LIGHTNING TALK

Hyperscale Migrations

Tricks for Supporting Large Migrations with DevOps

Ken Muse, Wintellect

About Me

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About This Talk

Today you will learn about…

- DevOps strategies for hyperscale migrations
- Cultural aspects which support migrations
- Optimizing virtual machine deployments

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The Hyperscale Migration

Moving thousands of virtual machines from a private data center to Azure

- Customer-facing production systems
- Business-critical internal systems
- Development and test servers

The Hyperscale **Development** Migration

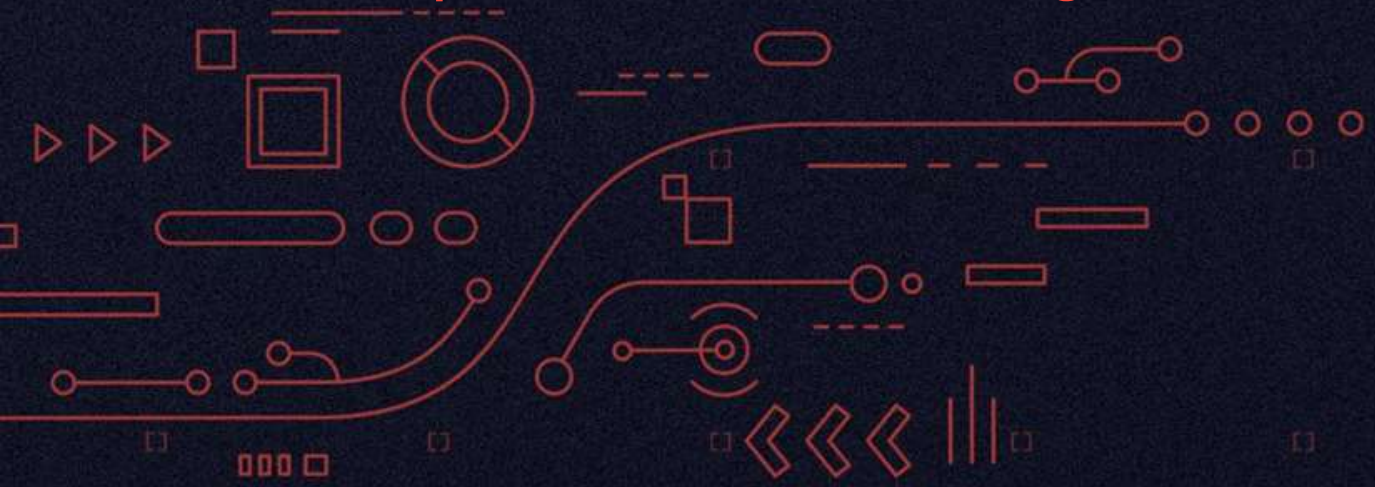
Development teams needed improved flexibility for development and test

- Thousands of disposable VMs per month
- Base images frequently redefined
- Teams require custom images
- Short start times (< 5 minutes)
- Resources must expire automatically

Hyperscale Migrations

The Solution

DevOps Practices for Migrations



DEVOPS WORLD
by CloudBees

A Culture of DevOps

- Create a clear vision
- Alignment and autonomy
- Deliver value iteratively
- Aim for repeatable processes
- Supportive feedback loops

Selective Resource Migration

Why selective instead of complete lift-and-shift?

