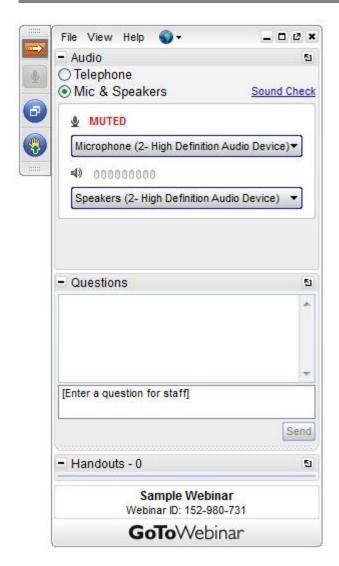




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Agenda

- Introductions
- What is the "cloud"
- Public vs. private vs. hybrid cloud
- Cloud vendors
- BI vendor cloud offerings
- Cloud challenges
- Senturus overview
- Additional resources
- Q&A



Introducing...Today's Presenters



Todd Schuman

Practice Lead Installations,
Upgrades and Optimization
Senturus, Inc.



Michael Weinhauer
Practice Area Director
/ Solutions Architect
Senturus, Inc.



Poll

What are your current plans for moving BI to the cloud?

- No plans/never!
- In progress/evaluating
- 3-6 months
- 7-12 months
- Already there





WHAT IS THE CLOUD?

What is the Cloud?

The Cloud - What is it?

The Cloud is not new – it's simply a technical term and a fancy way of saying stuff that's not on your computer.





Why Cloud?

"The worldwide public cloud services market is projected to grow 17.5 percent in 2019 to total \$214.3 billion, up from \$182.4 billion in 2018."

-Gartner 2019

https://www.gartner.com/en/newsroom/press-releases/2019-04-02-gartner-forecasts-worldwide-public-cloud-revenue-to-g



Revenue Forecast



Table 1. Worldwide Public Cloud Service Revenue Forecast (Billions of U.S. Dollars)

\sqrt{z}	2018	2019	2020	2021	2022
Cloud Business Process Services (BPaaS)	45.8	49.3	53.1	57.0	61.1
Cloud Application Infrastructure Services (PaaS)	15.6	19.0	23.0	27.5	31.8
Cloud Application Services (SaaS)	80.0	94.8	110.5	126.7	143.7
Cloud Management and Security Services	10.5	12.2	14.1	16.0	17.9
Cloud System Infrastructure Services (IaaS)	30.5	38.9	49.1	61.9	76.6
Total Market	182.4	214.3	249.8	289.1	331.2

* Where Will Workloads Run (Today versus 2020)



Source: Gartner (April 2019)

BPaaS = Business Process as a Service;

laaS = Infrastructure as a Service;

PaaS = Platform as a Service;

SaaS = Software as a Service



Cloud Benefits

- Flexible costs
- Fresh software
- High availability
- Cost effective
- Flexible capacity
- Improved collaboration
- Improved mobility





Compliance

Global	Government	Industry	Regional	
CIS Benchmark	CJIS	23 NYCRR Part 500	BIR 2012 (Netherlands)	
CSA Cloud Control Matrix	CNSSI 1253	AFM + DNB (Netherlands)	C5 (Germany)	
CSA-STAR-Attestation	DFARS	APRA (Australia)	CCSL/IRAP (Australia)	
CSA-Star-Certification	DoD DISA L2, L3, L5	AMF and ACPR (France)	CS Mark (Gold) (Japan)	
CSA STAR Self-Assessment	DoE 10 CFR Part 810	CDSA	Cyber Essentials Plus (UK)	
ISO 20000-1:2011	EAR (US Export Administration Regulations)	CFTC 1.31 (US) Canadian Privacy Laws		
ISO 22301	FedRAMP	PP (UK) DJCP (China)		
ISO 27001	FIPS 140-2	EBA (EU)	EN 301 549 (EU)	
ISO 27017	IRS 1075	FACT (UK)	ENS (Spain)	
ISO 27018	ITAR	FCA (UK) ENISA IAF (EU)		
ISO-9001	NIST 800-171	FDA CFR Title 21 Part 11	EU-Model-Clauses	
SOC 1	NIST Cybersecurity Framework (CSF)	FERPA	EU-U.S. Privacy Shield	
SOC 2	Section 508 VPATS	FFIEC (US)	GB 18030 (China)	
SOC 3		FINMA (Switzerland)	GDPR (EU)	
WCAG 2.1		FINRA 4511	G-Cloud (UK)	
		FISC (Japan)	IDW PS 951 (Germany)	
		FSA (Denmark)	ISMS (Korea) IT Grundschutz Workbook (Germany) LOPD (Spain) MeitY (India)	
		GLBA		
		GxP		
		HDS (France)		





