

Technology Trends with Cloud ERP

Erik Johnson

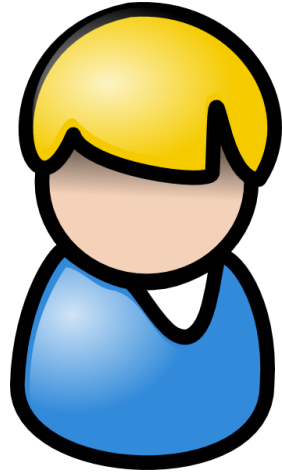
VP, Chief Architect
Epicor



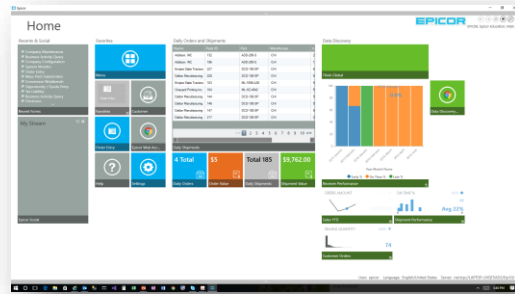
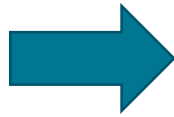
Agenda

1. Manufacturing, Cloud & ERP
2. Epicor cloud operational deep dive
3. Takeaways
4. Questions

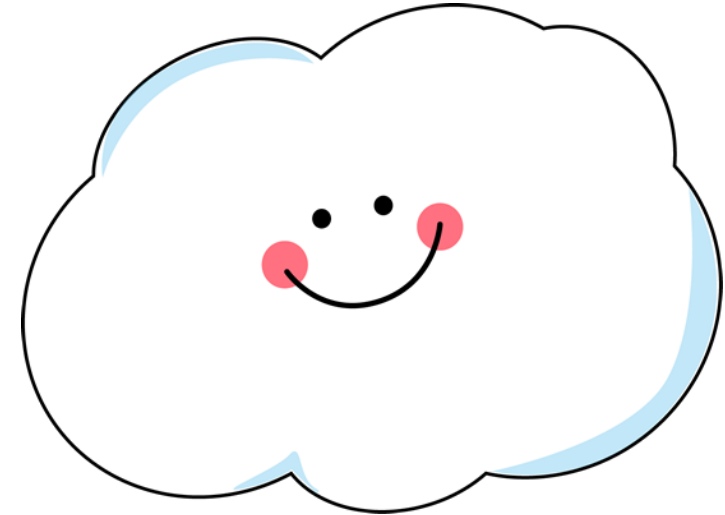
It Seems Sooooo Simple



You



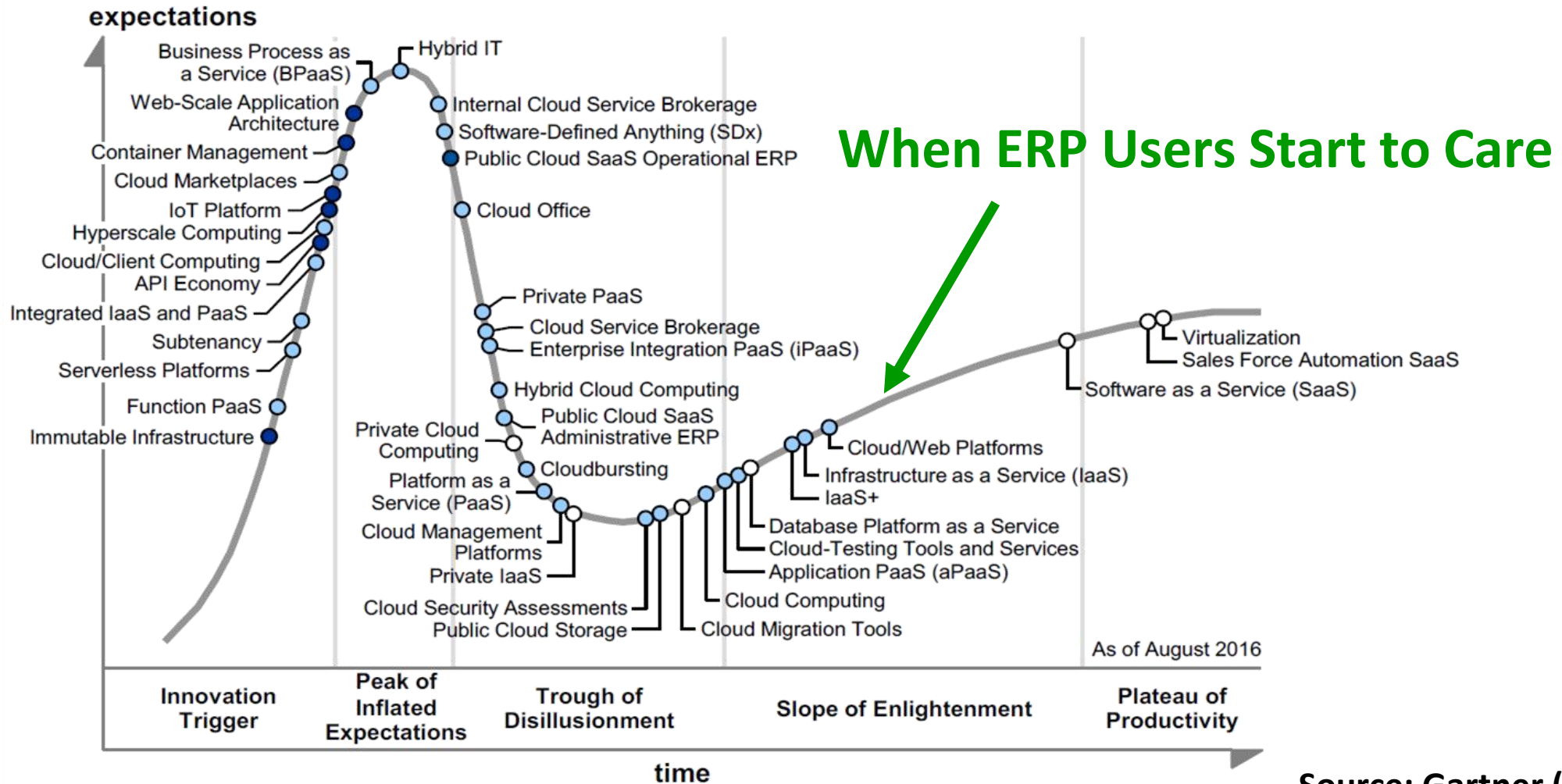
The App



The Cloud

- We once 'bought' Siebel. Now we *subscribe* to Salesforce (or Concur, DropBox, Gmail, Yammer, Adobe Creative Cloud, etc.)
- Sometime this happens by rogue departmental subscriptions going viral

But the Tech Industry Likes to Ruin Simple Things



Years to mainstream adoption:

- less than 2 years
- 2 to 5 years
- 5 to 10 years
- ▲ more than 10 years
- ⊗ obsolete before plateau

Source: Gartner (August 2016)

