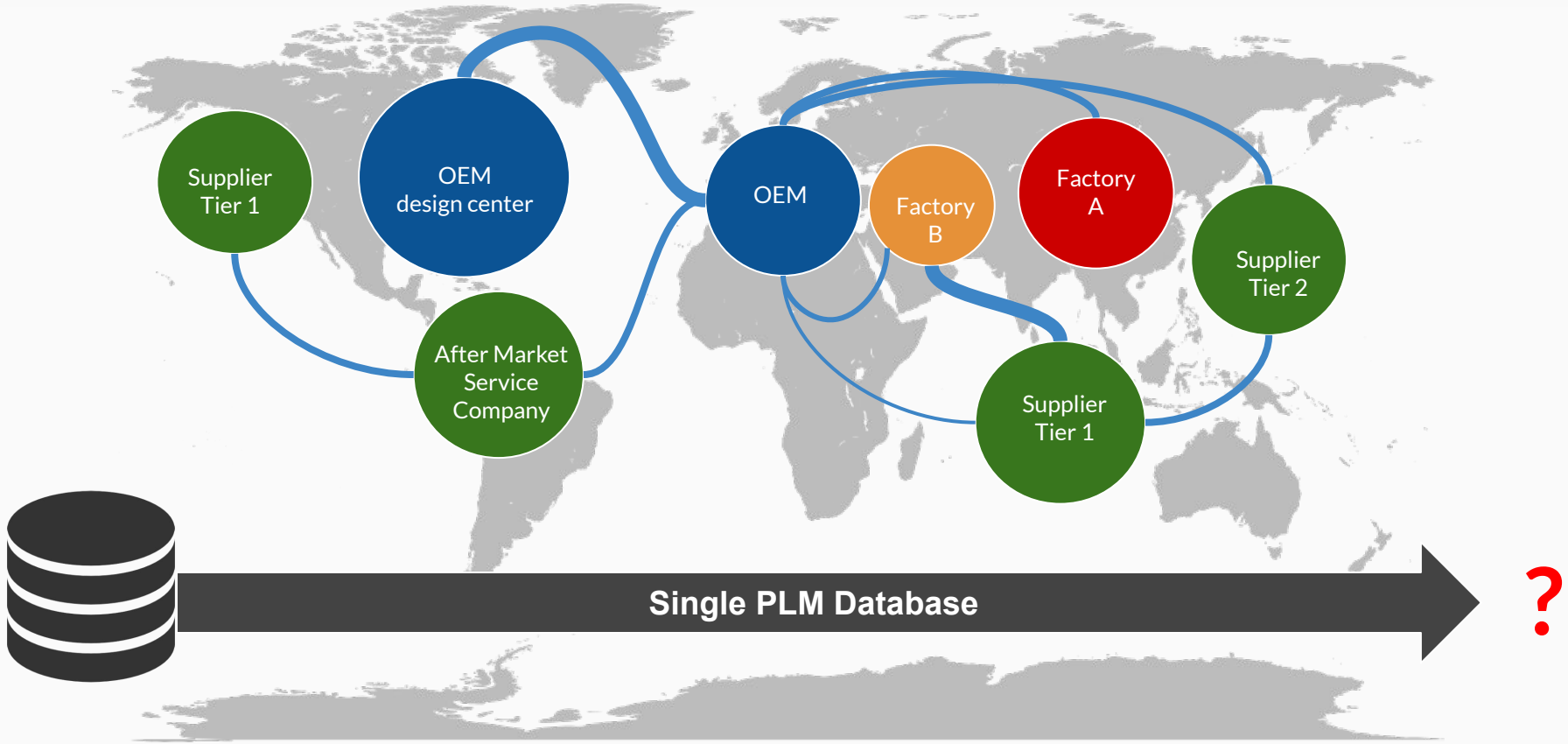
A Single PLM Database Vision - How Real Is That?



