Clear Technologies™

Building & Securing a S/4HANA Cloud Environment

AI – Cybersecurity – Scalability – Resiliency

Brett Murphy

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17
2023

Trusted Advisor

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Passionate evangelist for Enterprise Compute, Storage & Software infrastructure. Recognized specialist in enterprise architecture, software cost reduction and competitive selling. Focus over the past 12 years has been on Architecture & Solution Design for clients running large, complex ERP environments.

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About Clear Technologies

ClearTechnologies™

- Traditional Infrastructure VAR
  - Compute, Storage & Networking
- SAP Infrastructure Practice
- Security Practice
- Small Managed Service Practice
- Infrastructure Consulting Services
- Woman owned business (WBENC)

visualstorage INTELLIGENCE

- Cloud based storage reporting, capacity planning and analytics
- VMware vSphere and SAN multi-platform storage dashboard
- Proactively audit and monitor IT infrastructure

Visual Storage Intelligence
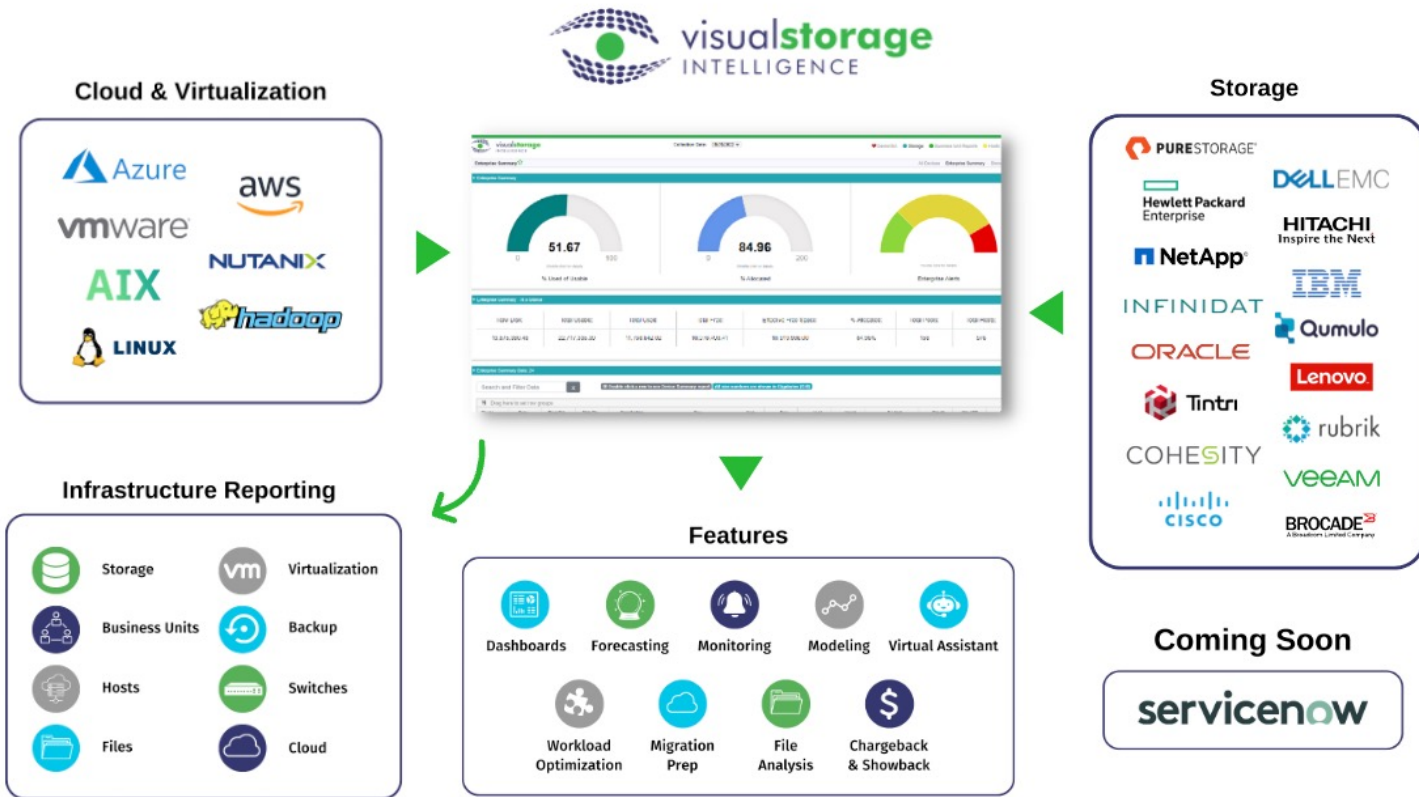
Clear's SAP Practice

