

Cloud Native Apps

Darius Liktorius | September 13, 2021



About me

- 25+ Years in Tech
- 7+ Years Amazon AWS and Microsoft Azure
- Solutions Architecture, Data Architecture, Software Development, Infrastructure Engineering, Performance Optimization
- Co-Founder, Microsoft Cloud South Florida
- Speaker at Conferences and User Groups

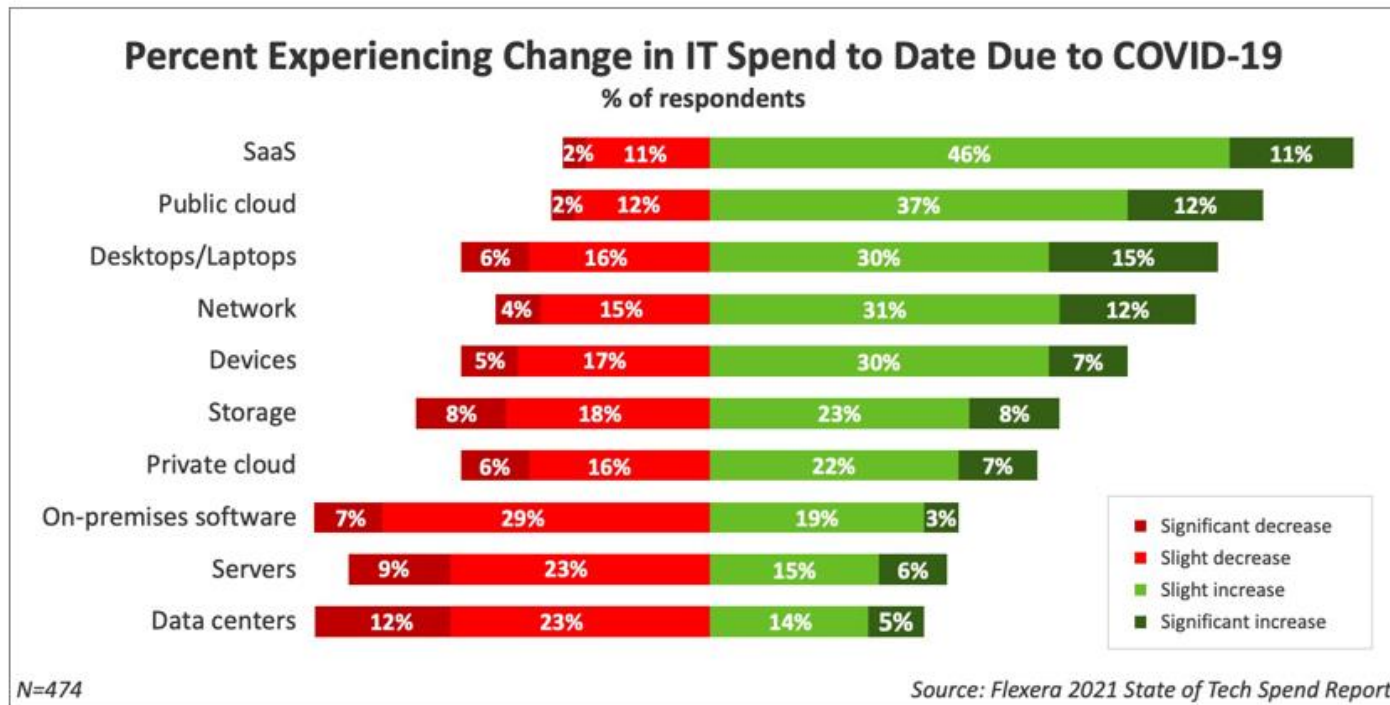


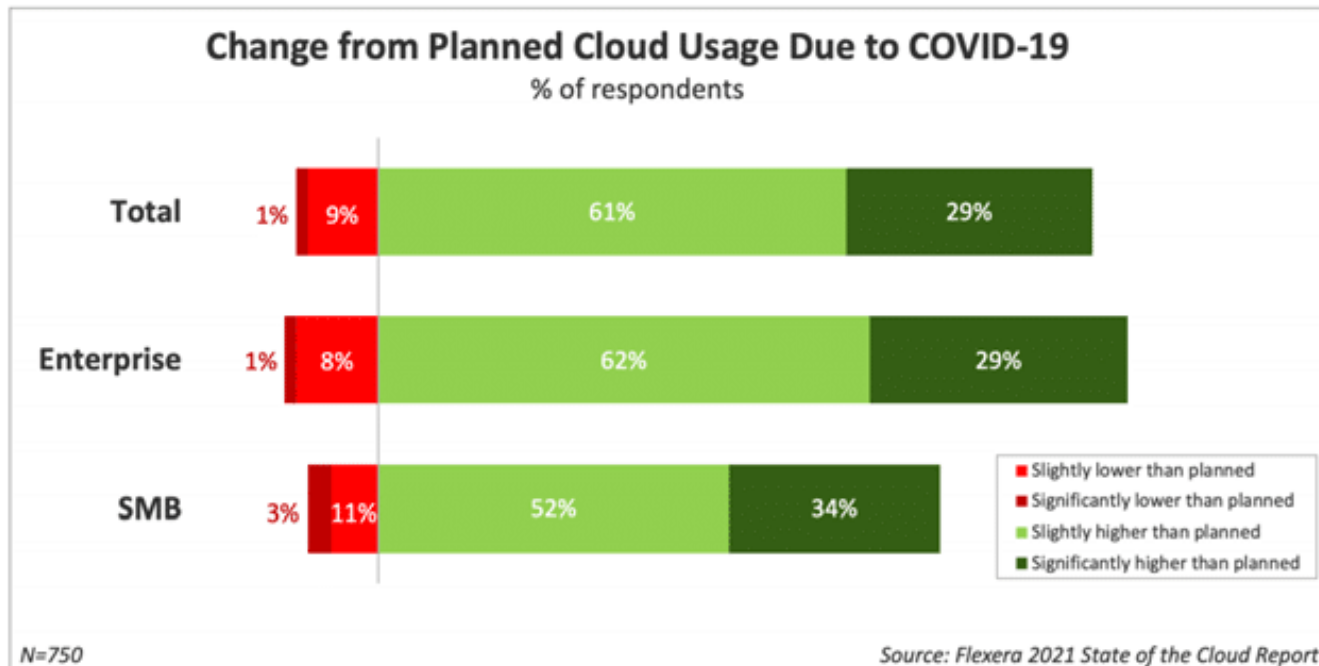
Agenda

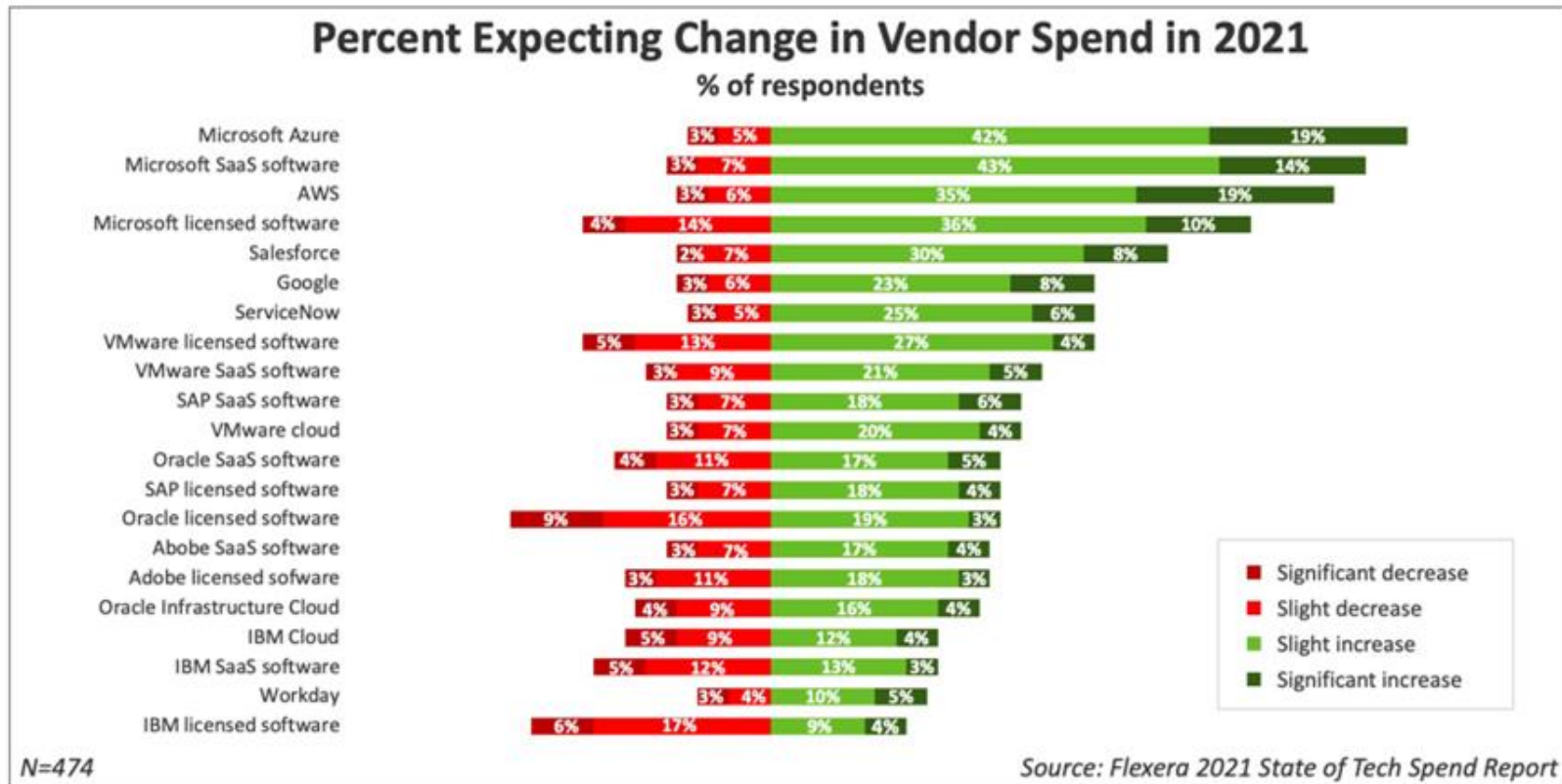
- Digital Transformation à la COVID
- Definition of “Cloud Computing”
- Lift & Shift vs Transformation
- What is “Cloud Native”?
- Cloud Native Services
- Working Examples