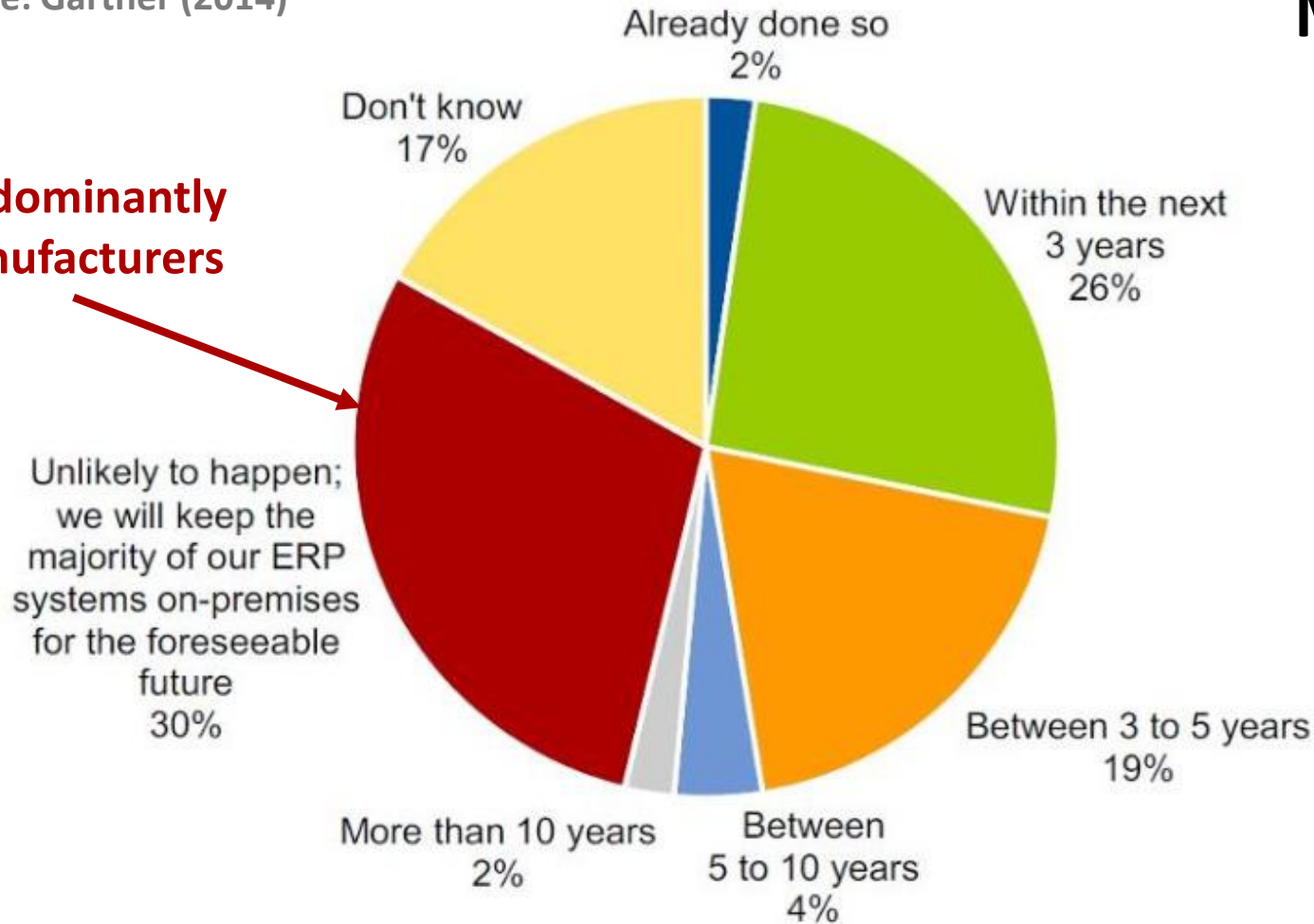
In the continuum of cloud sophistication...



Gartner: “Do you plan to move ERP to the cloud?”

Source: Gartner (2014)

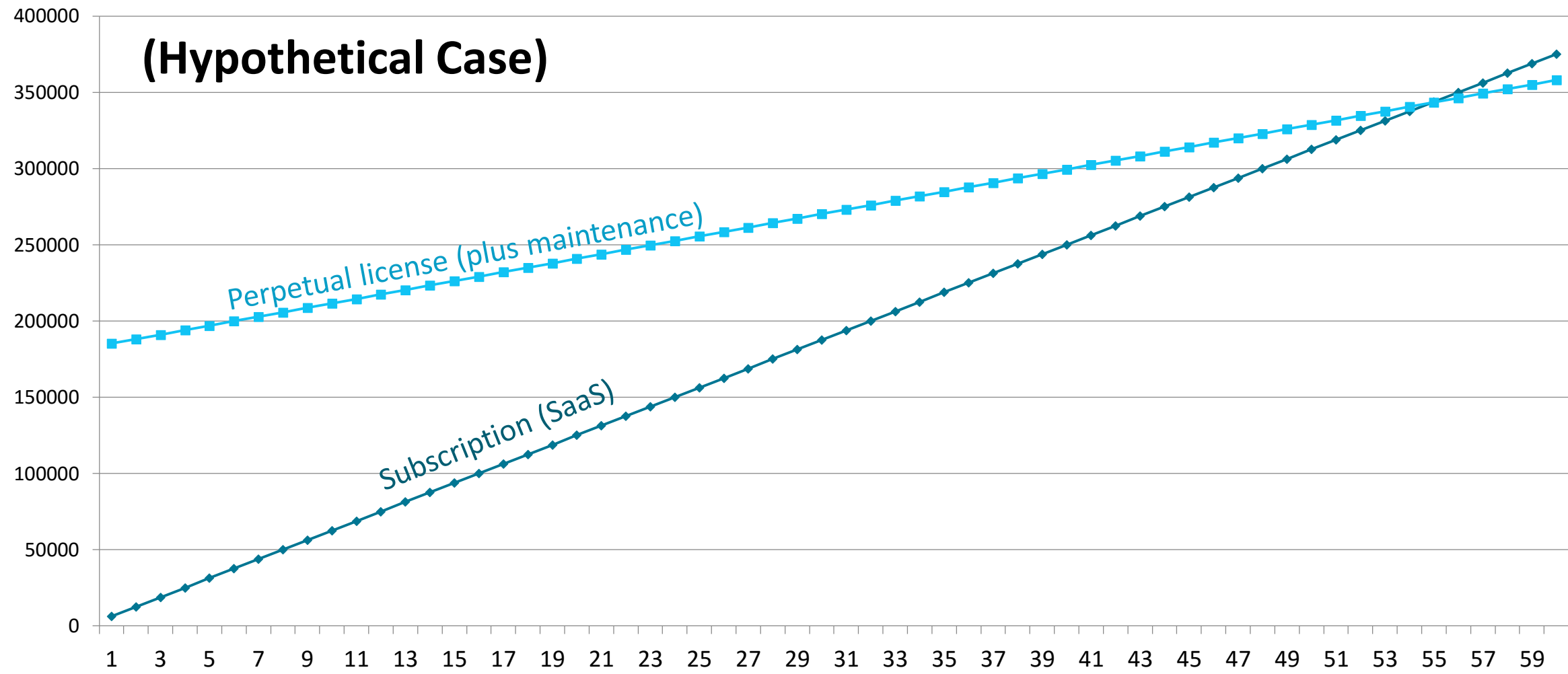
**Predominantly
manufacturers**



Manufacturers tend to...

- Have IT resources on hand
- Frequently make capital equipment investments
- Require high-throughput, tightly-coupled, multi-party integrations
- Want direct connections to database resources

Buy vs. Rent?



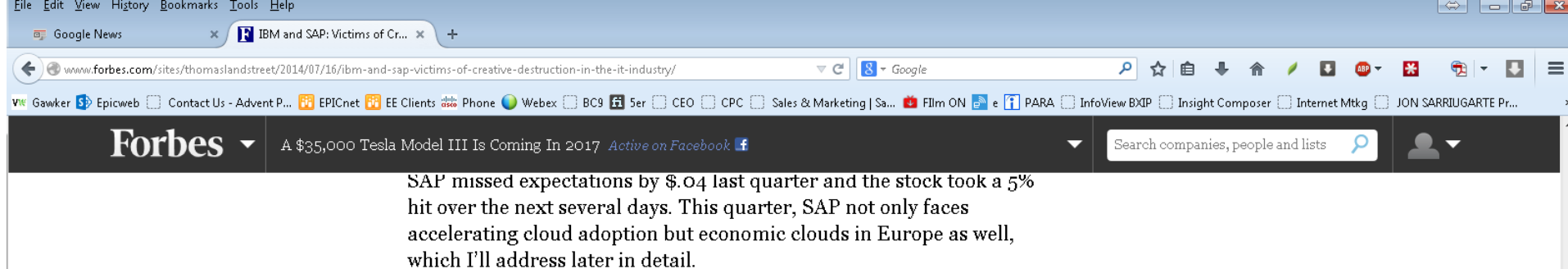
Anticipated versus Realized Benefits of SaaS

	Anticipated Benefits
Lower total cost of ownership	41%
Reduced cost and effort of upgrades	39%
Lower start-up costs	37%
Elimination of hardware and associated maintenance	35%
Ease of remote access for distributed workforce	33%
More innovation through more frequent updates	29%
Ability to treat as OpEx versus CapEx	27%
Ease of bringing up new remote sites	26%
We have substantially lowered our risk	25%
Speedier business innovation	13%
Improved IT security	9%
More viable business continuity plan (e.g. natural disaster)	9%

Source: Mint Jutras Enterprise Study

“In the end, it would appear that, yes, **SaaS has lived up to its promises.**”

“Even with all the hype ... savings and benefits have been **understated, not overblown.** The sooner you move, the sooner you will be able to realize those benefits yourself”