ClearTechnologies™
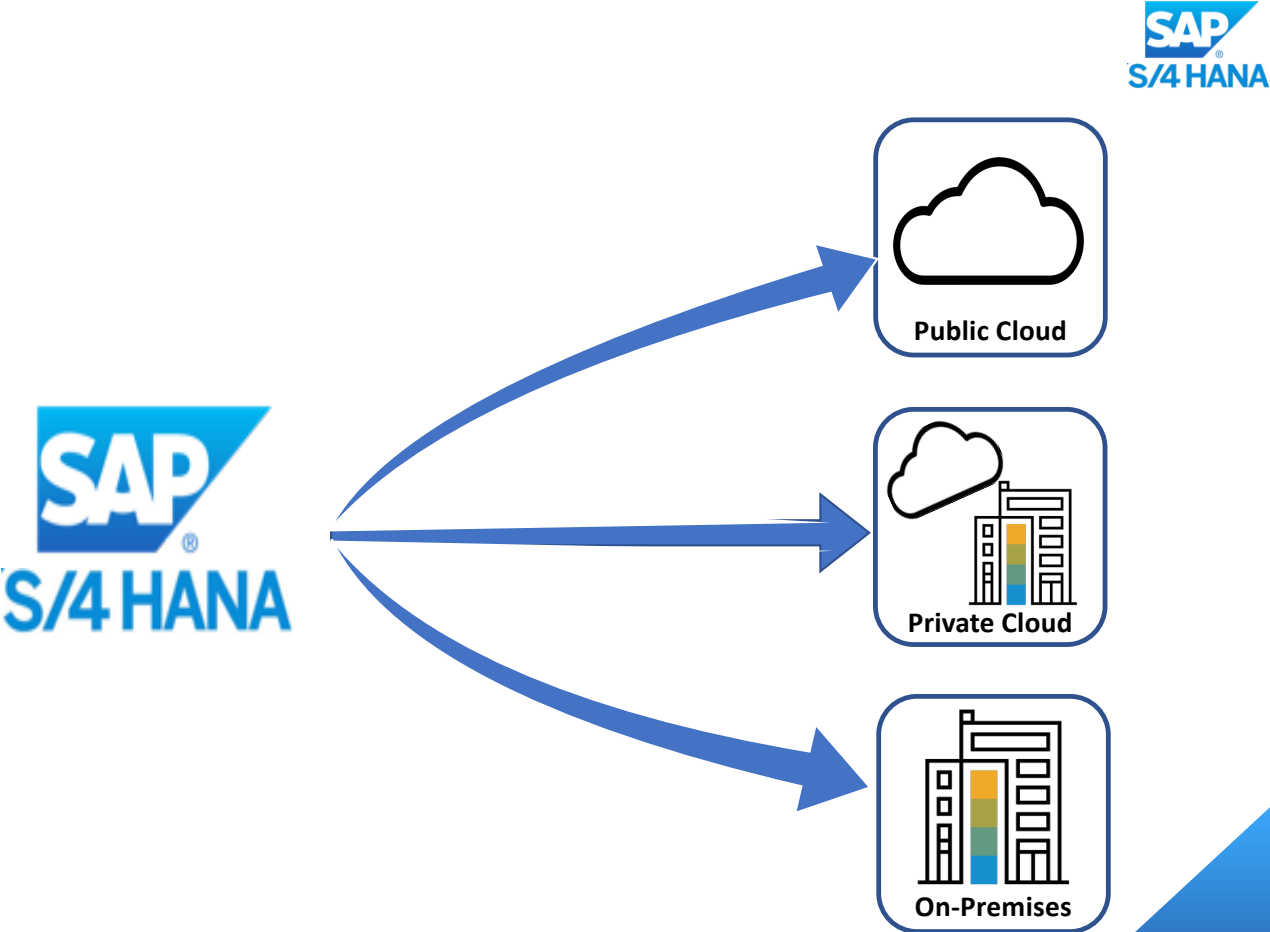
SAP

- On-premises, Private Cloud and Public Cloud hosting & infrastructure reseller
- HANA sizing
- Hardware, Software & Services focused