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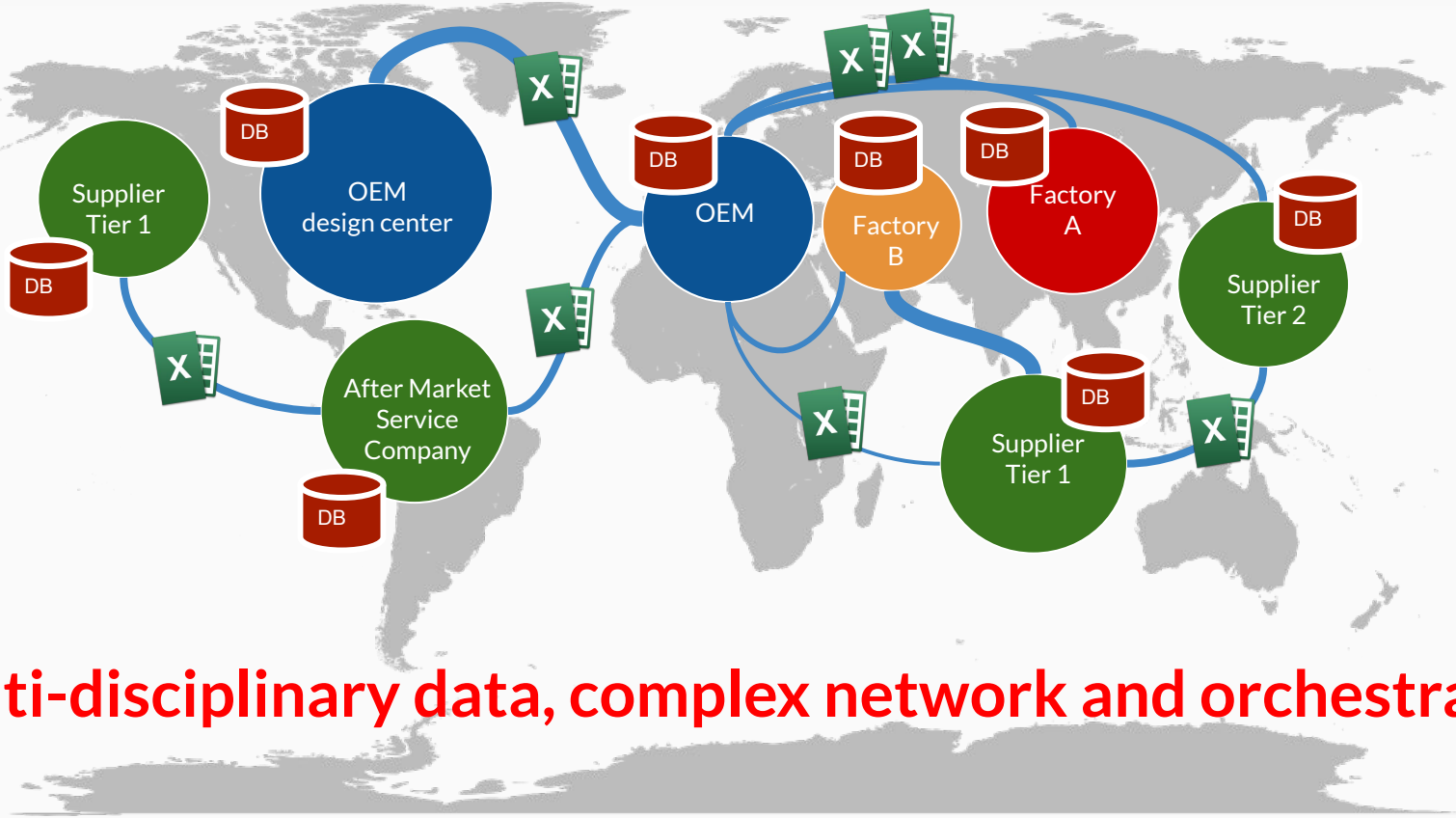
The Reality Of A Single PLM Database