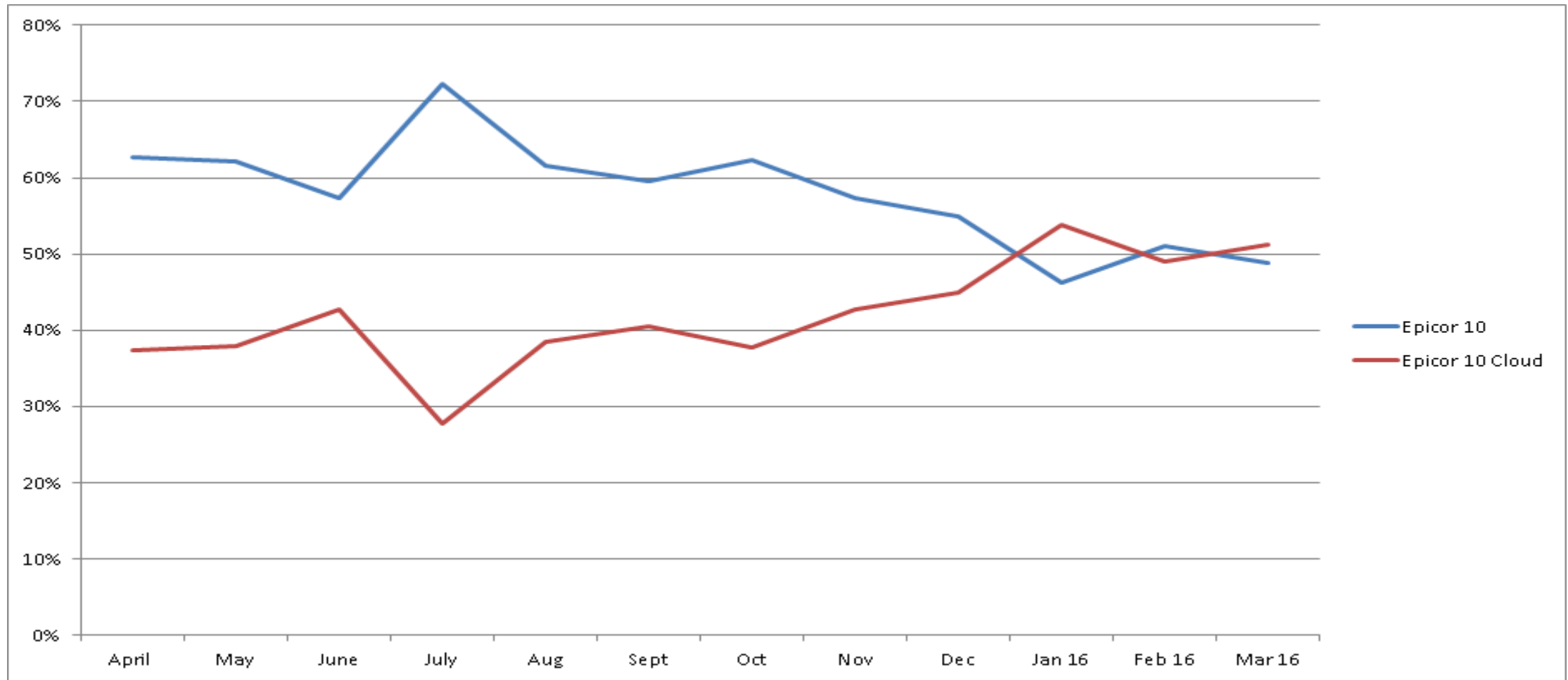
To put some numbers to this, an IDC white paper sponsored by Amazon suggests that the primary benefit of switching from on premises to cloud ERP was a reduction in costs, where they found that on average, annually, each company replaced \$3.66 of capital costs with \$1.00 of operational costs.

A Booz & Co paper also suggested drastic savings from switching to cloud. They show traditional in-house ERP costing \$80M in one-time costs, versus \$7M for cloud ERP. Then, after the initial expense, the 5 year cumulative run-rate cost for these models are \$17.5M for traditional in house versus \$21.3M for a cloud solution. Using their numbers, the total costs after five years including initial capital expenses plus OPEX for on premise and cloud are \$97.5M and \$28.3M respectively.

reported a drop in operating margins from 17.3% to 12%! When explaining this drop in an earnings call, management said:

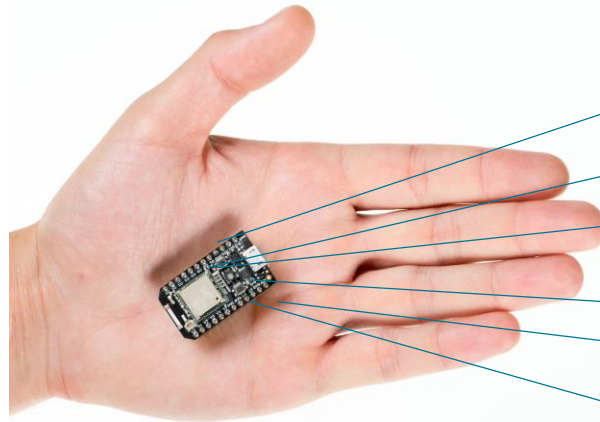
“There is a significant **structural change in the demand for consulting services** that we are experiencing. We have been and will continue to be adapting to this changing market environment.

What are we seeing in our own business?

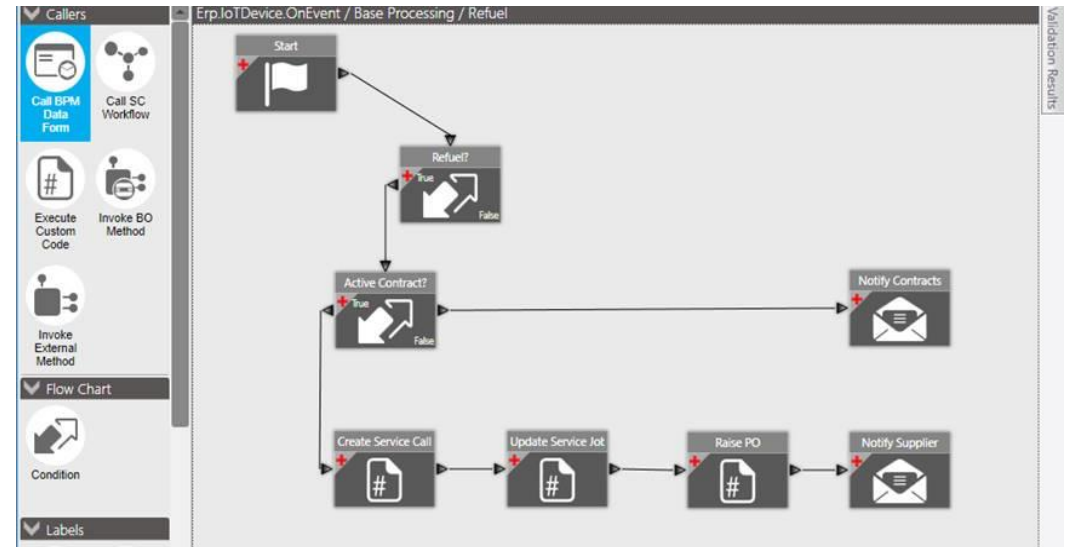
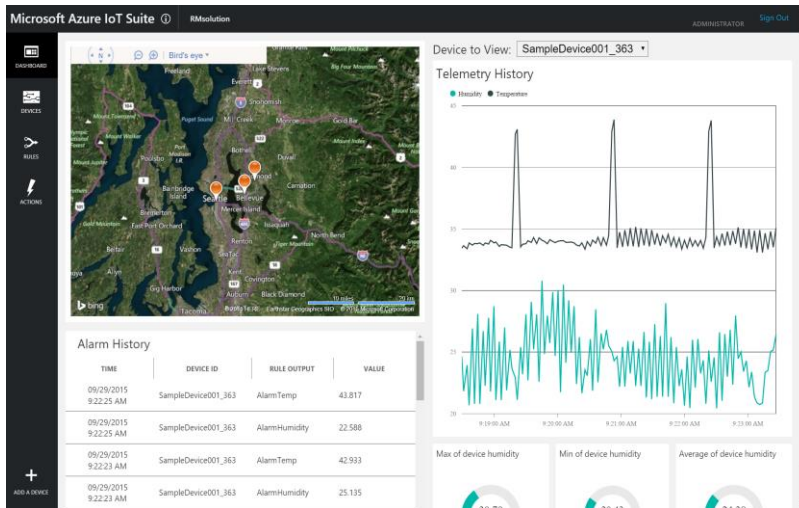