- SAP HANA Readiness Assessment
- Cyber Resiliency Assessment
- Affiliated with a SI Partner
- Affiliated with Migration Partner(s)
- Affiliated with Managed Service Partner(s)

Hosting HANA

Public Cloud

Private Cloud

On-Premises

In the beginning …
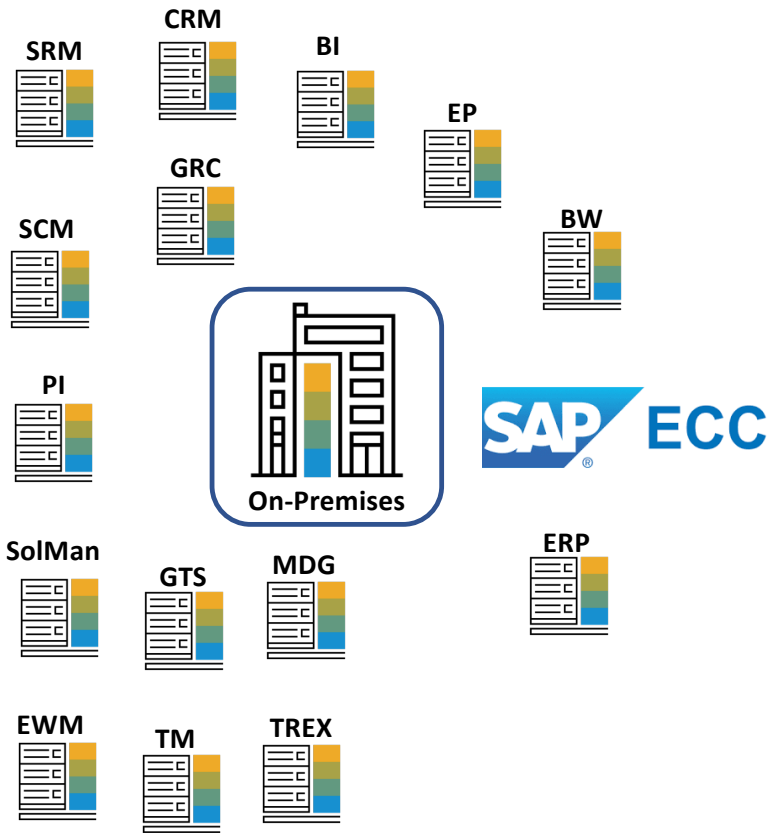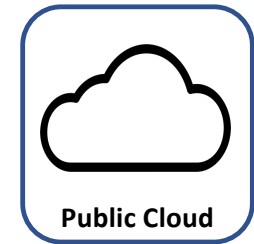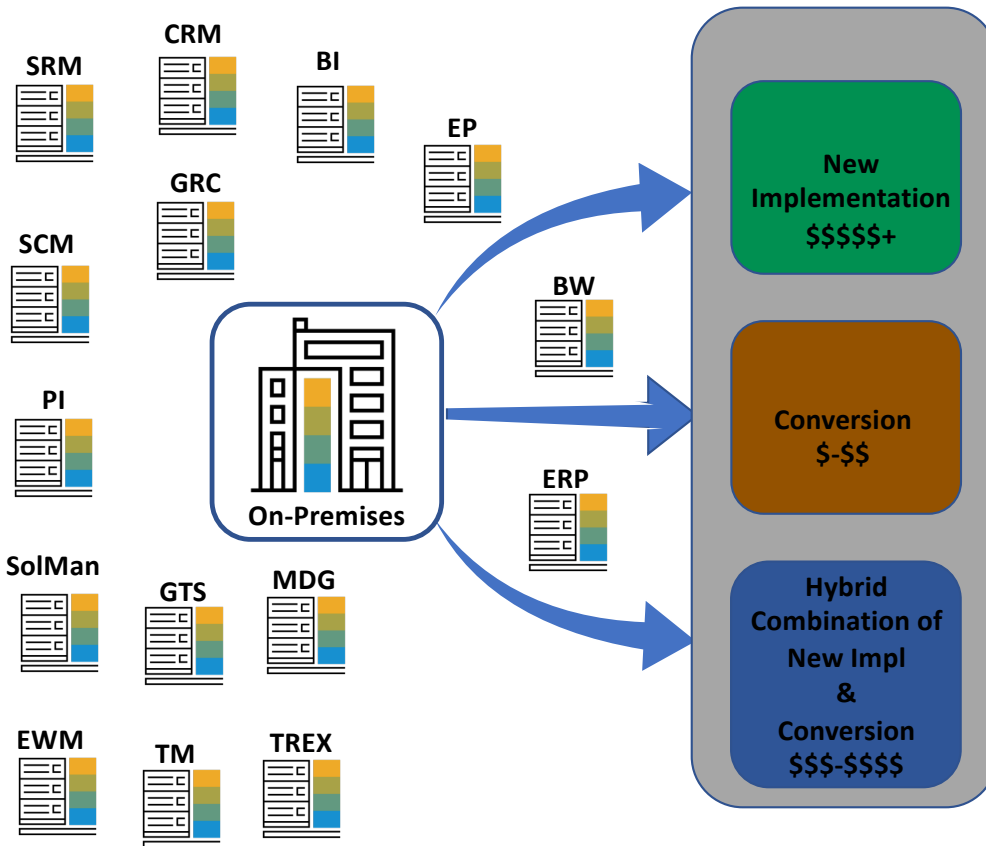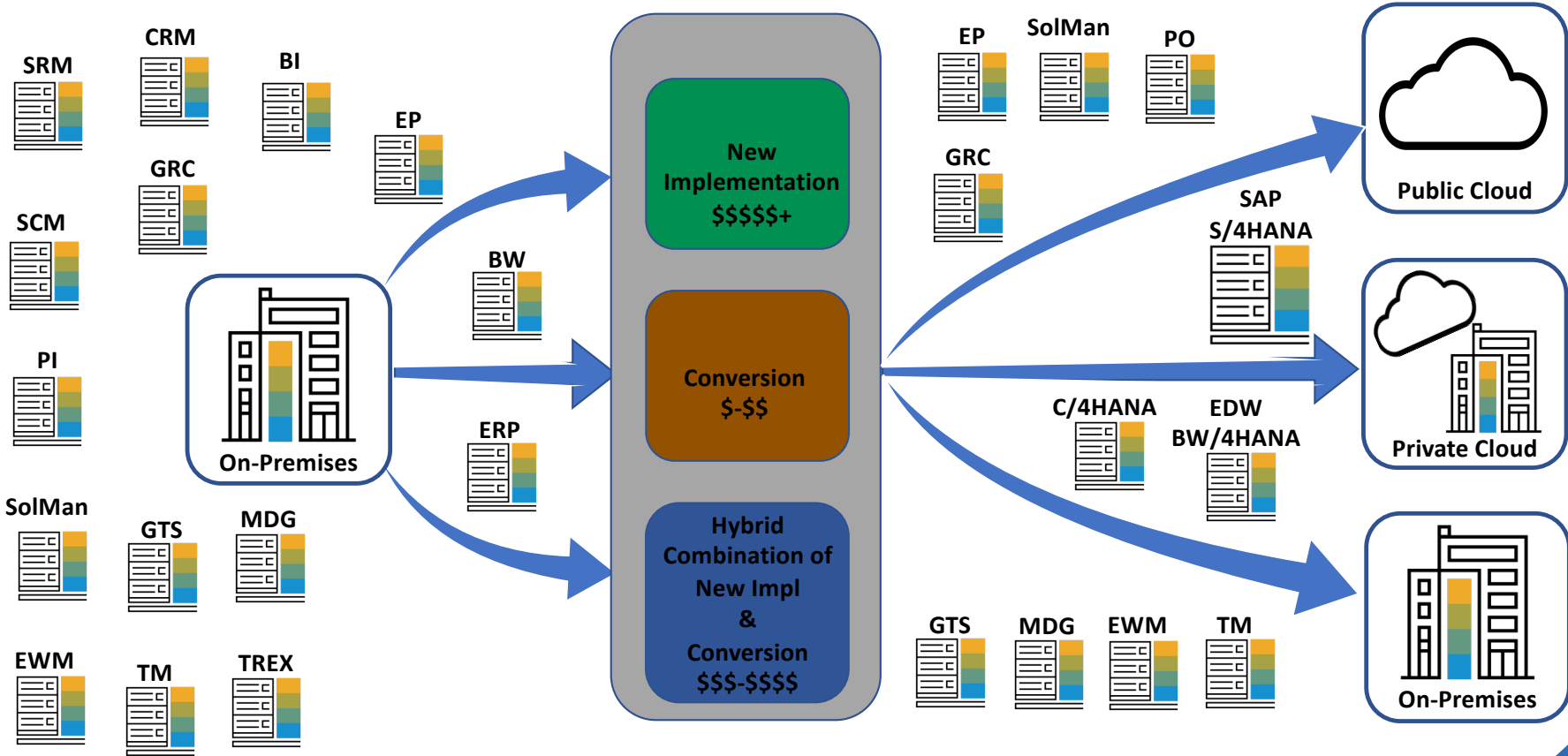
Be an Informed Consumer

