

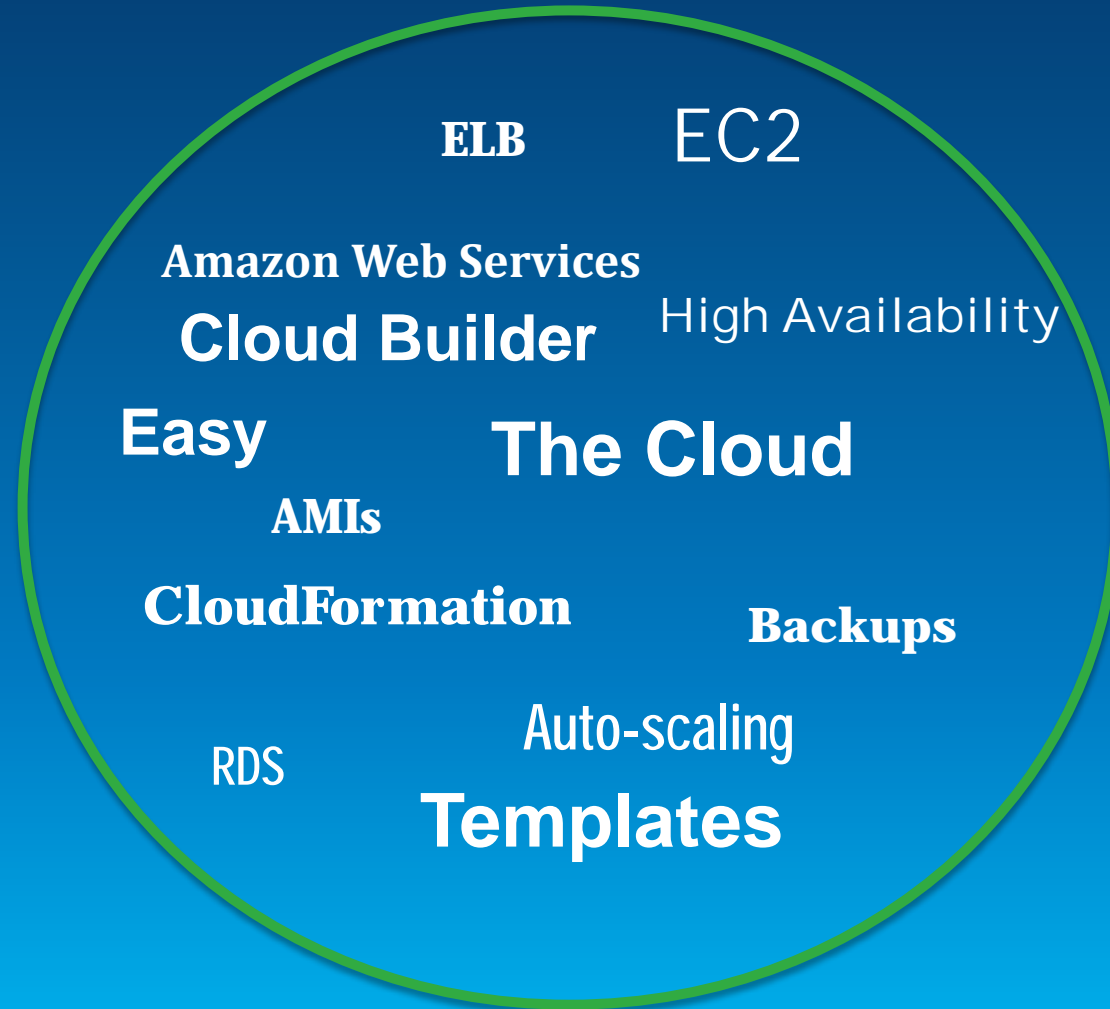


Esri International Developer Summit
Palm Springs, CA

ArcGIS for Server for the Amazon Cloud

David Cordes, Cherry Lin

What we'll cover....