Americas, New Account Opportunities

Insights POC



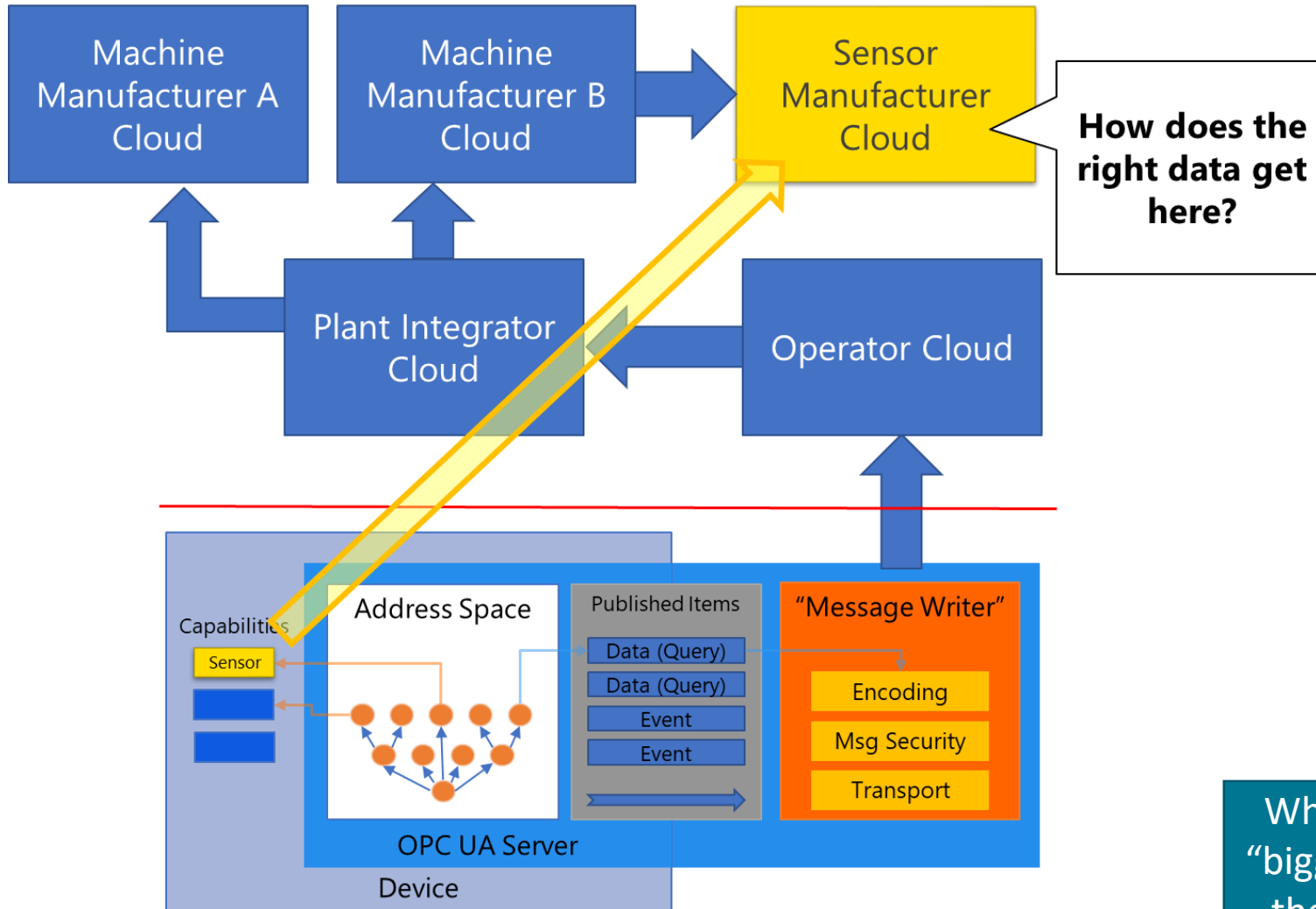
- USB Port
- Setup Button
- RGB LED
- WiFi Module
- Onboard Antenna
- Ext. Antenna Cnx



Azure IoT Hub

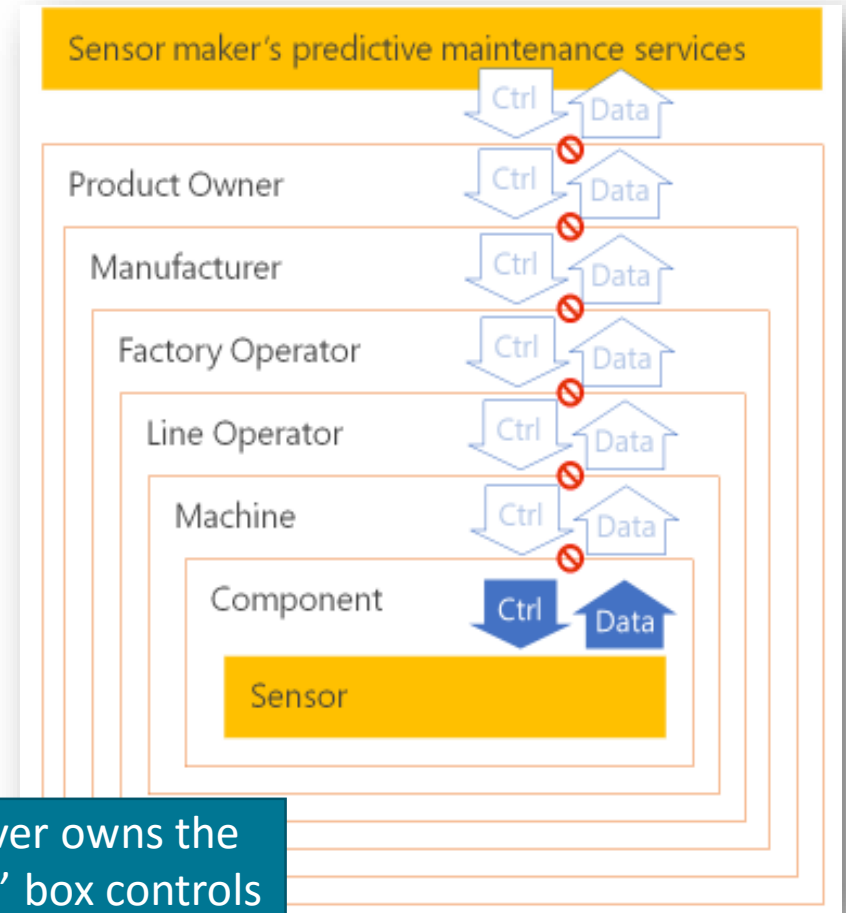
Epicor ERP Function

IoT is *Many* Clouds



Federation in Industrie 4.0

Clemens Vasters, Architect
Microsoft Azure Messaging



Whoever owns the "bigger" box controls the smaller boxes.



Epicor Cloud Services

Epicor Cloud Platforms



Online Services



Subscription SaaS



Hosting Services

Model

Consumption

Monthly Recurring

BYOL + Hosting

Solutions

- Epicor Payment Exchange (EPX)
- System Recovery Solutions
- ERP Cloud View

- Epicor ERP
- Prophet 21
- Epicor Retail Cloud

- All Solutions

Epicor ERP Deployment Choices



On-premises
deployment



IaaS (BYOI)
deployment



Epicor ERP
single-tenant
deployment

Epicor ERP
multi-tenant
deployment



**Epicor ERP
dedicated-tenant
deployment**

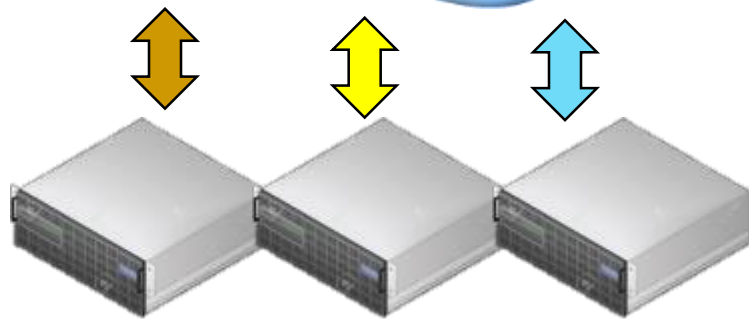
- Higher data isolation
- Uplift deferment
- BPM and Product Configurator Rules can directly connect to data sources

Tenants

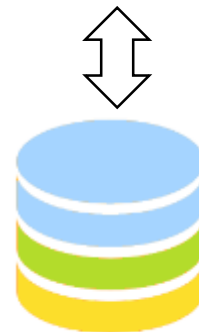
App Server

Database

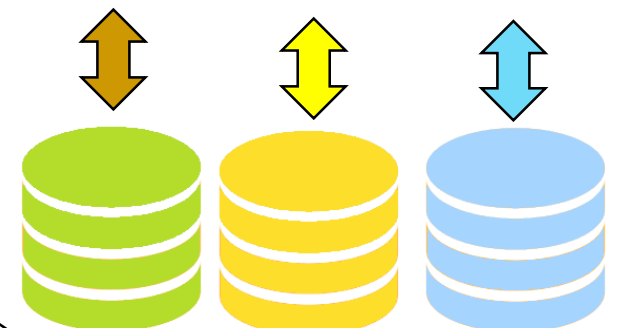
Single Tenant



Multi-Tenant



Dedicated Tenant





**Multi
Tenant**



**Dedicated
Tenant**



**Single
Tenant**



**IaaS
Deployment**



**On Premises
Deployment**

Deployment

Cloud

On Premises

Database

Shared Database

Isolated Database

Application

Shared Application Instance

Isolated Application Instance

Virtualized

No Virtualization "On the Metal"

Virtualized (VM-Set Per Tenant)

Flexible

Customization

UX & BPM
Wizards

UX, BPM Wizards,
BPM Code (C#)

