REVISION HISTORY:

DATE	VERSION	DESCRIPTION
11/29/2015	V 3.0	Final Project Report

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Tree Tree

- We are online video and music content providing company started in 2013
- 4k streaming capability in mobile and PC devices
- Also offer online gaming service
- Media Partners - HBO , CBS , NBC , FOX , Disney, Ubisoft, Microsoft, EA sports
- Service available in 22 countries
- Aim to go move from being an in-house data center to hybrid cloud
- Looking for a cloud provider with scalability, reliability and security features
- Took up Netflix as a case study for taking informed decision about virtualization service provider

What Netflix did

Moved to Saas

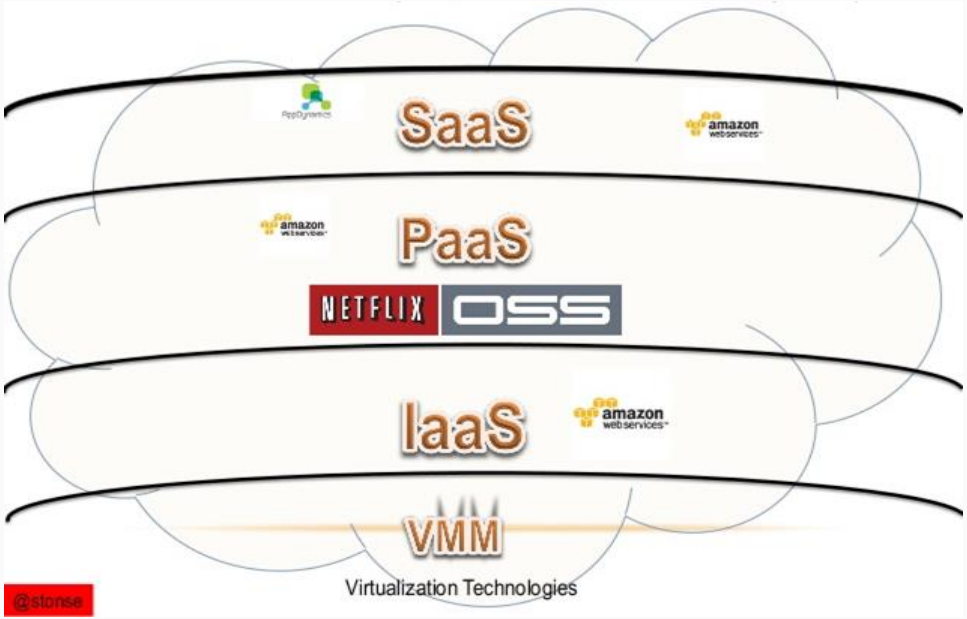
- Corporate IT – OneLogin, Workday, Box, Evernote
- Tools – AMR (Hadoop), AppDynamics

Built their own Paas

- Customized to make their developers productive
- Large scale, global, highly available, leveraging AWS

Moved incremental capacity to IaaS

- No new data center space since 2008 as they grew
- Moved their streaming apps to cloud



Vendor Comparison

Amazon AWS vs. Microsoft Azure

	AWS	Azure
Customers: Clearly a strong point for AWS	High profile customer base. Netflix, AirBnB, Channel 4, Financial Times, Dow Jones, Kurt Geiger, Nike, Nisa Retail, the Royal Opera House and many more.	Less high profile users, with most of the messaging from the vendor appearing to be around its widely used SaaS tools. NBC News Digital, Alaska Airlines, Real Madrid football club
Downtime(in 2014): Clearly a strong point for AWS	2.69 hours	50.74 hours
Virtual Network Tie: They both have solutions to extend your on-premise data center into the public (or hybrid) cloud.	Virtual Private Clouds (VPC)	Virtual Network (VNet)

Amazon AWS vs. Microsoft Azure

	AWS	Azure
Pricing Roughly comparable. Slightly better with Azure when used for short term	Per hour – rounded up	Per minute rounded up connections(pre paid or monthly)
Models More variety available with AWS	**on demand** – customers pay for what they use without any upfront cost **reserved** – customers reserve instances for 1 or 3 years with an upfront cost that is based on the utilization **spot** – customers bid for the extra capacity available	On-demand, short term commitments (pre-paid, monthly)
Global network Greater flexibility with AWS	Wide regional offerings, most data centers and access points	Global datacenter infrastructure