Multi-disciplinary data, complex network and orchestration

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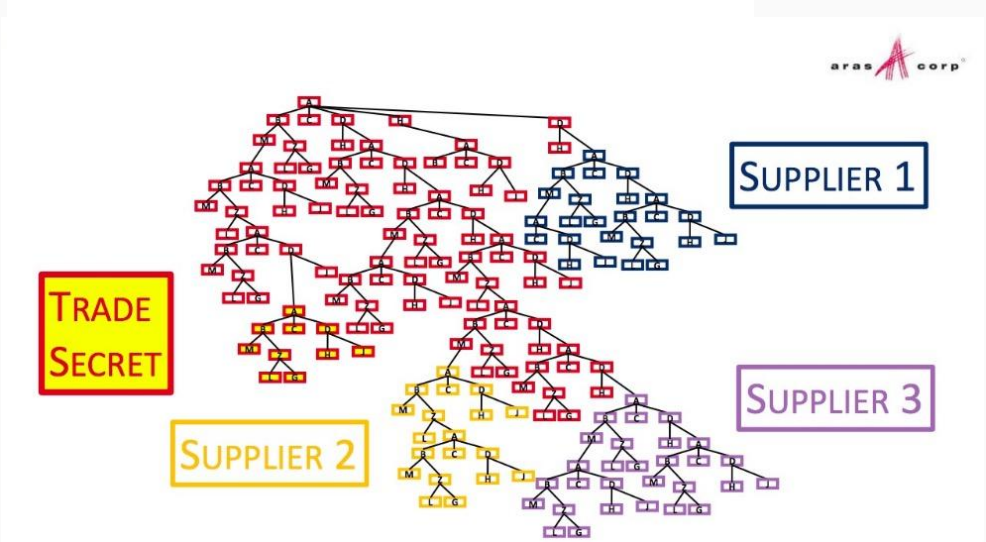
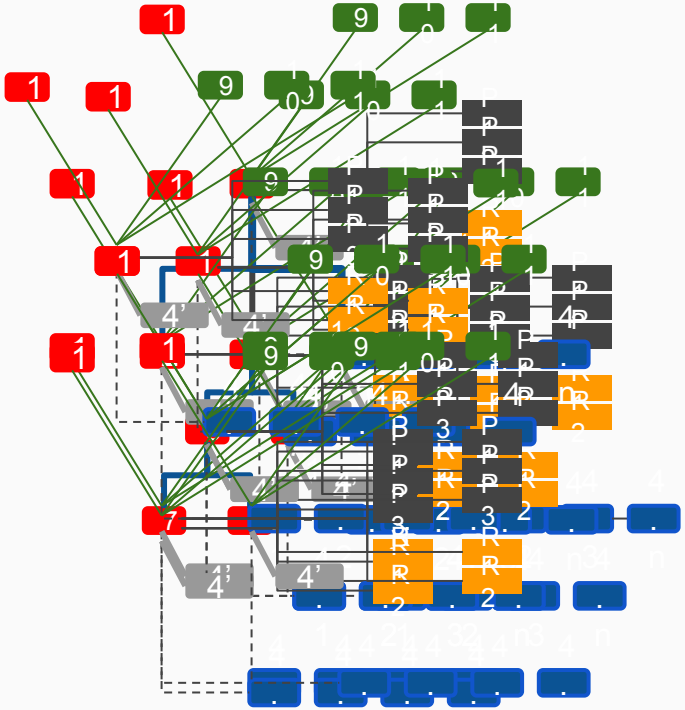
Structure Over Time In Multiple Databases





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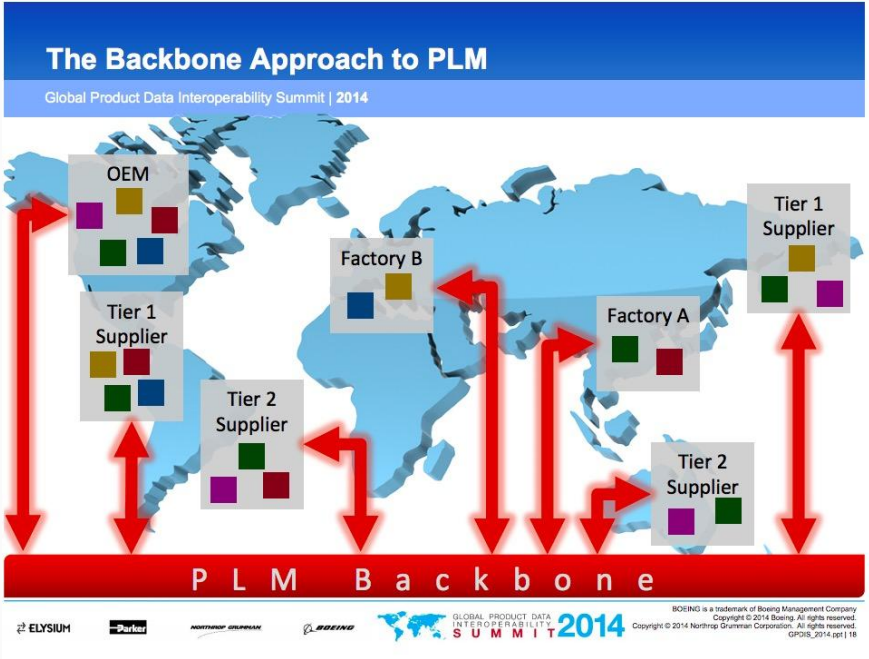
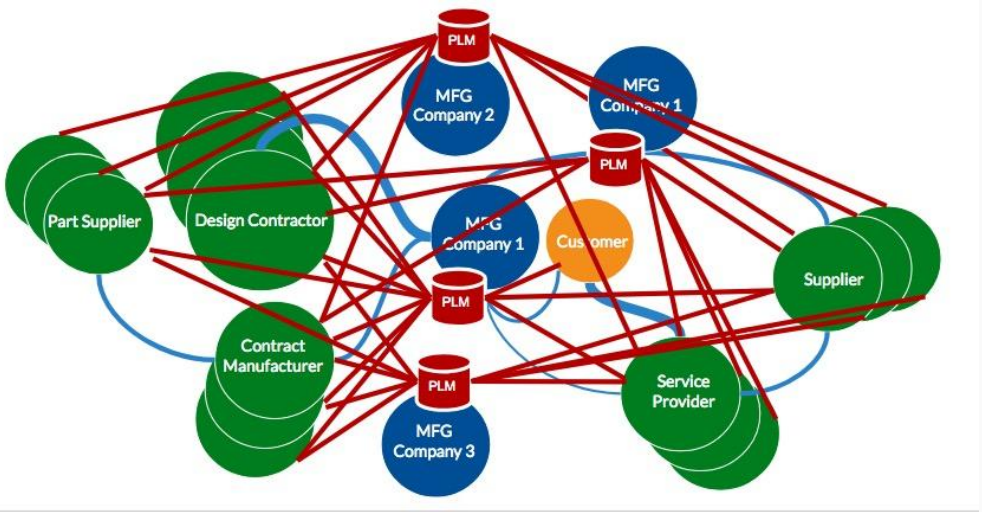
Visible Simplicity Vs. Database Complexity