Fully Customizable: External Code / Custom Modules

Maintenance

Enforced: Bi-weekly Patches,
2x/Yr Version Uplifts

Flexible: Customer Driven

ERP Licensing

Subscription-based Model

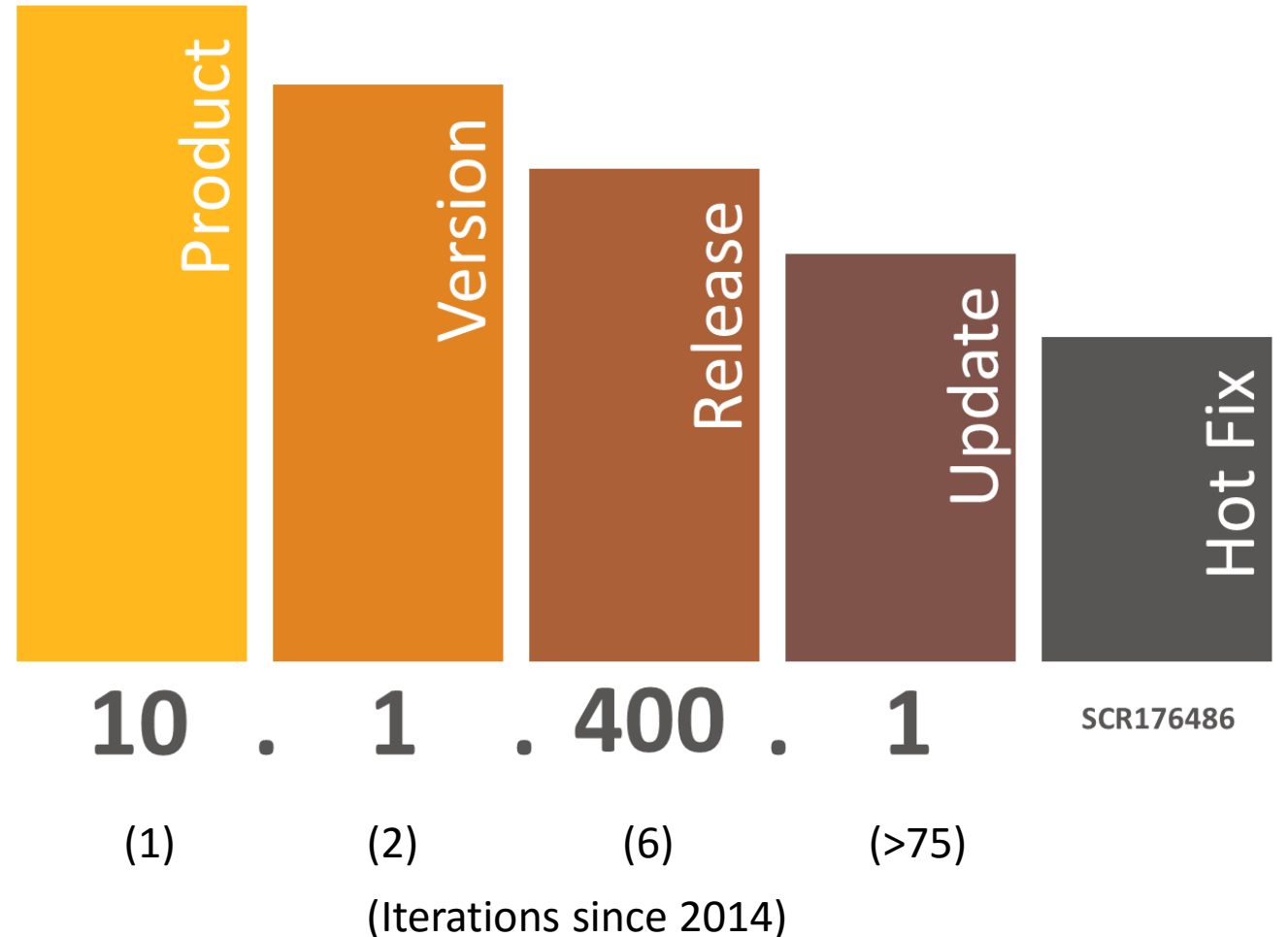
Perpetual Model

Code Line

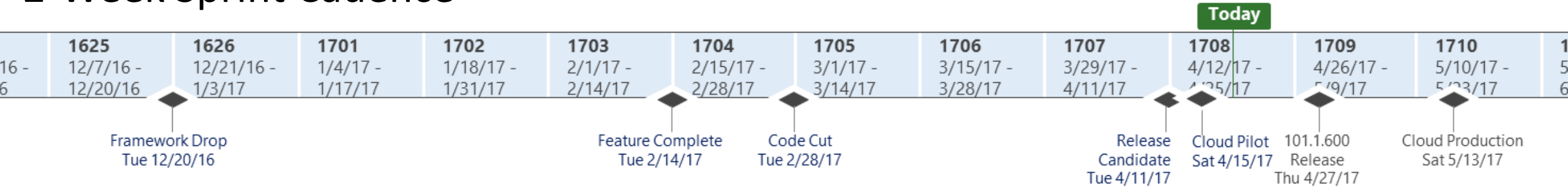
Epicor ERP Platform (Single Code Line)

Product Release Cadence (“Cloud First”)

- Product** - Defines the architecture platform
 - Every 4 to 6 years
- Version** - Major feature functionality release
 - Every 18-24 months
- Release** - Incremental feature introductions
 - Backward compatible APIs and Schema
 - 2-3 times per year
- Update** - High/Medium priority bug fixes
 - Late-breaking statutory requirements
 - No functional / technical side effects
 - 26 times per year
- Hot Fix** - High priority / blocking issues only
 - Rolled into next update



2-Week Sprint Cadence



Epicor Cloud ERP Operations Group

EPICOR

Epicor Cloud ERP 10.1.600 Pilot Deployment Next Weekend

Coming soon - Pilot Deployment!

Take Note: The Epicor Cloud Ops team will upgrade your Pilot Environment to Epicor Cloud ERP 10.1.600 between *Friday April 14th and Saturday April 15th 2017*. Pilot systems will be offline during this time. *The Pilot Refresh in April will use data as of Thursday April 13th 2017*. Please plan accordingly.

Bank Statement Processing

Gail Hogue
Cloud ERP Application Consultant

Epicor Cloud ERP 10.1 Bank Processing [NOTYETRAITED]

from Epicor Cloud 8 months ago

Settings Review page

Privately share videos with clients and collaborators through *Wipster*. [Learn more.](#)

296 likes 0 comments 1 share 0 downloads

Stats Mar 16 - Mar 22

Date	Value 1	Value 2
16 Mar	11	0
17 Mar	2	1
18 Mar	1	1
19 Mar	0	0
20 Mar	10	3
21 Mar	1	1
22 Mar	0	0

