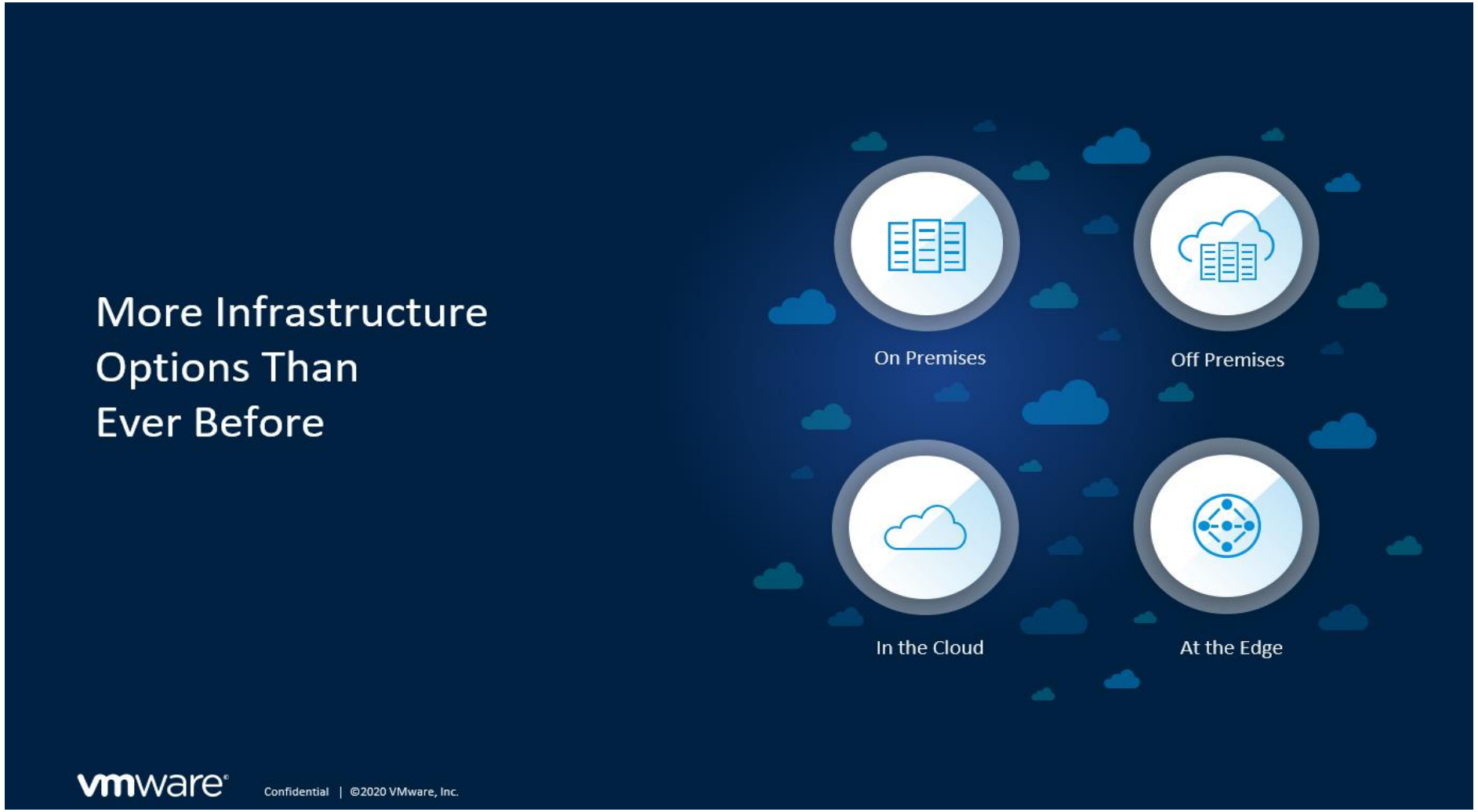
VMWare Launch - Working with Cloud Infrastructure Options

Develop Intelligence

Allen R. Sanders
Senior Technology Instructor

Class Roadmap



What Are the Options?

- On-Premise
- Public Cloud
- At the Edge
- Hybrid Cloud

What do they all mean?