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Customers Perspective

It is complex

It is expensive

Upgrade takes tons of time and resources

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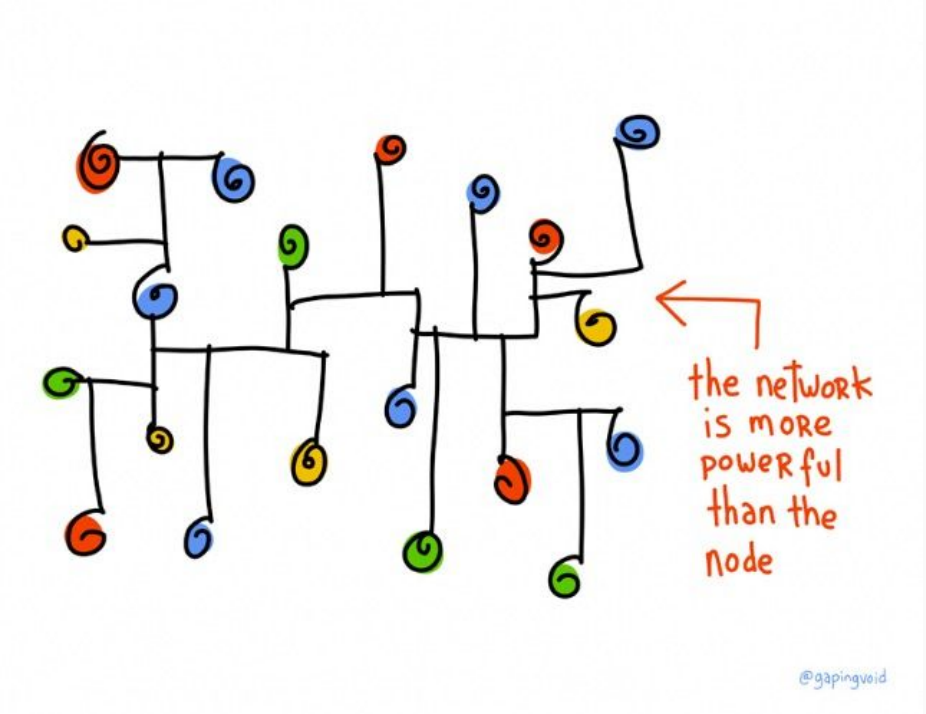
We Need To Build Networks

vs



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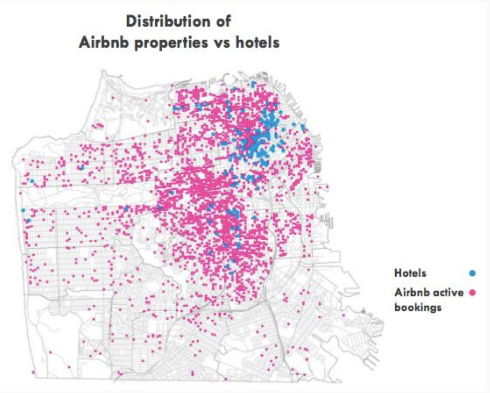
The Era Of Networks Is Coming



What common between these companies?