Ford's CEO had a charging 'reality check' on his electric F-150 Lightning road trip

Nora Naughton
Updated August 14, 2023 · 2 min read   937

"Charging has been pretty challenging,"
Ford CEO Jim Farley hit the road in an electric F-150 Lightning last week.

Just because companies claim something is the direction everyone is going, or the next wave could also mean it is where they are driving you to versus consumers asking for it.

B. Murphy

Obtaining the Desirable End State
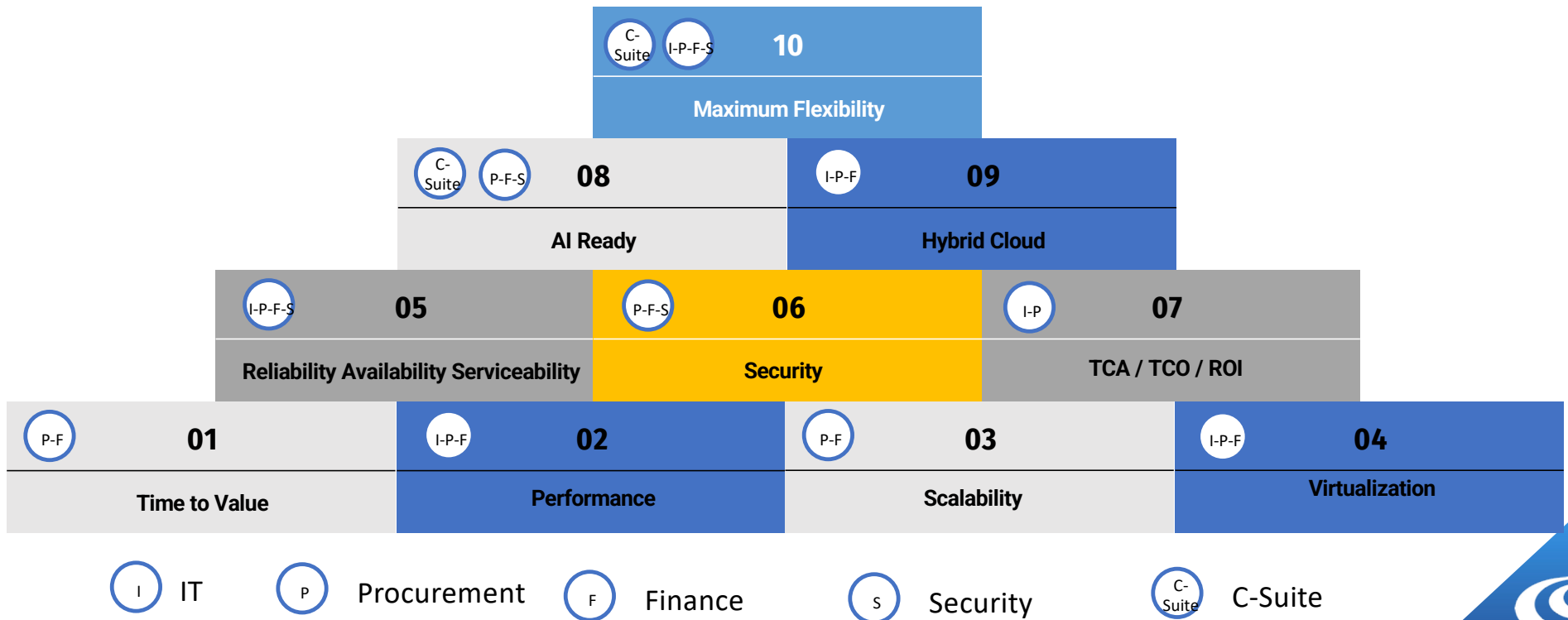
SAP S/4 HANA

C-Suite, I-P-F-S	**10**	
Maximum Flexibility		

C-Suite, P-F-S **08**	I-P-F **09**	
AI Ready	**Hybrid Cloud**	

I-P-F-S **05**	P-F-S **06**	I-P **07**
Reliability Availability Serviceability	**Security**	**TCA / TCO / ROI**