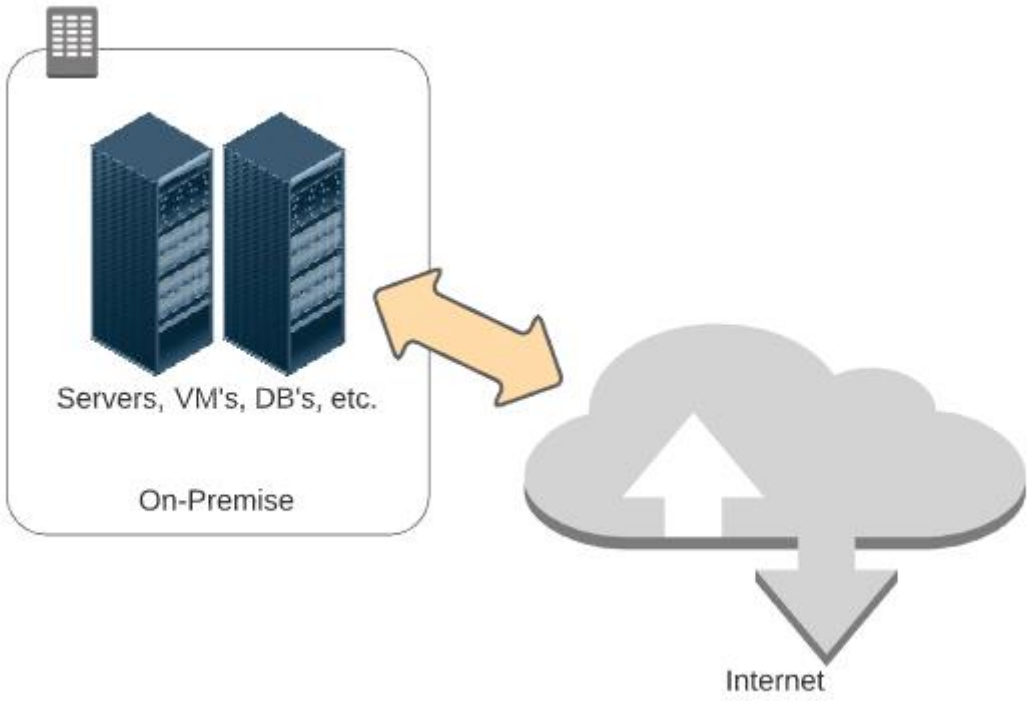
On-Premise

Develop Intelligence

Can mean a couple of different things:

- In a wholly-owned Data Center
- In a COLO (or co-location Data Center)
- Sometimes called a “private cloud”

On-Premise



On-Premise

Develop Intelligence

Why and What?

- It's how infrastructure has traditionally been done
- With this model, companies try and estimate hardware capacity needed to support business operations
- Stakeholders look to plan out expected levels of consumption for the next 3 – 5 years (capacity to handle current volumes as well as expected growth)
- Some critical workloads may not be suitable for anything but a physical and directly-managed implementation (e.g. mainframe)