They are **NETWORK** based

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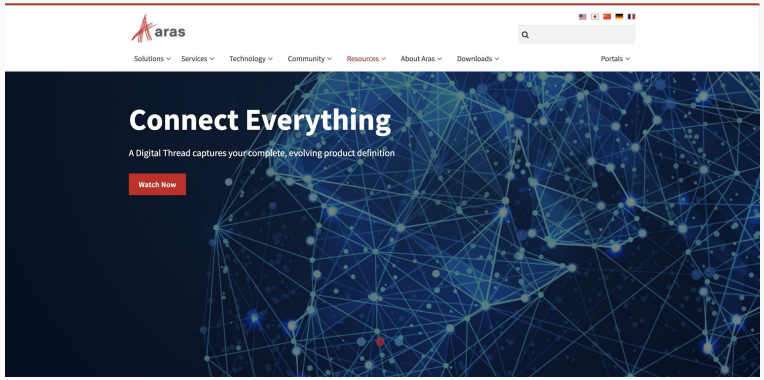
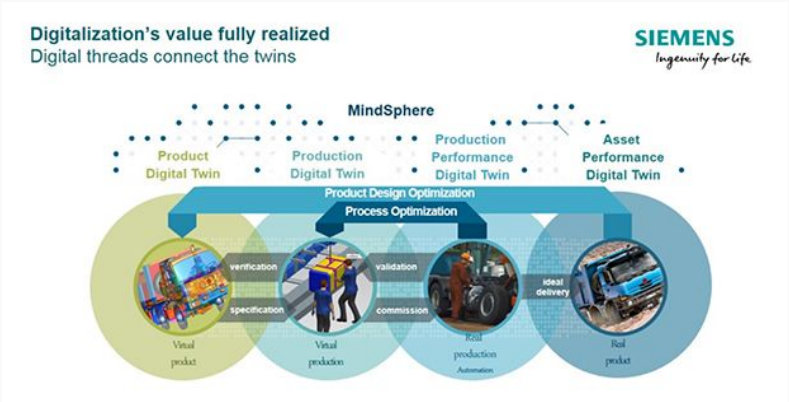
PLM Vendors Are Already Adopting Network Marketing…





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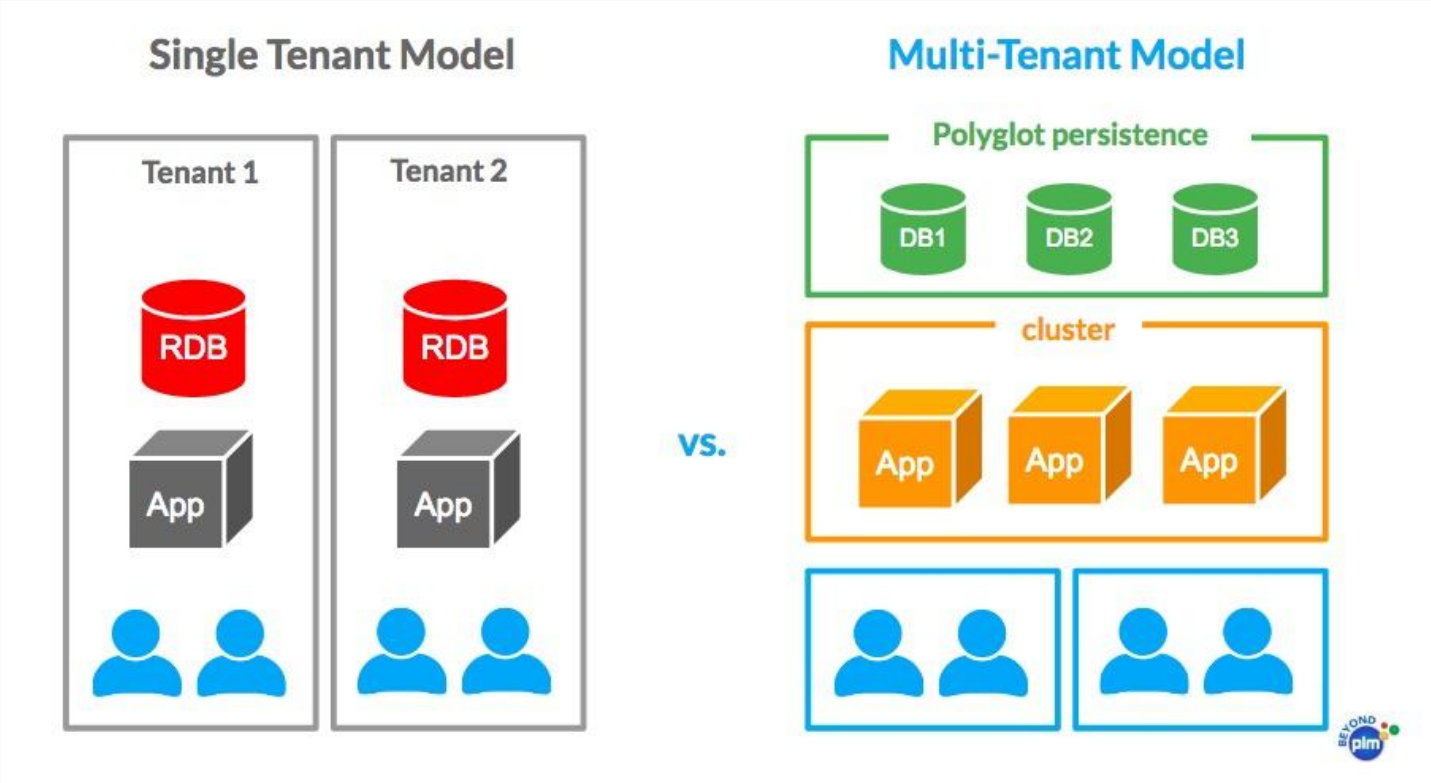
Technology: Multi-Tenant Models