P-F **01**	I-P-F **02**	P-F **03**	I-P-F **04**
Time to Value	**Performance**	**Scalability**	**Virtualization**

I — IT   P — Procurement   F — Finance   S — Security   C-Suite — C-Suite

IBM Power

SAP HANA EXCELLENCE

SAP S/4 HANA

10

Best SAP Performance

2.7x

Per core performance of 8-socket E1080 two-tier SAP SD benchmark compared to best x86 8-socket HPE Superdome Flex

~8,000 SAPS/co

Largest Customers

45

of America's top 50 largest revenue generating companies are active Power customers

IBM Cloud - PowerVS Private Cloud

Most Reliable

>=99.999%

Availability rating in ITIC survey of 1,200 corporations across 28 vertical markets

Scale SAP on Power

100GB → **40TB**

Largest certified Memory instance

SAP on Power

>4,500

SAP HANA on Power customers

Highly Secure

Default Encrypted Memory @ no additional cost
Trusted (Secure) Boot, Firewall & , EDR, MFA, SCAP
4X crypto engines supporting AES, SHA2, and SHA3

<0.013%

Security vulnerabilities in PowerVM hypervisor compared to VMware

SAP on Power

16 LPARs

4 core 64GB to 240 core 64 TB Systems

Highest # of production virtual partitions

AI on Power

42%

More inferencing throughput v x86

<1s

Inferencing latency

Decision Time

SAP S/4 HANA

IBM Cloud with PowerVS → Public Cloud

IBM Power Servers → Private Cloud

IBM Power Servers → On-Premises

Customer repatriation of critical Enterprise workloads

"While cloud clearly delivers on its promise early on in a company's journey, ***the pressure it puts on margins can start to outweigh the benefits, as a company scales and growth slows"***

"some companies have taken the dramatic step of 'repatriating' the majority of workloads, or in other cases *adopting a hybrid approach. Those who have done this have reported significant cost savings."*

*"market value is being lost among them due to cloud impact on margins — relative to running the infrastructure themselves. Extending this analysis to the broader universe of scale public companies that stands to benefit from related savings, **we estimate that the total impact is potentially greater than $500B."***

"companies need to optimize early, often, and, sometimes, also outside the cloud. When you're building a company at scale, there's little room for religious dogma."

-- Sarah Wang and Martin Casado,
Andreessen Horowitz Capital Management

Cloud 'sticker shock' explored: We're spending way too much

'Repatriation' from the cloud on the horizon? Andreessen Horowitz partners discuss the paradox of long-term cloud adoption. 'You're crazy if you don't start in the cloud; you're crazy if you stay on it.'

By Joe McKendrick for Service Oriented | June 26, 2021 -- 11:00 GMT (04:00 PDT) | Topic: Cloud

Cloud computing is probably the biggest business around these days -- it has become a $100-billion-a-year industry. And there's a chance companies are paying way too much for it.

Cloud 'sticker shock' explored: We're spending way too much.
https://www.zdnet.com/article/cloud-sticker-shock-were-spending-way-too-much/

Cloud service firms lock customers in while nickel-and-diming them

Big cloud is upping its prices everywhere. During this period Microsoft raised the prices of its Microsoft 365 office applications in various countries by about 9%. Its closest competitor in this space, Google, increased its Workspace monthly prices by as much as 20%.

Salesforce.com, the leading provider of customer relationship management products, bumped up the monthly fees on many of its products by 9%.

The largest providers of cloud storage and applications – Microsoft, IBM, Amazon Web Services and Google Cloud – all have increased their hosting and storage fees anywhere from 11% to as much as 50% compared with a year ago.

This is a business model unlike anything we've seen in the past and it's awesome … for the software providers. But what about users? What about my small business?

Let's say you're a company that has invested significantly in one of these cloud platforms to run your business. You've got all your data there. You've built integrations, customizations and specialized applications. You've spent great amounts of money on consultants, experts and trainers to help your employees get the most from these platforms. Like Netflix and Spotify, you're used to these products and value their familiarity. So when there's a price increase you may grumble, but you're not going to change. You know it would be too costly and too disruptive. So you just accept it.