On-Premise - Discussion

Develop Intelligence

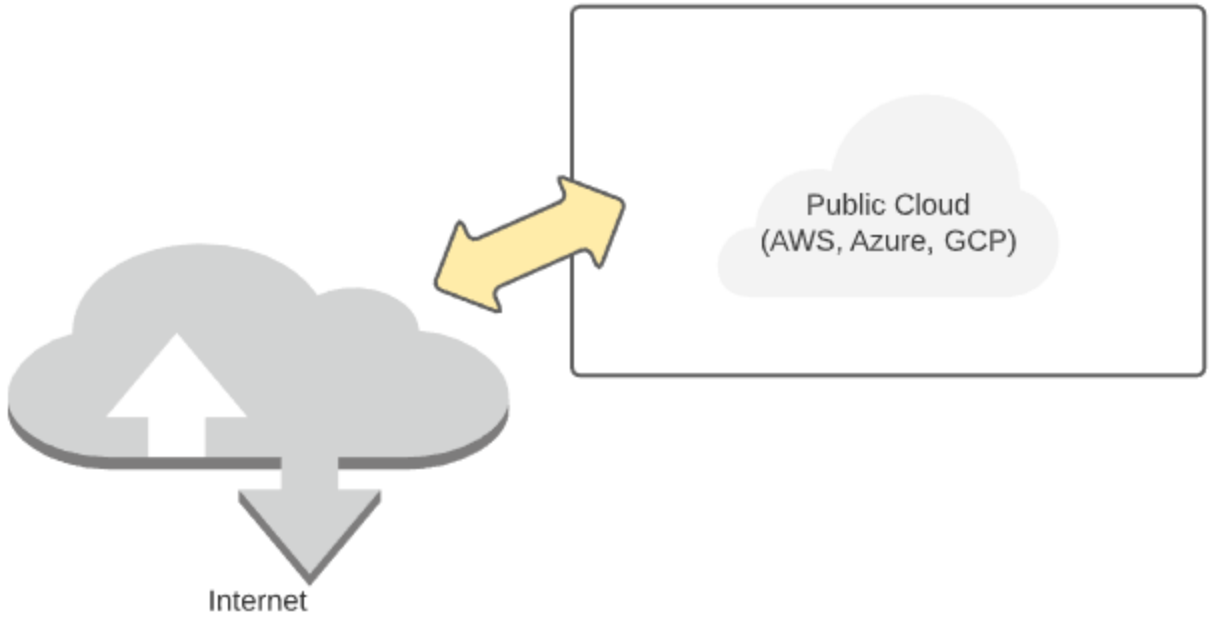
Pros?

- Discrete capacity planning (even if that planning was off)
- Some workloads (e.g. mainframes and certain legacy systems) are tailor-made for a physical data center
- With a move to COLO's, companies could begin to share expenditure

Cons?

- Sometimes difficult to know what is needed and when it is needed – if the plan was off (or unexpected spikes in demand occurred), difficult to adjust quickly
- Some workloads are just as effective (if not more so) in a virtual vs. physical implementation
- Harder to control costs and plan for costs – CAPEX vs. OPEX

Public Cloud



Public Cloud

Develop Intelligence

Why and What?

- Platform using the standard “Cloud computing model” to provide infrastructure and application services
- Accessed and integrated via the Internet
- May provide a few different types of services – IaaS, PaaS, etc.
- Usually supports a subscription or “pay as you go” (on-demand) pricing model
- Largest players in this space include Azure, AWS and GCP

Public Cloud - Discussion

Develop Intelligence

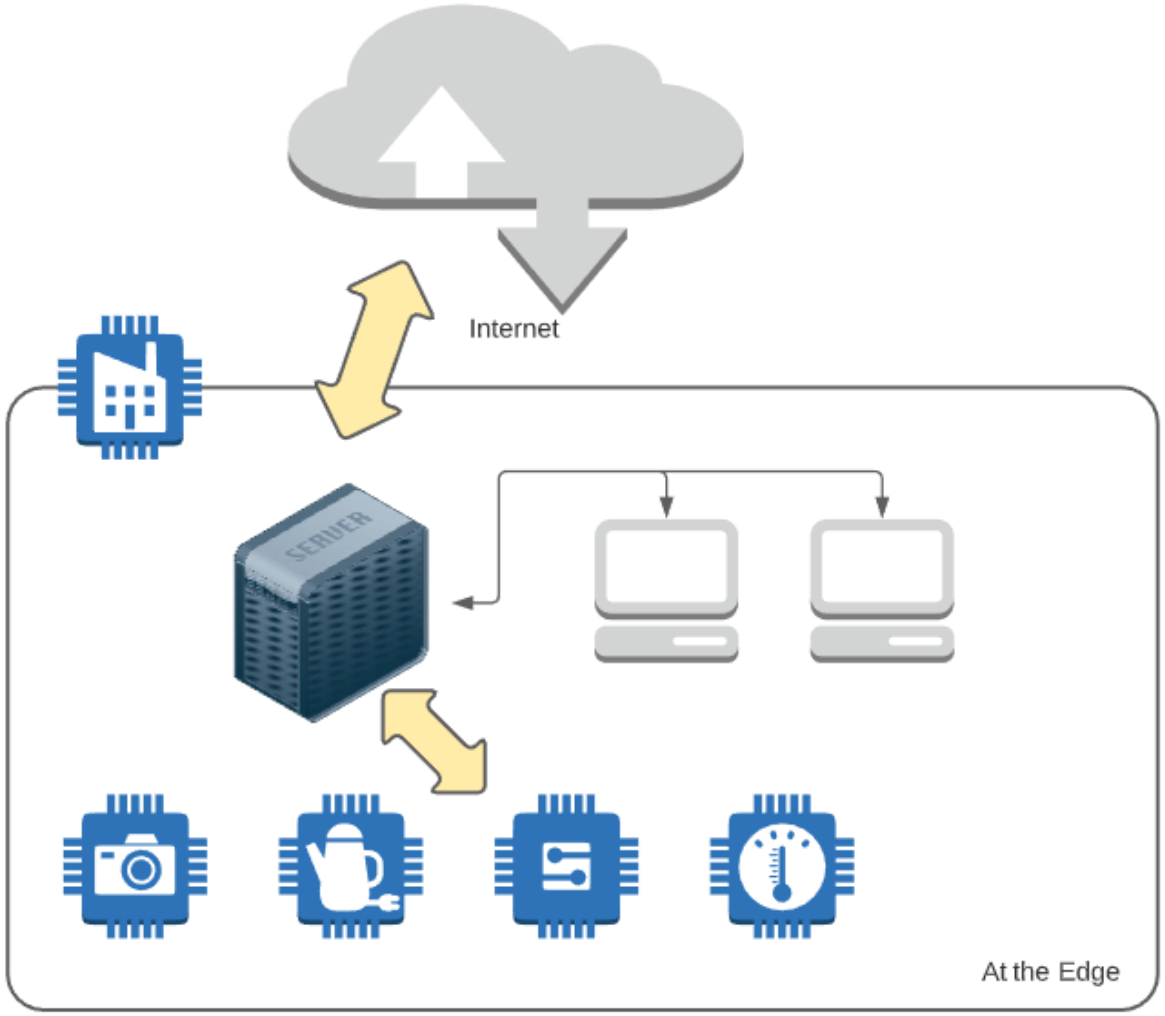
Pros?