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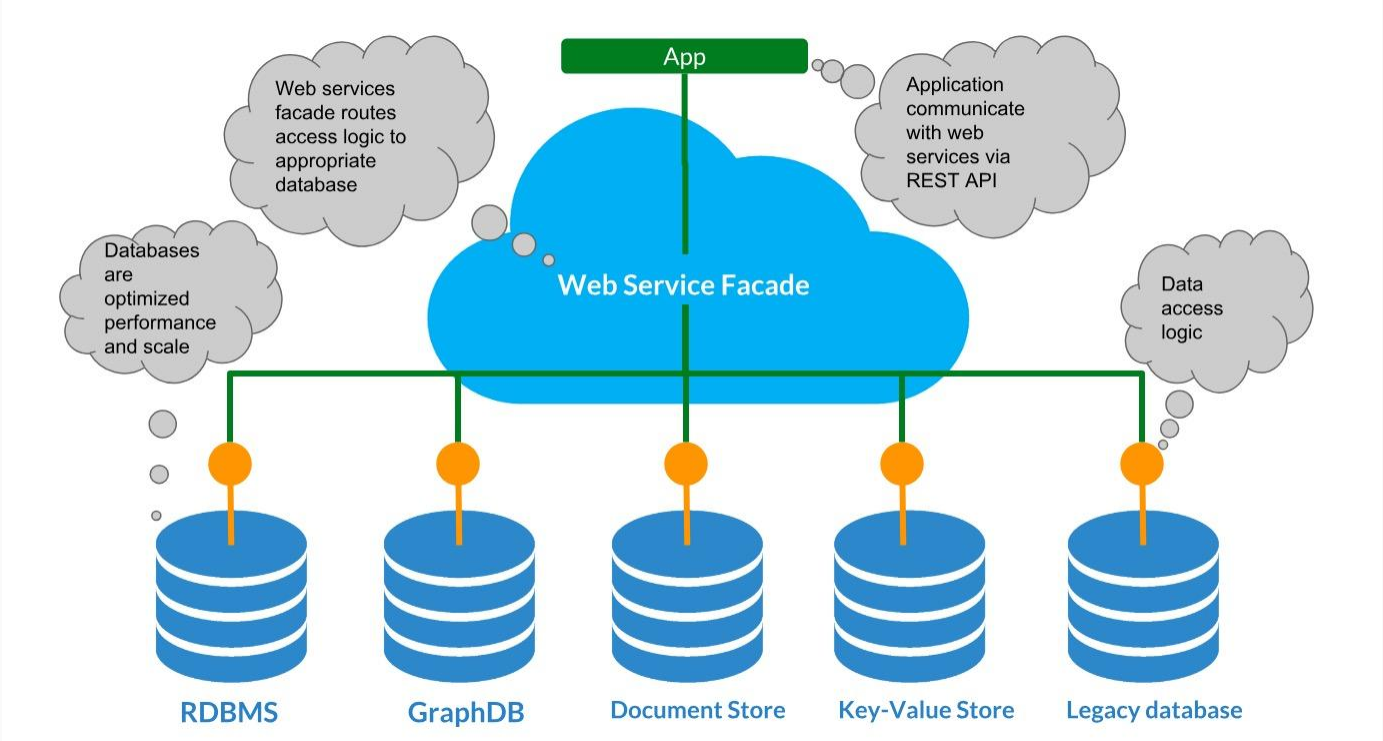
Technology: Data Management And Polyglot Persistence



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Technology: Real-Time Collaboration Apps