US small business

Cloud service firms lock customers in while nickel-and-diming them

It's a company's dream business model - the services are too difficult to switch, and small price hikes are often overlooked

Gene Marks
🐦 @genemarks
Sun 5 Nov 2023 07.00 EST

A business model where a company can increase prices almost at will? That's the cloud. Some say that security of our data is the biggest challenge when hosting in the cloud. But that's not it. For most users, control is the real issue.

Resources

Clear Technologies
https://www.cleartechnologies.net/sap/

ITIC Security Survey Results
https://www.ibm.com/downloads/cas/BGARGJRZ

ITIC Reliability Survey Results
https://lnkd.in/dDbwVe77

SAP Blog – SAP HANA on Power10
https://blogs.sap.com/2023/03/17/sap-hana-on-ibm-power10/

✓ **SAP Note 2100010**
SAP HANA: Popular Misconceptions

✓ **Cloud service firms lock customers in while nickel-and-diming them**
https://www.theguardian.com/business/2023/nov/05/cloud-service-provider-consumer-prices-netflix-microsoft?CMP=oth_b-aplnews_d-1

✓ **Gartner says hold onto your wallets as SAP's cloud pitch trades control for convenience**
https://www.theregister.com/2023/09/01/gartner_rise_with_sap/

✓ **No customer left behind; SAP's Klein tells users angered by cloud-only decision**
https://www.theregister.com/2023/09/25/no_customer_left_behind_saps/

✓ **Users slam SAP's public cloud and S/4HANA migration strategy**
https://www.theregister.com/2023/04/05/sap_s4_hana_cloud_strategy/

✓ **RISE with SAP: Shared Security Responsibility for SAP Cloud Services (slide 11 Security bullet)**
https://blogs.sap.com/2021/09/15/rise-with-sap-shared-security-responsibility-for-sap-cloud-services/

No-cost!