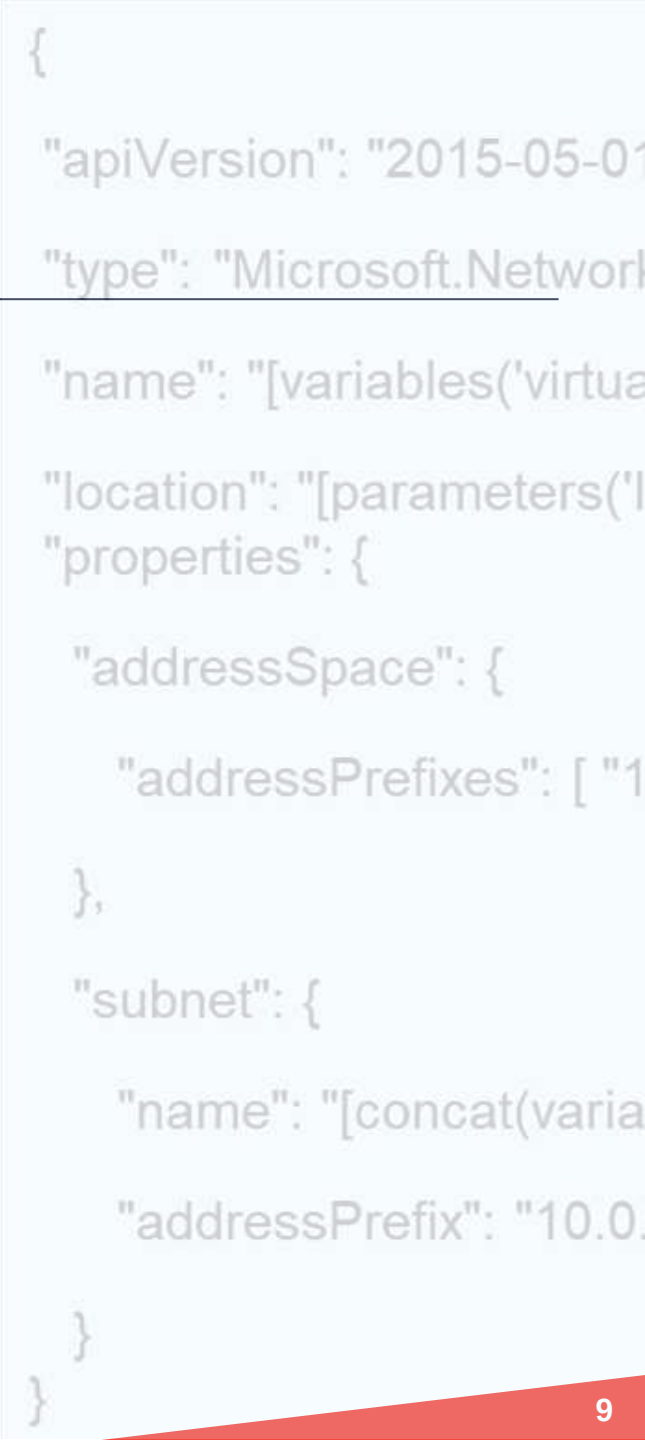
The surprising truth is …

- Physical hardware is typically 5% to 15% utilized
- Virtual machine utilization rates are similar, often 6% - 10%
- 25% to 30% of physical and virtual machines are zombies
- Not all systems have the same deployment requirements

Source: Anthesis Group (2017); VMWare (2020)

The Strategy

- Identify similar machines
- Identify the common system requirements
- Identify the installable components
- Build systems/components using infrastructure-as-code
- Store the code in Git
- Combine the components as-needed during build/deploy



Go Native!

- ARM Templates
- Azure Image Builder
- Azure Shared Image Gallery
- Custom script extensions
- Artifacts and Formulas
- DevTest Labs

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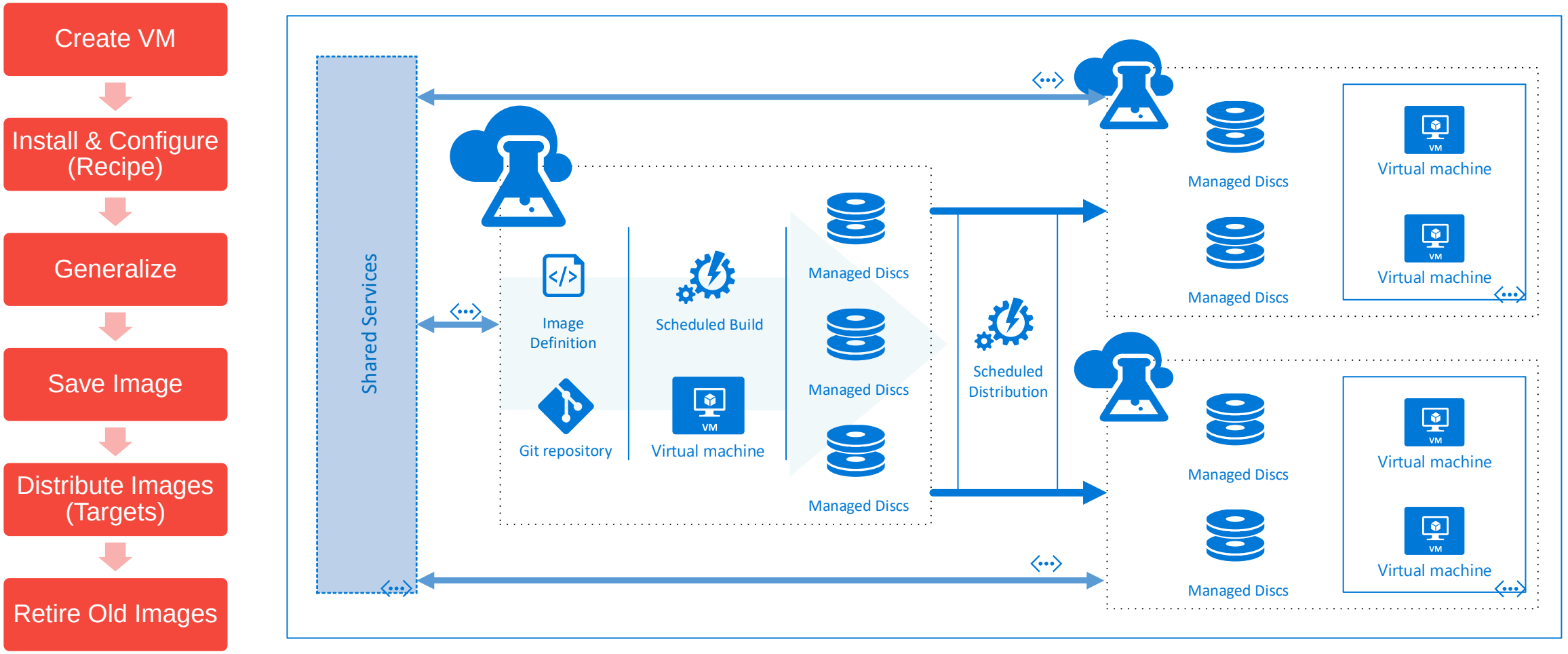
Azure DevTest Labs