Cloud Support

70+ Experienced team members dedicated to cloud customers

3 global operations centers

7000+ licensed users supported around the world

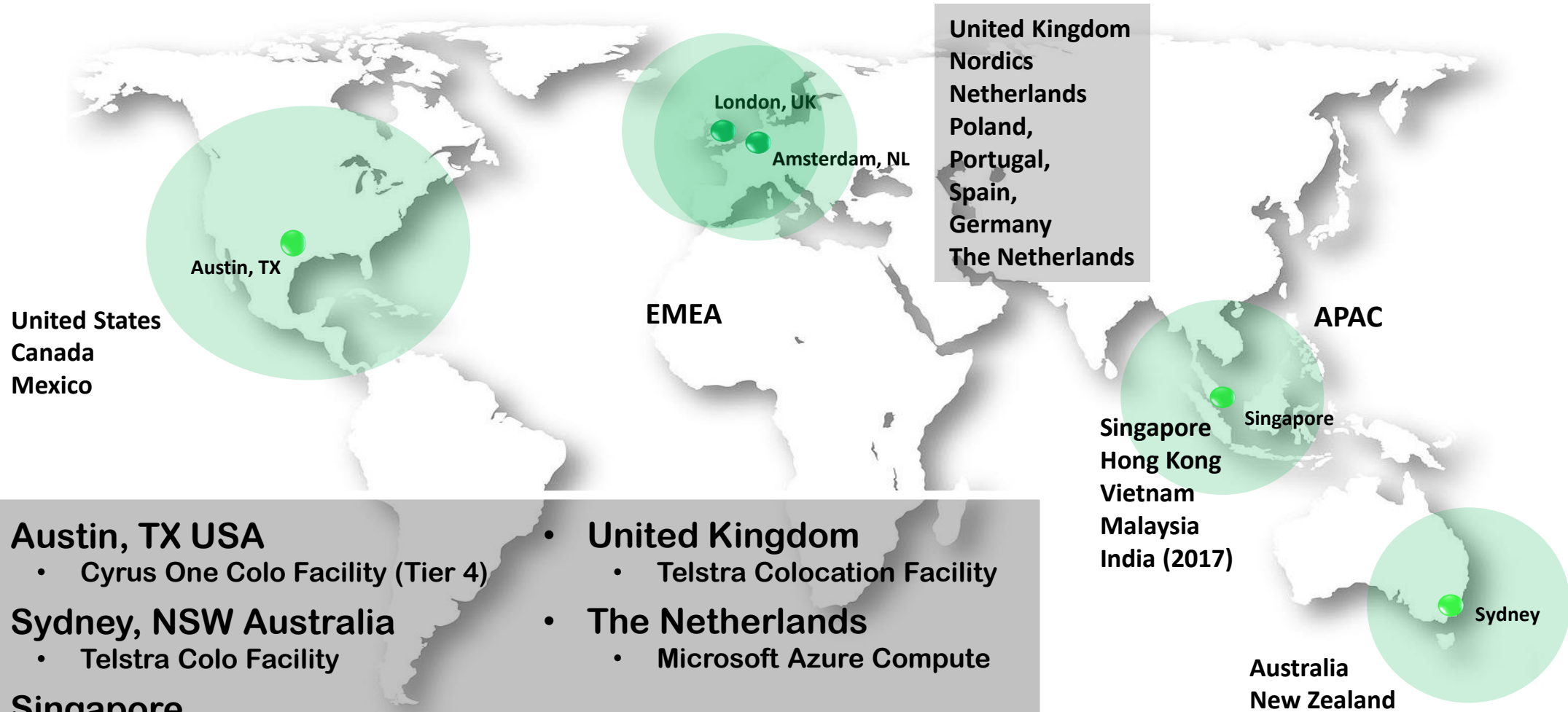
24x7x365 coverage

Top-tier datacenter partners

Severity 1	Severity 2	Severity 3
Significant operational impact (e.g., unable to connect to service). No workaround.	Manageable operational impact, temporary workaround is possible	Minor or no immediate impact, workaround is minimal
70% resolution in 2 hours 90% resolution in 6 hours 100% resolution in 12 hours	70% resolution in 3 days 99% resolution in 10 days	70% resolution in 3 days 99% resolution in 10 days

Premier Support programs available

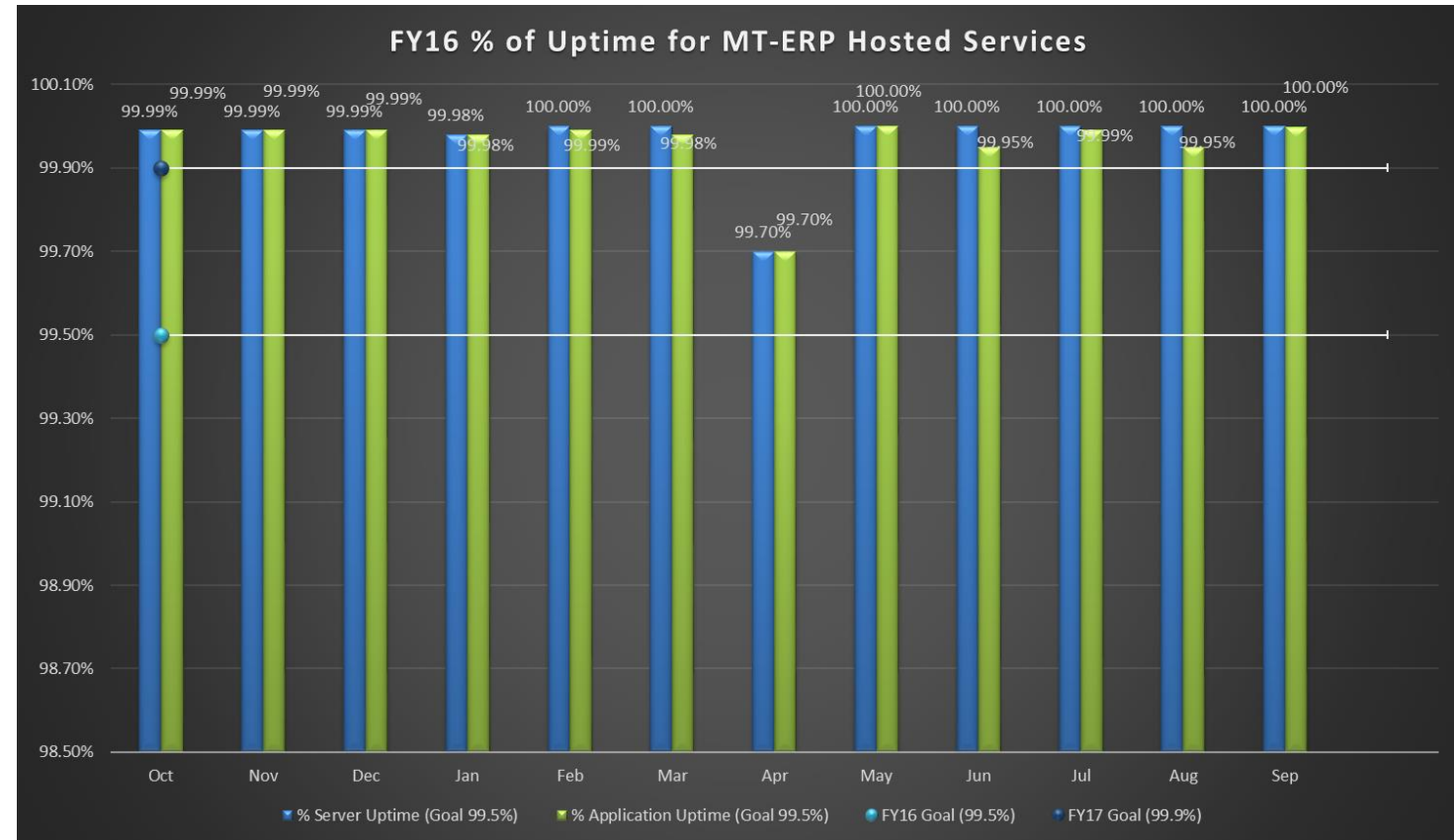
Data Center Locations (Epicor ERP)



- **Austin, TX USA**
 - Cyrus One Colo Facility (Tier 4)
- **Sydney, NSW Australia**
 - Telstra Colo Facility
- **Singapore**
 - Microsoft Azure Compute
- **United Kingdom**
 - Telstra Colocation Facility
- **The Netherlands**
 - Microsoft Azure Compute


Uptime & Recovery Points

- 99.5% Standard Uptime SLA
- 99.9% Uptime Goal (Internal)
- FY16 Average Actual Uptime
 - 99.97% Servers / Infrastructure
 - 99.96% Applications
- 8 Hour RTO Standard (other HA/DR options available)
- 2 Hour RPO (theoretical max)
- DR drills conducted regularly (simulated loss of DC)
- Database logs are shipped to local storage and geo-redundant remote storage using Microsoft Azure
- Microsoft Azure hosting contingency in the event of a loss of DC