Clear Communication

Less Confusion

Saves Time

Increase Productivity

Saves Money

It’s fun

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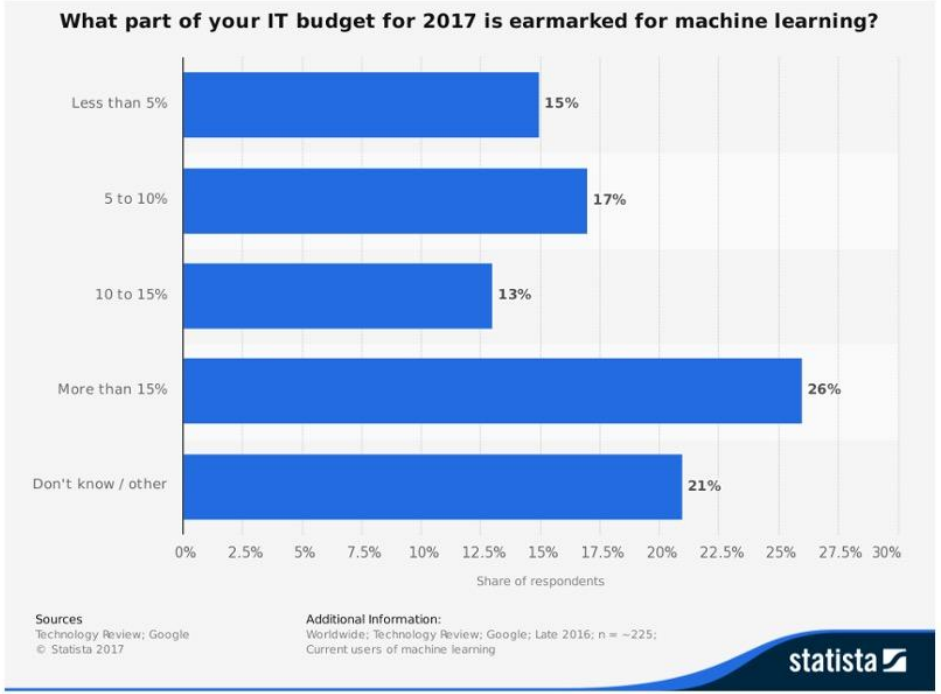
Technology: Machine Learning

- Optimize routes and options
- Detect anomalies
- Identify objects
- Segment data



https://www.redpixie.com/blog/examples-of-machine-learning

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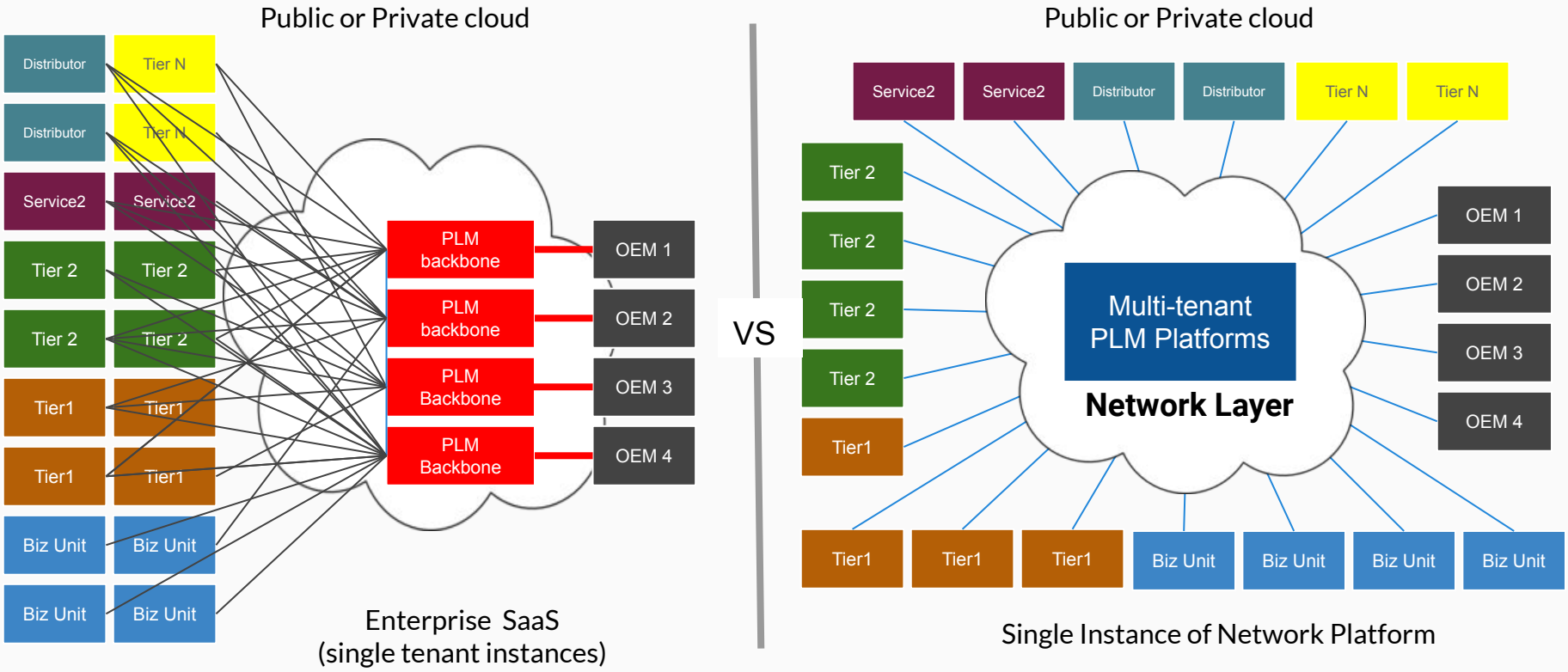
Multi-Tenant Platforms Add A Network Architecture Layer