- Enable team to quickly provision and deploy environments on-demand
- Automatic shutdown and deletion
- Supports marketplace and user-defined images
- Completely deployed and defined using infrastructure-as-code
  - Environments as ARM Templates
  - Customs tools and software as Artifacts
  - Common configurations as Formulas

Image Factory Pattern



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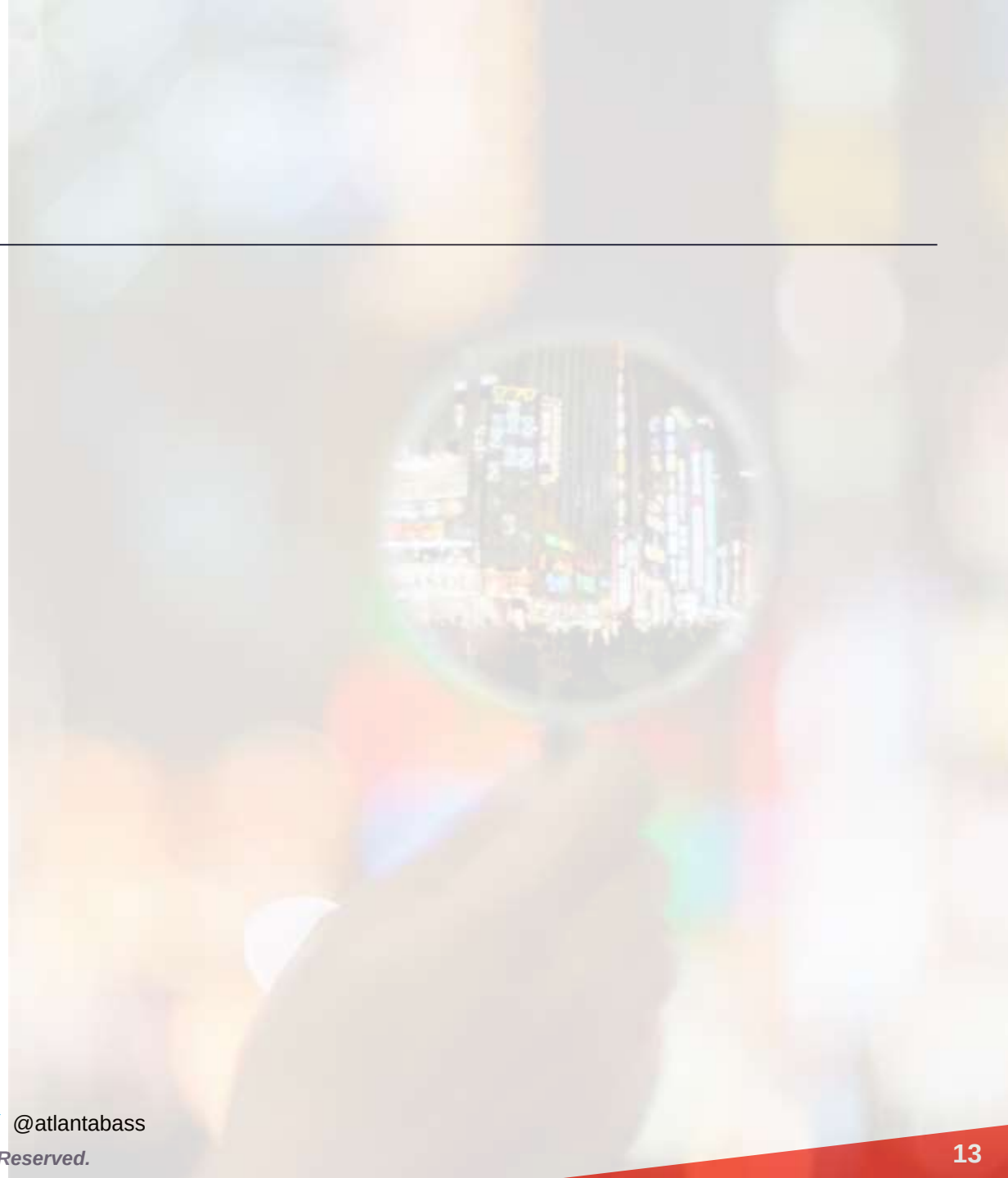
Recap

1. A culture of DevOps
2. Selective migration
3. Infrastructure-as-code strategy
4. Go Native!
5. Azure DevTest Labs
6. Image Factory pattern



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