PUBLIC VS. PRIVATE VS. HYBRID

Public Cloud

- Public cloud
 - Hardware, software owned by cloud provider
 - Share hardware, storage, network resources with other organizations or cloud "tenants"
 - Access via browsers
- Advantages
 - Lower cost
 - Low maintenance
 - High scalability
 - High reliability





Private Cloud

- Private cloud
 - Exclusive to one business or organization
 - Can be located at company on-site data center or by third party service provider
 - Maintained in private network
 - Dedicated hardware and software
- Advantages
 - More flexibility
 - Improved security
 - High scalability







Hybrid Cloud

- Hybrid cloud
 - "Best of both worlds"
 - Applications in public cloud
 - Data in private cloud
- Advantages
 - Total control
 - Flexibility
 - Cost effective
 - Ease







CLOUD VENDORS

Cloud Vendors - Market Share and Growth

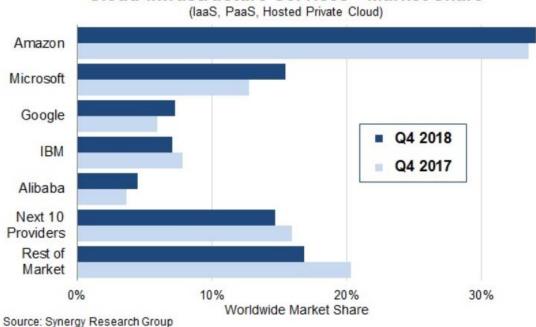








Cloud Infrastructure Services - Market Share





Basic Comparison (AWS vs. Azure)

AWS Basics

The basic Amazon AWS Infrastructure-as-a-Service (laaS) offerings break down into four classes:

- Content storage and delivery
- Compute
- Networking
- Database

Security and Identity Services

- AWS Certificate manager for managing SSL/TLS certificates
- AWS CloudHSM for hardware-based key storage and management
- Amazon CloudWatch for infrastructure resource use monitoring
- AWS Cloudtrail for tracking user activity and API use
- AWS config for tracking resource inventory and changes

Azure Basics

Azure also has four classes of offerings with a slight variation:

- Data management/databases
- Compute
- Networking
- Performance

Security and Identity Services

- Active Directory Federation Services
- Azure Active Directory
- Multi-factor auth
- Role-based access for cloud-based security



AWS Benefits

- Global coverage and number of data centers
- Toolsets
- AWS developer tools
 - CodeCommit, CodePipeline, CodeBuild, CodeDepoly
- Analytics tools
 - Athena S3 data
 - EMR HADOOP
 - QuickSight for business analytics
 - RedShift petabye-scale data warehouse
 - Glue ETL
 - Data pipeline move data



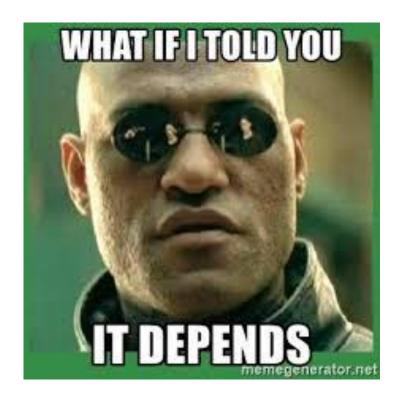
Azure Benefits

- Microsoft Enterprise
- Azure migrate
 - Evaluates on-premise environment
 - Informs if on-premise apps are suitable for migration to Azure
 - Estimate size and cost of Azure virtual environment
 - Integrates with Azure Database Migration Service
- Built for hybrid cloud
 - Allows on-premise servers into Azure environment with Azure Stack



Final Word?