SAP HANA Readiness Assessment

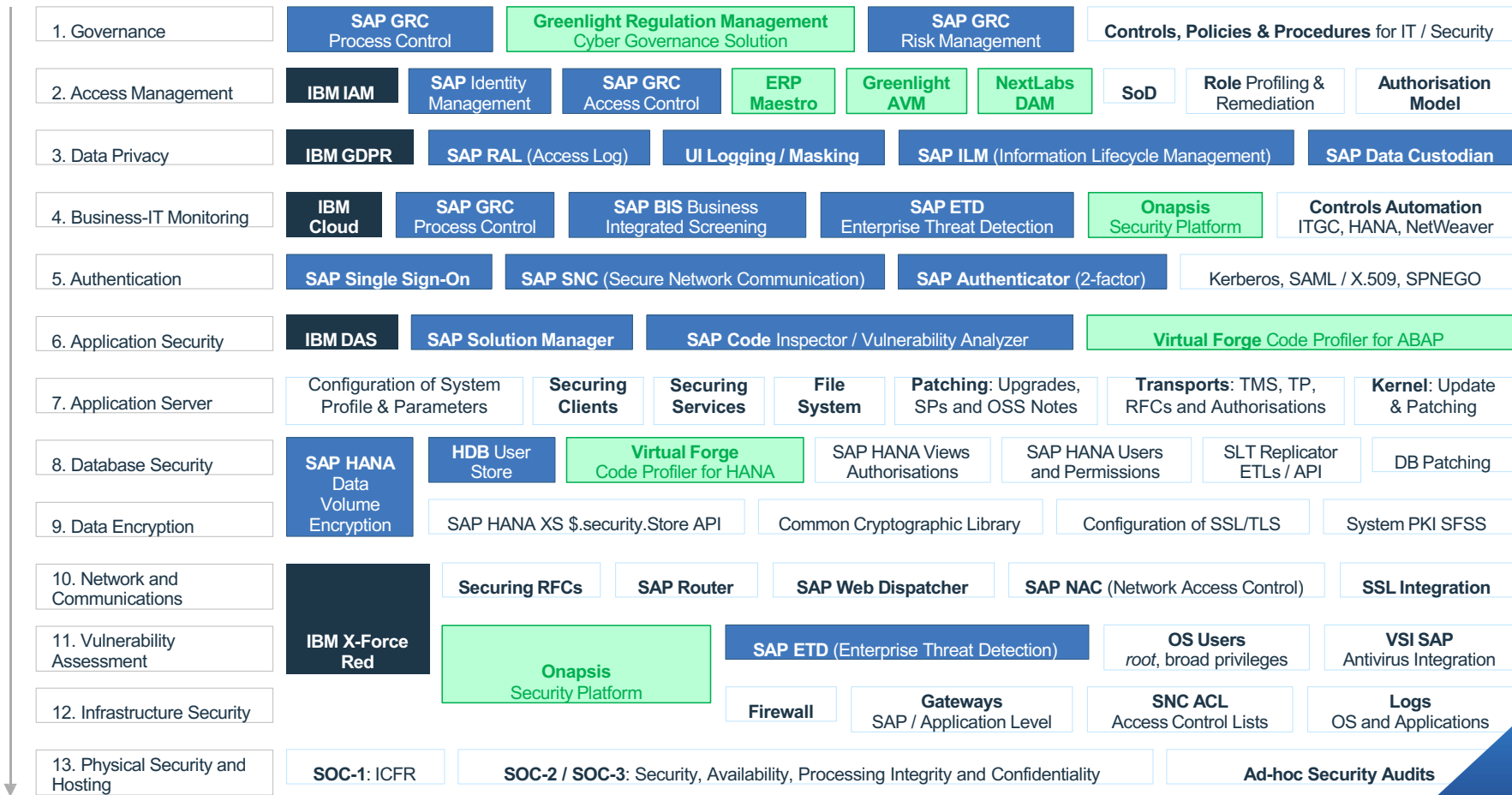**Cyber Security Assessment**

Storage & Capacity Planning Assessment

Thank you

Q&A

13 Layers of SAP Security

IBM point of view of SAP Security

	SAP product	Sub-competency	3rd Party product
Security Layers			

Layer						
1. Governance	**SAP GRC** Process Control	**Greenlight Regulation Management** Cyber Governance Solution	**SAP GRC** Risk Management	**Controls, Policies & Procedures** for IT / Security		
2. Access Management	**IBM IAM**	**SAP** Identity Management	**SAP GRC** Access Control	**ERP Maestro**	**Greenlight AVM**	**NextLabs DAM**	**SoD**	**Role** Profiling & Remediation	**Authorisation Model**
3. Data Privacy	**IBM GDPR**	**SAP RAL** (Access Log)	**UI Logging / Masking**	**SAP ILM** (Information Lifecycle Management)		**SAP Data Custodian**
4. Business-IT Monitoring	**IBM Cloud**	**SAP GRC** Process Control	**SAP BIS** Business Integrated Screening	**SAP ETD** Enterprise Threat Detection	**Onapsis** Security Platform	**Controls Automation** ITGC, HANA, NetWeaver
5. Authentication	**SAP Single Sign-On**	**SAP SNC** (Secure Network Communication)		**SAP Authenticator** (2-factor)	Kerberos, SAML / X.509, SPNEGO	
6. Application Security	**IBM DAS**	**SAP Solution Manager**	**SAP Code** Inspector / Vulnerability Analyzer		**Virtual Forge** Code Profiler for ABAP	
7. Application Server	Configuration of System Profile & Parameters	**Securing Clients**	**Securing Services**	**File System**	**Patching**: Upgrades, SPs and OSS Notes	**Transports**: TMS, TP, RFCs and Authorisations	**Kernel**: Update & Patching
8. Database Security	**SAP HANA** Data Volume Encryption	**HDB** User Store	**Virtual Forge** Code Profiler for HANA	SAP HANA Views Authorisations	SAP HANA Users and Permissions	SLT Replicator ETLs / API	DB Patching
9. Data Encryption		SAP HANA XS $.security.Store API	Common Cryptographic Library	Configuration of SSL/TLS	System PKI SFSS
10. Network and Communications	**IBM X-Force Red**	**Securing RFCs**	**SAP Router**	**SAP Web Dispatcher**	**SAP NAC** (Network Access Control)	**SSL Integration**
11. Vulnerability Assessment		**Onapsis** Security Platform	**SAP ETD** (Enterprise Threat Detection)		**OS Users** *root*, broad privileges	**VSI SAP** Antivirus Integration
12. Infrastructure Security			**Firewall**	**Gateways** SAP / Application Level	**SNC ACL** Access Control Lists	**Logs** OS and Applications
13. Physical Security and Hosting	**SOC-1**: ICFR	**SOC-2 / SOC-3**: Security, Availability, Processing Integrity and Confidentiality		**Ad-hoc Security Audits**		

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- Long history with Systems & Storage
- Strategic focus on SAP, and other innovative solutions
- Extraordinary Net Promotor Score
- Cognitive Leadership Program
- 3 IBM Champions

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