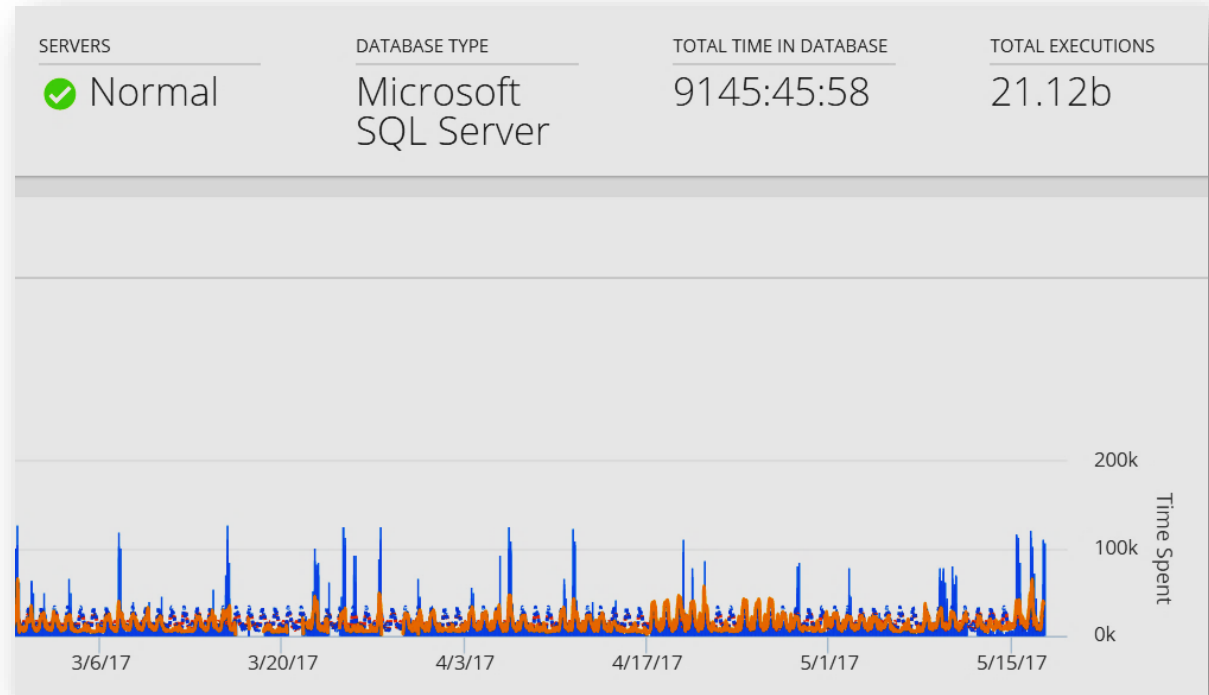


Uptime Actuals October 2015 – September 2016

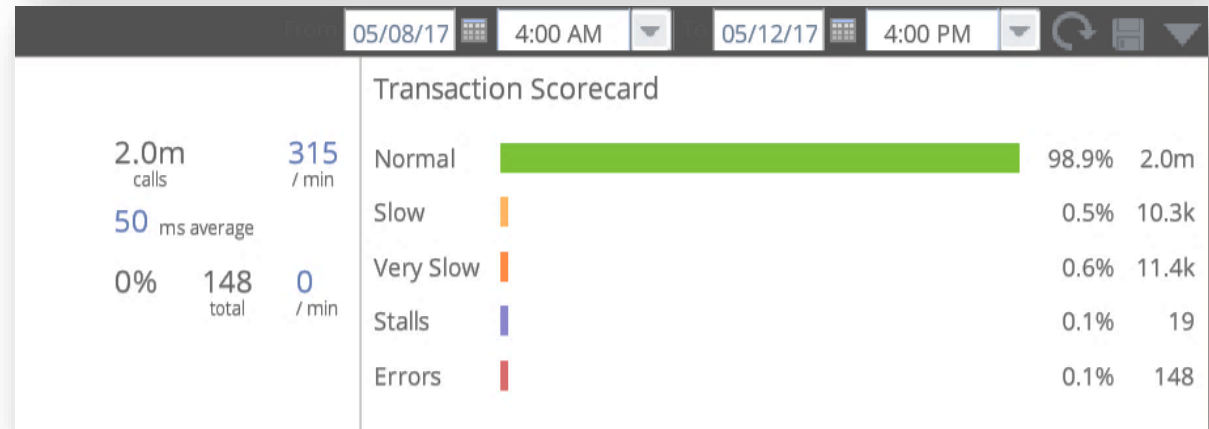
SaaS Operations Team – Proactive Monitoring

By Response Time > 

Name	Time (ms) ↓	Health
Security Rights	3953	✓
SO_MasterUpdate	625	✓
Company	311	✓
BAQ/Dynamic Query	253	✓
Accounts Receivables	229	✓
Customer	207	✓
Job Management	202	✓



- Service Response Time
- Infrastructure Throughput
- Release Comparison Scorecard



Future Factories

Peter Marsh

Financial Times, June 11th, 2012

Environmental imperatives

Companies use 'green' thinking to sell more products and invent new ones



Cluster dynamics

Even as supply chains become more geographically diverse, manufacturers are becoming more reliant on certain 'clusters' of local suppliers and 'technology partners', many of them located in high-cost countries



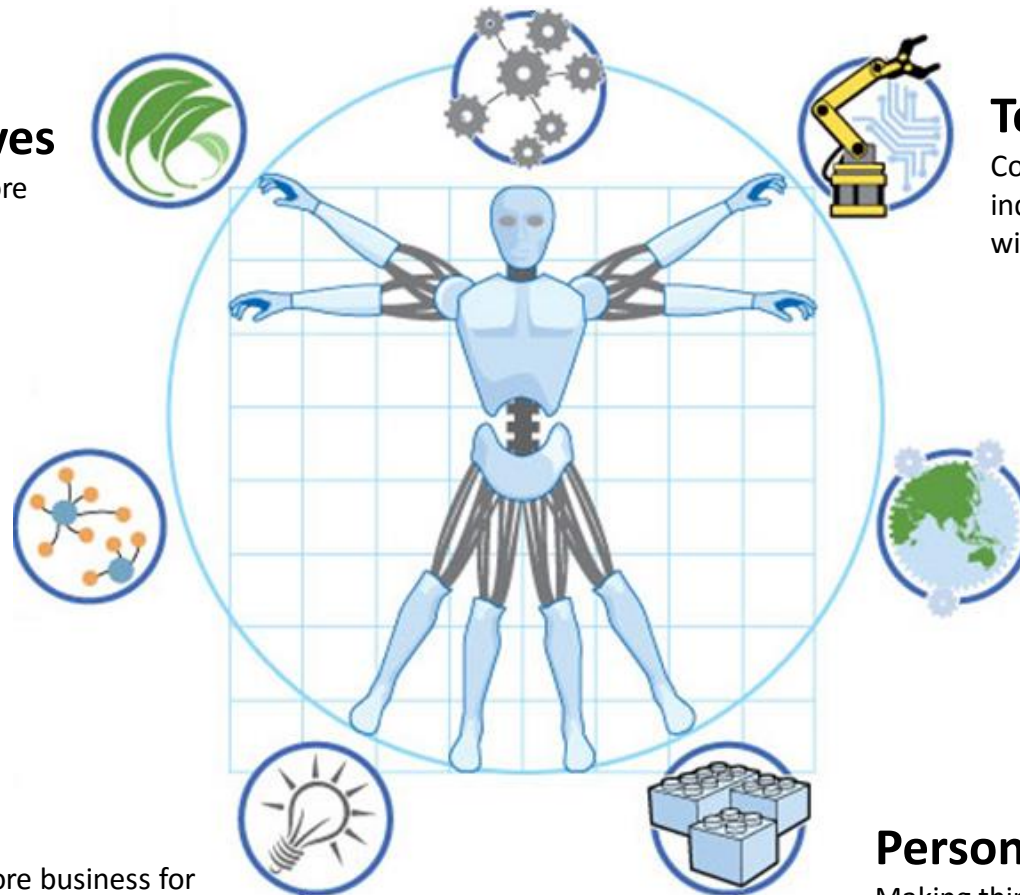
Niche thinking

Changes in technology mean more business for boutique, specialist businesses with emphasis on design and top-flight manufacturing.



Networked manufacturing

Companies are making more effective use of global supply chains and talent, using people where they are the most cost-effective geographically. This makes them more nimble at spotting trends.



Technological acceleration

Companies are becoming more adept at improving individual technologies and using them in combination with others.



Industrial democracy

More companies have become capable of top-class manufacturing and product development, giving manufacturers greater choice over where to produce. China, now the world's biggest manufacturing country, has made the greatest strides.



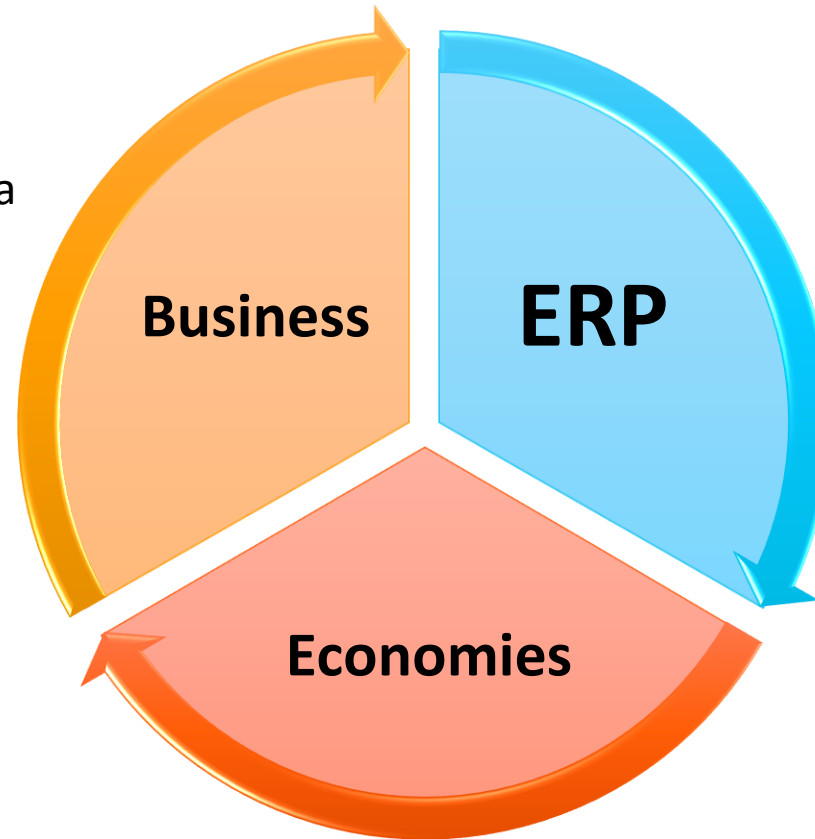
Personalized production

Making things in small batches tailored to a customer, perhaps even one at a time, is starting to become routine.