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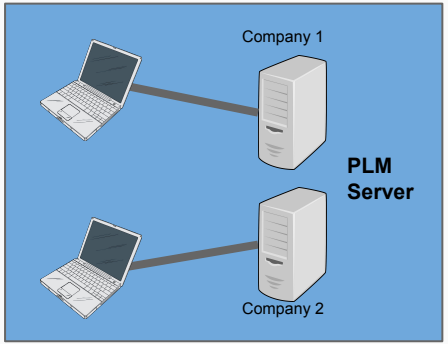
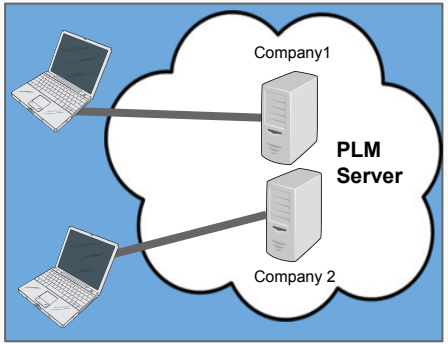
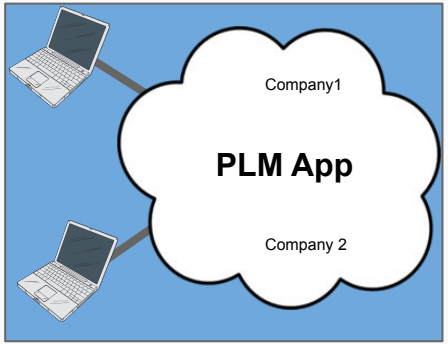
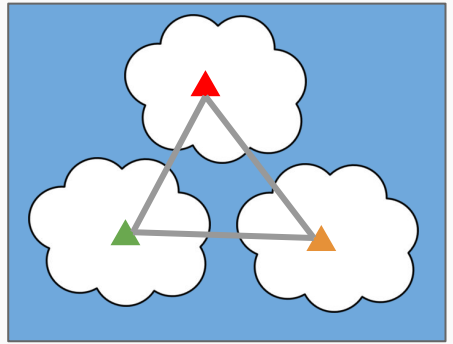
PLM IT Evolution

We are here....

Company Servers	Cloud Servers	SaaS applications	Platform Services
			
Access Network	On demand IaaS & virtualization	One application Multi-tenant	Shared Data New Business Models
1990s	2000s	2010s	2020s ....

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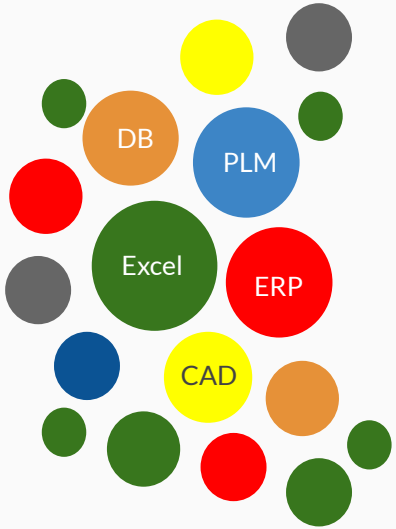
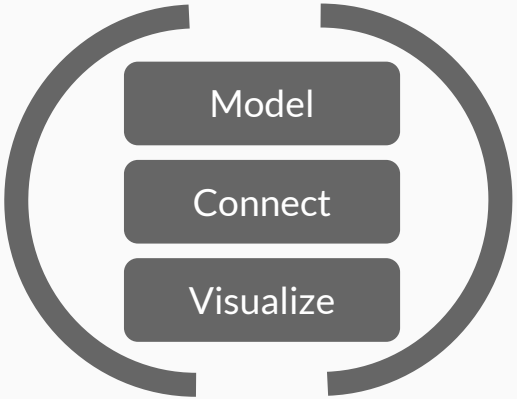
Digital PLM Value Chain Transformation

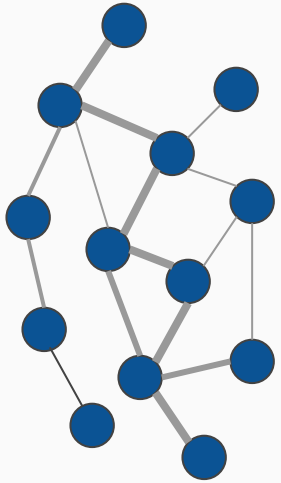


Analog Data



Digital Technologies

Digital assets



Share & Collaborate

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THANK YOU!

Got A Question? Talk to me online and offline.

oleg@openbom.com

@olegshilovitsky

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