- Flexibility and elasticity in capacity planning – enables automated schedule-based or metrics-based adjustments to capacity when required
- In some cases, managed services can be leveraged reducing operations overhead
- Because services are PAYG (pay as you go), you're only charged for what you use, and those expenses are OPEX

Cons?

- Requires enough historical data for schedule-based planning or the right configuration for metrics-based planning
- With managed services you lose some levels of granular control
- Because of the flexibility/elasticity, it can be difficult to budget and, if Cloud services are not managed/monitored, costs can be high

At the Edge



At the Edge

Develop Intelligence

Why and What?

- It's about bringing the power of Cloud computing to you
- Enables additional processing closer to the sources of data while still supporting the offload of higher order processing to the Cloud
- Often involves setting up "Cloud-in-a-box" facilities on-premise
- IoT (Internet of Things) is a good example – devices in a facility reading massive amounts of data can incorporate processing at the edge to improve overall efficiency
- Helps inject lower latency, increased security and improved bandwidth into systems used to aggregate critical data for an enterprise

At the Edge - Discussion

Develop Intelligence

Pros?

- Allows distribution of processing power across a larger surface area
- Can be used to bring critical latency, security and bandwidth improvements to specific types of business workflows
- Efficiencies gained “at the edge” can help with managing the cost of processing data

Cons?

- Requires more infrastructure and more configuration to support that distribution
- Increased distribution of processing power and activity can expand attack surface and requires the right configuration to ensure optimal interaction between system components (i.e. increased complexity)
- More components “at the edge” can lead to increased infrastructure costs

Hybrid Cloud

Develop Intelligence

Why and What?

- In many ways, an amalgamation of the other options
- Supports distribution of system processing across on-premise infrastructure and the public Cloud
- Allows an enterprise to keep workloads that are best-suited for on-premise running on-premise while allowing migration of components that can move to the public Cloud
- Can help make an enterprise's move to the Cloud more gradual and planful