ERP is more important than ever – but in new and different ways

- **Agile** fabrication
- Real-time **sensory** field data
- **Transient**, social, and subscription **relationships**
- **Micro-multinationals**



- **Consumable** and **shareable** information by users
- **Outmaneuver larger** competitors, **Replicate** processes for expansion
- New **revenue** sources and **payment** methods
- Widely **distributed** ERP systems



- Advanced **materials** & techniques
- “**Scale** without Mass” – High Value, Low Labor Enterprises
- **Automation** at new levels

Epicor's Long View of ERP

Embedded

Integration-driven
Comprehensive or Operational ERP
Data Entry as a Last Resort

Usable

Devices are dominant client
Self-service users
Citizen developers



Ecosystems Drive Growth

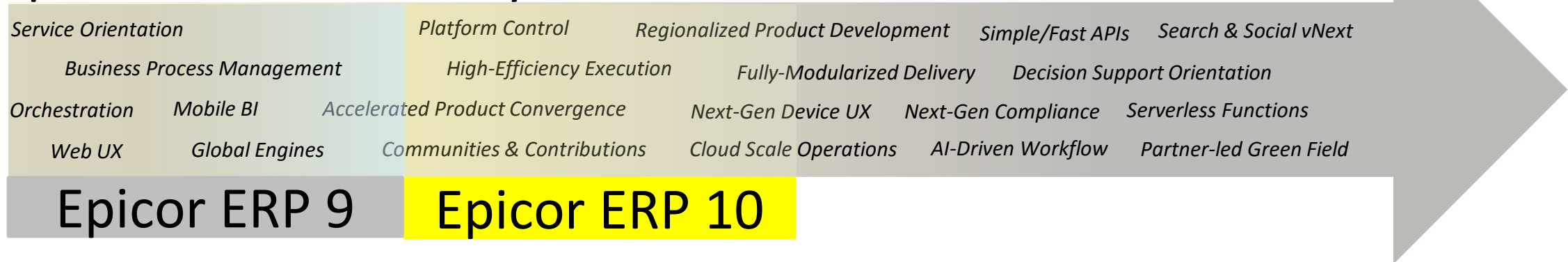
Adaptive

Micro-Optimized for Niche Scenarios
Last Mile Development
Better Channel Harmony

Efficient

New Edges / Efficient Compute
Low-Touch Operations
Loose-coupled integrations

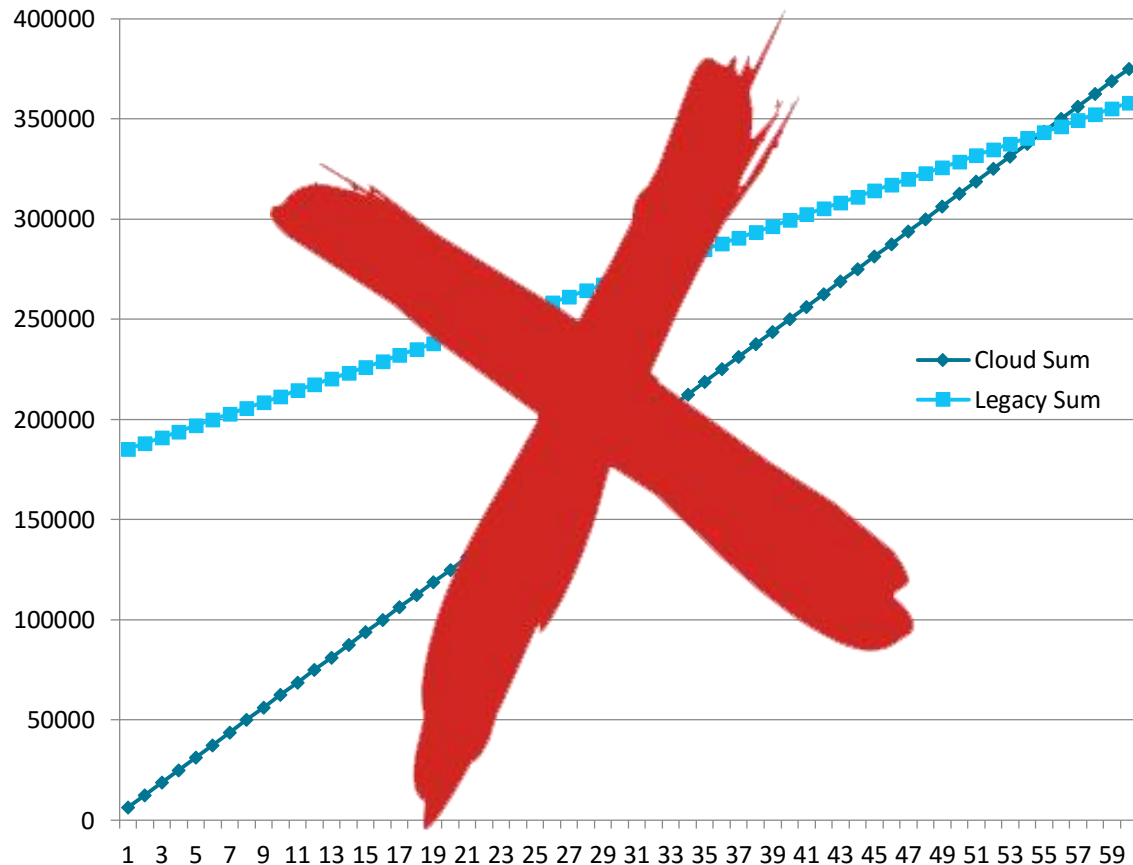
Epicor Internal Platform Maturity Plan





Takeaways

Which is a better deal? When? At what cost?



Looking at JUST the hard costs...
Break-Even is out about 5 years.

But what about everything else?

- Opportunity cost of Capital
- IT Resources & Priorities
- CapEx vs OpEx
- Accessibility outside the plant
- Installation, Upgrades, and Management
- Securing the system
- High availability is expensive
- Connectivity to emerging platforms and services

IT Utilization

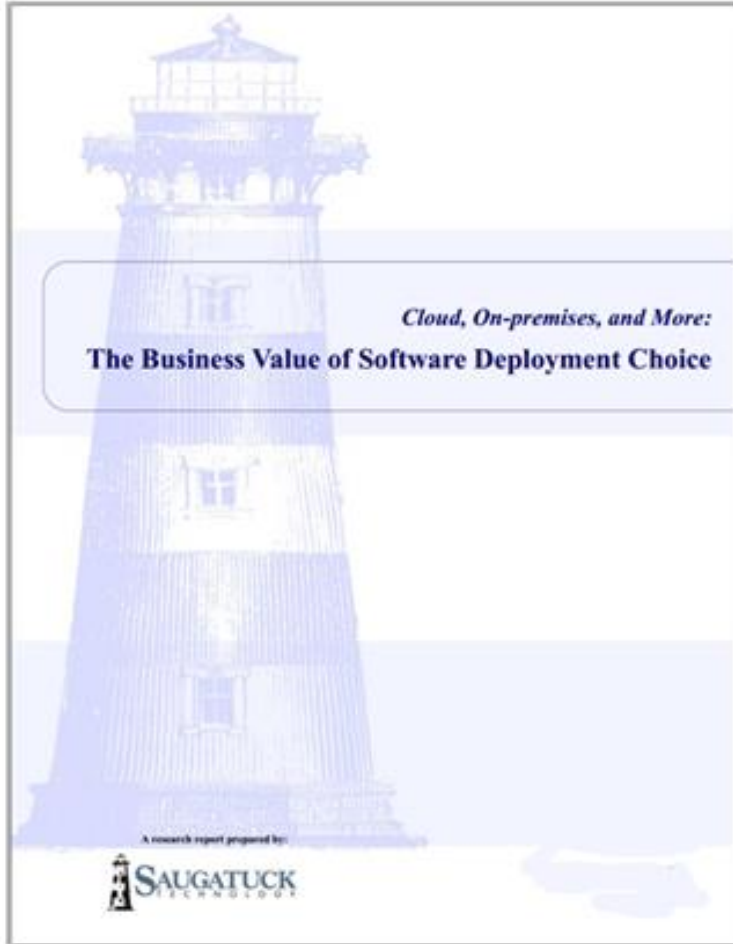
What **are** your IT experts doing?

- Installing service packs (O/S, database, networking, application)
- Performance troubleshooting
- Checking backups (hopefully)
- Building DR plans / running drills
- Attending enterprise software management classes
- Helping staff through application training

What **might** they be doing?

- Building dashboards and other insightful analytics
- Bringing new technology to the shop floor and to the field
- Enabling IoT and connected supply chains
- Aligning technology with business objectives

The importance of Freedom of Choice



“...being locked into a specific deployment and usage format can **severely limit the ability to manage the business**, and therefore the firm’s competitive abilities.”

“(Epicor’s) use of the same architecture and the same code across all deployment formats makes the choice of deployment format less of a gamble for the buying firm....

That’s why it is so important to select business management software that not only **enables choice of deployment**, but which also enables **changing** that choice **without fear** of significant business change.”

Thank You!