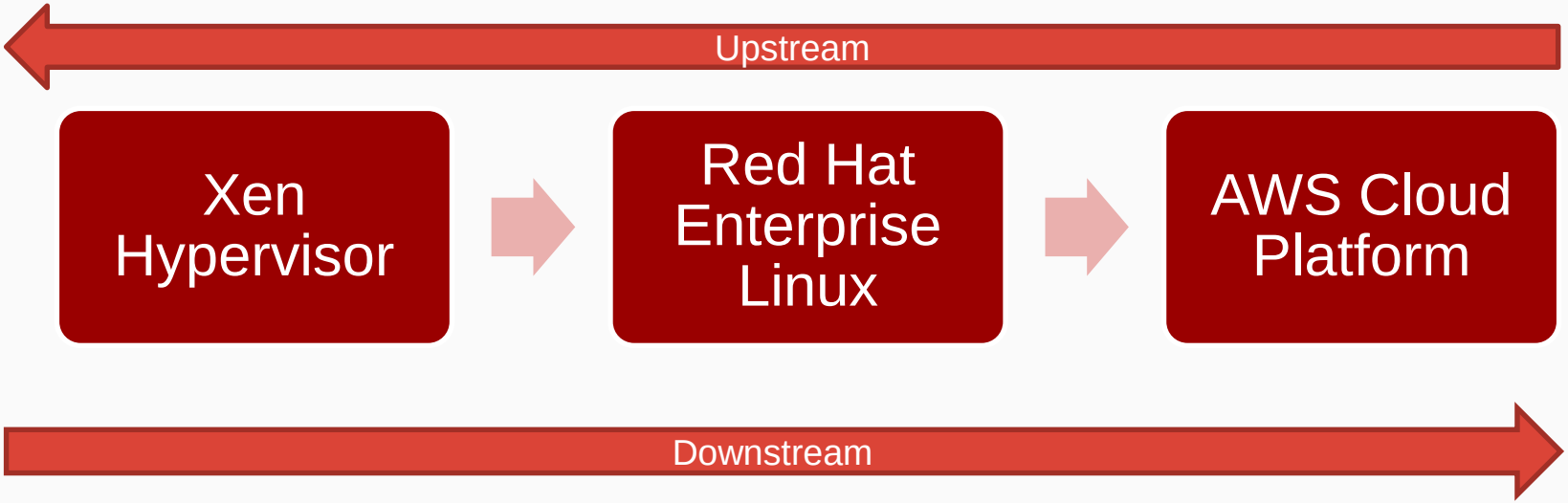
Amazon AWS vs. Microsoft Azure

	AWS	Azure
Advantages	- **Openness and flexibility of AWS cloud** - Use familiar architectures, databases, operating systems and programming languages. Improve overall productivity and time to market without the need for IT to learn new skills - **Experienced** - 15+ years of experience delivering large - scale, global infrastructure - **Security** – Builds and delivers its services in accordance with the industry's highest and strictest security best practices - **Elastic and Scalable** – Quickly add and subtract resources to applications to meet customer demand and manage costs. - **Cost-Effective** – Consume only the amount of compute, storage and other IT resources needed. - AWS makes it easier to use open source tools that run on Linux third party tools e.g. web accelerator Varnish Cache - AWS easily allows customers to 'pick and choose' to build the solution how they want it.	- Integrates closely with other Microsoft tools – Windows server, System Center and Active Directory - PaaS capabilities are better with Azure - Sales team offer competitive deals - Good for multi cloud backup