Digital Transformation à la COVID







Definition of Cloud Computing

Per NIST:

- On-demand, self-service (no tickets)
- Broad network access
- Resource pooling
- Rapid elasticity
- Measured service

Ref: <https://csrc.nist.gov/publications/detail/sp/800-145/final>



Lift & Shift vs Transformation

Lift & Shift	Transformation
Simple, first step toward a hybrid cloud	Refactor, replatform, re-architect, redesign
Expanded capacity, data center consolidation, scalability on-demand, cost-saving elasticity	Take greater advantage of <i>cloud native</i> automation, developer productivity, security, resiliency and pay-per-use cost models
Fast, cost-effective, minimally disruptive “as-is” migration	More costly, labor-intensive and time-consuming up front vs lift and shift



What is “Cloud Native” ?

Per IBM:

- Not *where* an application resides, but **how it is built** and deployed
- Consists of discrete, **reusable** components: “microservices”
- **Microservices** are building blocks *often packaged* in **containers**
- Work together, yet **independently**: scaled, improved, iterated
- **Flexibility** adds to agility and continuous improvement

Ref: <https://www.ibm.com/cloud/learn/cloud-native>



Cloud Native Services

	Amazon Web Services (AWS)	Microsoft Azure
Functions	AWS Lambda	Azure Functions
Containers	ECS: Fargate, EKS (k8s)*	Container Instances, AKS (k8s)*
Databases	Amazon Aurora, DynamoDB	Azure SQL Database, Cosmos DB
Storage / Queues	Amazon S3, Amazon SQS	Blob Storage, Storage Queues, Service Bus Queues



	Amazon Web Services (AWS)	Microsoft Azure
Service Bus / Messaging	Amazon SQS, MQ, MSK	Event Grid, Event Hubs, Service Bus
Native App Platform	AWS Mesh	Azure Service Fabric
Web Applications	Elastic Beanstalk, LightSail	App Service
API Platform	API Gateway	API Management
AI/ML train, deploy, automate	SageMaker, Rekognition	Machine Learning, Cognitive Services



Demo #1: AWS Serverless Cloud Native Apps



Demo #2: Containers Cloud Native Apps



Q&A: Don't be shy!



Thank you!

<https://github.com/dliktorius/programmers-week-2021>

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