Hybrid Cloud - Discussion

Develop Intelligence

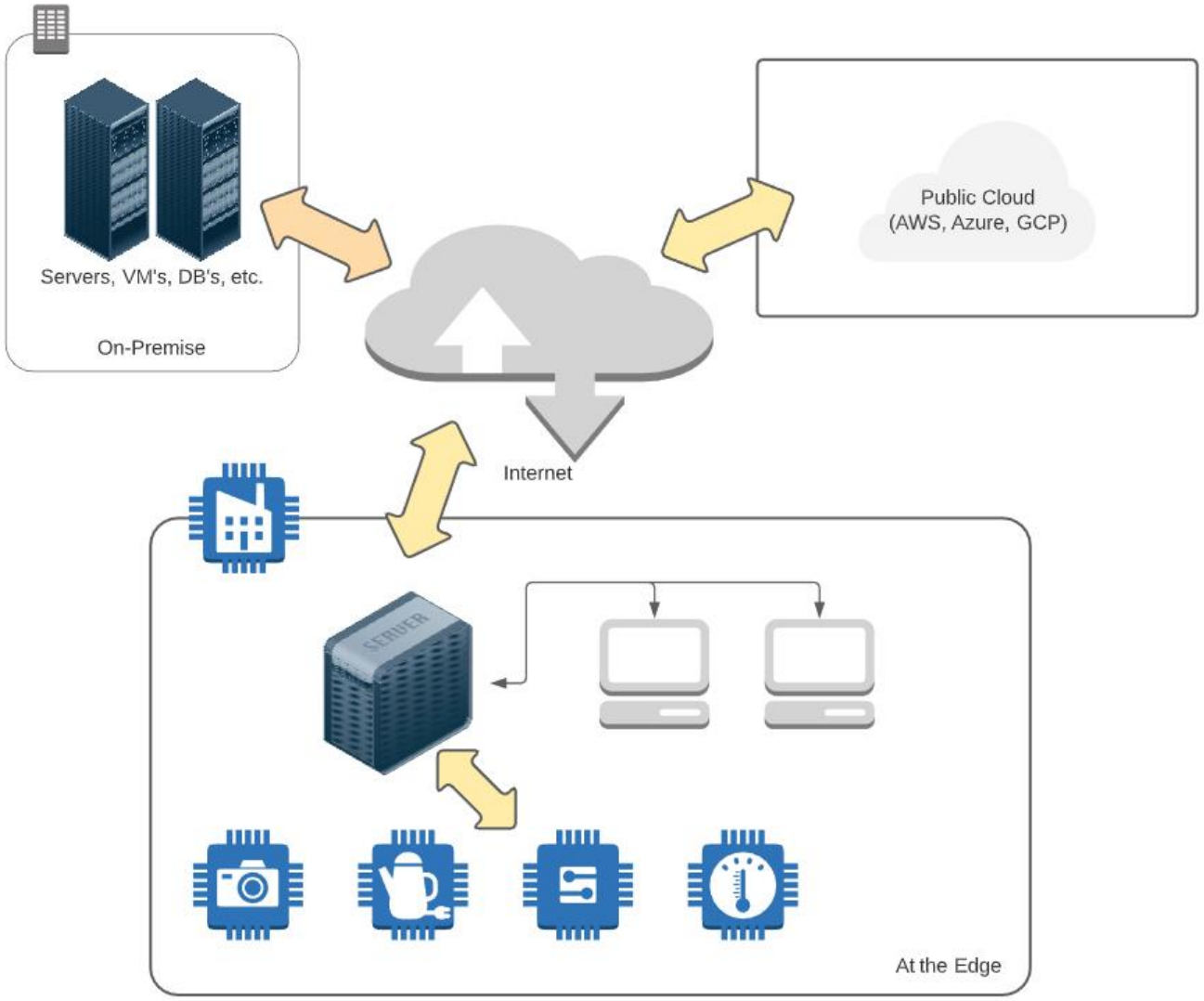
Pros?

- Allows distribution of processing power across a larger surface area
- Can allow a move to the Cloud to be more gradual and allow an enterprise to target optimal deployment platform while making the move
- The ability to support a gradual move enables an enterprise to assess and understand Cloud costs over time

Cons?

- Requires more infrastructure and more configuration to support that distribution
- As with Edge, can lead to increased complexity, often including required setup and maintenance of dedicated, secure connectivity between a data center and the Cloud
- If not managed optimally, costs can be higher due to need to pay for Cloud usage and data center (CAPEX + OPEX)

Hybrid Cloud



Break (10 min.)

THANK YOU

Develop
Intelligence


Develop
Intelligence