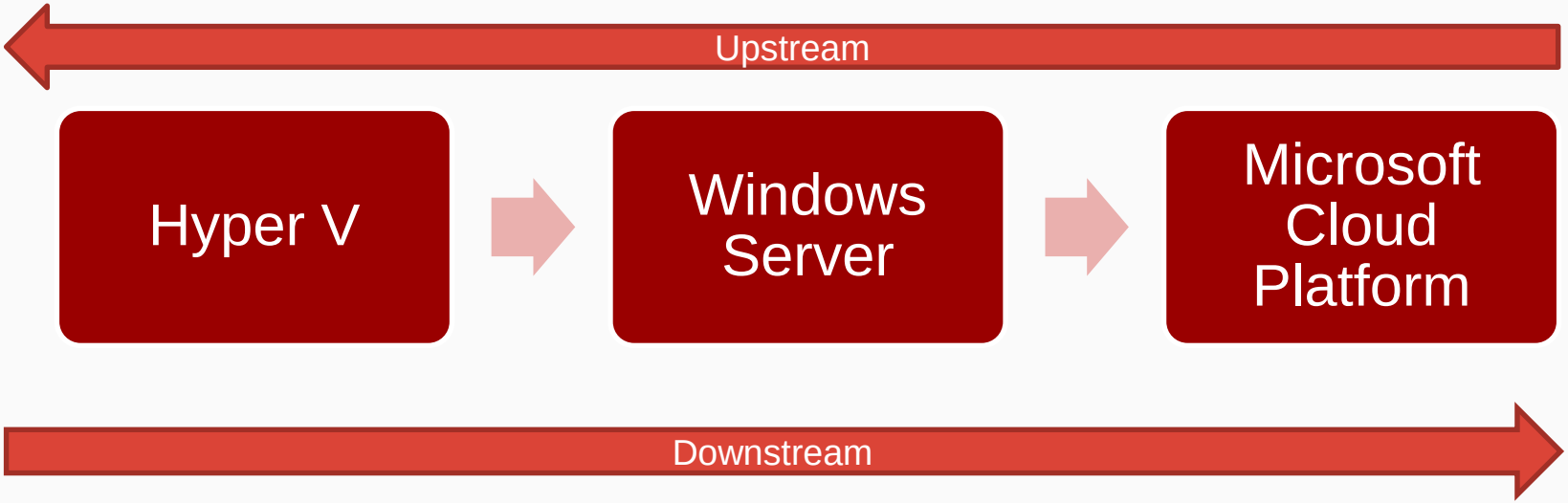
Amazon AWS vs. Microsoft Azure

	AWS	Azure
Disadvantages	- Can be difficult at times to manage large number of features that are on AWS offer - One other area AWS falls short to some degree is with its hybrid cloud strategy.	- **Does not provide users with many options to support other platforms** - If you want to run anything other than Windows Server then Azure might not be the best solution - **Microsoft's long-term cloud roadmap isn't terribly visible -** The lack of specifics on Web client plans, mobile support, and AX and SL progress into the cloud leave room for doubt - More number of outages - Content delivery speed not so promising

AWS Ecosystem



Microsoft Ecosystem



Amazon AWS vs. Microsoft Azure: Verdict

- Amazon is superior in terms of offering the widest range of functionality and most mature cloud offering.
- Microsoft has begun to bridge the gap between the two, but still Amazon has a multi-year lead over its rivals in this respect.
- Its expansive list of tools and services, along with its enterprise-friendly features make it a strong proposition for large organizations.
- Its huge - and continuously growing - infrastructure provides economies of scale that enable price cuts.

Conclusion

- Tree Tree is expecting streaming content to grow rapidly similar to Netflix
- In the following years, Tree Tree is required to handle tens of thousands of requests running across different regions, serve hundreds of micros services and serve hundreds of thousands of requests per second
- For Tree Tree business scalability, elasticity and fast delivery is extremely important
- Developers will require freedom to spin up new instances or new Amazon services to do test and experiment

Conclusion

- Moving to AWS reduces overall capital equipment and operating expenses.
- AWS provides better IT responsiveness us because of it mature IT cloud infrastructure.
- AWS requires few seconds or minutes to spin up instances v/s procuring the traditional IT infrastructure
- AWS can expand and shrink its service based on network traffic
- AWS with its proven record of scalability, elasticity and global availability of service is the best available option for Tree Tree
- We think using AWS as virtualization vendor will be the correct decision for Tree Tree

Citations

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