- Other considerations:
 - Costs/existing licenses
 - Migration complexity
- Microsoft shops more inline with MS Stack
- Amazon is more multiplatform/open source







BI VENDOR CLOUD OFFERINGS

IBM Cognos Cloud

- Details
 - 2 options
 - Multi-tenant (public)
 - Single-tenant (private)
 - SoftLayer data center
- Benefits
 - Installed/upgraded by IBM
 - Rent, no need to buy servers
 - Content Store hosted/maintained by IBM
- Challenges
 - DQM only
 - Reduced feature set
 - No access to server
 - Storage limits
 - Additional servers for DEV/QA/sandbox come at additional cost
 - Must upgrade 2 times a year*





IBM Cognos Cloud (Feature Breakdown)

Feature	On Premise	Cloud (multi)	Cloud (dedicated)
C10 Legacy Studios (QS, AS, PP, ES)	Yes	No	ES only
Fonts, Extensions, JS, Images	Yes	No	Yes
Transformer Power Cubes	Yes	No	Yes
Dynamic Cubes	Yes	No	No
CQM Support	Yes	No	No
SDK	Yes	No	Yes
SSO	Yes	No	Yes
Burst to Filesys	Yes	No	No
On-Prem Data	Yes	No	Yes



Tableau Cloud

- Details
 - 2 options
 - Public
 - Online
 - AWS
- Benefits
 - Installed/upgraded by Tableau
 - Rent, no need to buy servers
- Challenges
 - On-prem data requires Tableau Bridge
 - No access to server
 - Additional servers for DEV/QA/sandbox come at additional cost
 - Local auth only, SSO requires SAML
 - Storage limits (extracts?)





Microsoft Power BI Service (Cloud)

- Details
 - Part of Azure
- Benefits
 - Latest updates from Microsoft (monthly)
 - Rent, no need to buy servers
 - Access cloud and on-prem
- Challenges (on-prem)
 - 2-3 Updates per year
 - Unable to create Power BI reports in the browser
 - Dashboard not available
 - Analyze in Excel not available
 - Email subscriptions not available





CHALLENGES

Top Challenges

- Data access
 - Loading data into the cloud
 - Setup VPN tunneling to on-premise data sources
 - Need for server/DBA to allow external connections and open ports
- Security
 - Configure SAML(\$), OpenID, ADFS, etc.
 - Possible namespace/authentication migration
- Automation
- Data latency
 - Bandwidth
- Costs



Need Help Migrating Your BI System?

On-prem or cloud

- Using Senturus for your migration
 - Saves up to 75% of modeling and migration time
 - Provides substantial cost savings
 - Eliminates manual errors
 - Maintains data consistency by preserving "one source of the truth"
 - Prevents needless end-user downtime
 - Proprietary migration accelerator tools



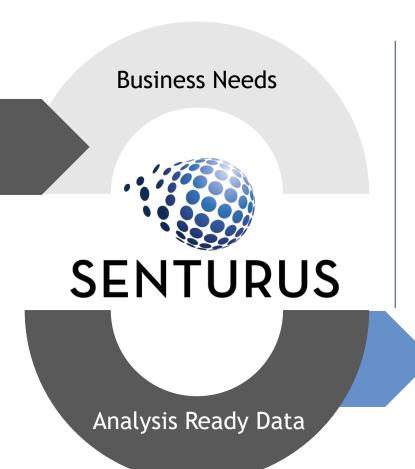


WHO WE ARE

Business Analytics Consultants

Bridging the Gap between Data & Decision Making









Business Analytics Architects

- Dashboards, reporting & visualizations
- Data preparation & modern data warehousing
- Self-service business analytics
- Salesforce reporting
- Proprietary software to enable bimodal BI and platform migrations









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ADDITIONAL RESOURCES

Upcoming Events

www.senturus.com/events



TIPS FOR INSTALLING COGNOS ANALYTICS 11.1.1

NEW INSTALLATION TOOL AND NEW STEPS

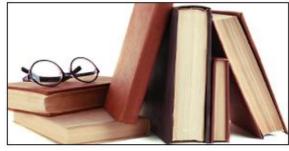
Thursday, April 25 - 11am PT (2pm ET) - 60 minutes



Free Resources

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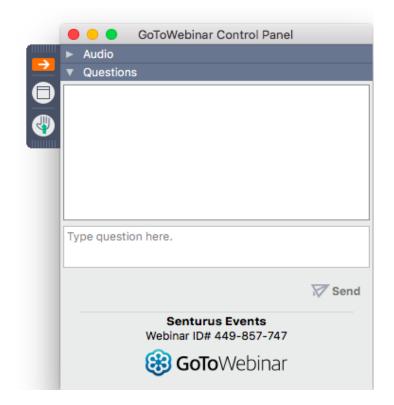


Q&A

If your question or issue is broader than what can be answered today, contact us at

info@senturus.com

and we will set up a free consultation.





Thank You!

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