Amazon Web Services

EC2 = machine rental service

ELB = elastic load balancer

Auto-scaling = auto +/- machines

Security group = firewall rules

Region, & Availability Zone

Get Server running on EC2

Deploying a new site

Three approaches:

1. **AWS Console**
2. **Cloud Builder**
3. **Cloud Formation**

AWS Console

Start from AMI

Launch in AWS Console

Only for single-machine sites

Configure like on-premises

Recommend Cloud Builder

Cloud Builder

Distributed sites or single-node

Launches machines

Creates Site

Sets up Database (optional)

Demo: Cloud Builder

**Updating Server once
it is running**

Updating

Updating = new service, data, or patch

Two approaches

1. Traditional, update your site in-place
2. Template updates.

Traditional

Make direct changes on all machines

Not cloud friendly

Template approach

Template = Hot “snapshot” of site

Saves services, data, and apps

How it works:

1. Update existing site
2. Make template
3. Launch new site from template
4. Replace old site with new (using DNS)

Data Strategies

Most data => scp or copy/paste

Huge data => ship a hard drive

Editing => geodatabase replication

Backup Strategies

Cloud Builder Backup

Cold
Fast restores

Templates

Hot
Slower restores

ArcGIS Server's Backup (10.2+)

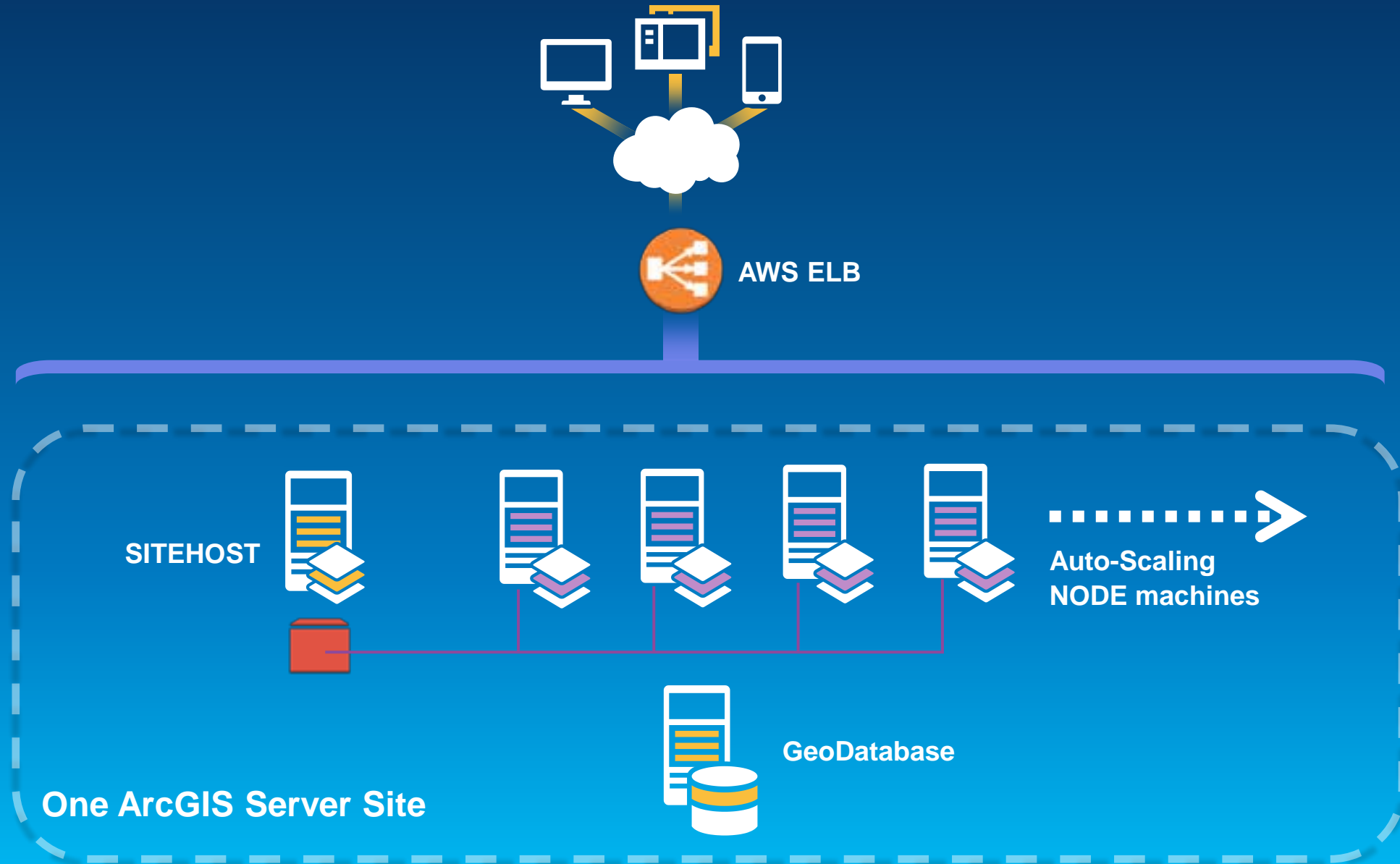
Hot
Fast restores
No cache or data

High Availability of ArcGIS Server Site on AWS

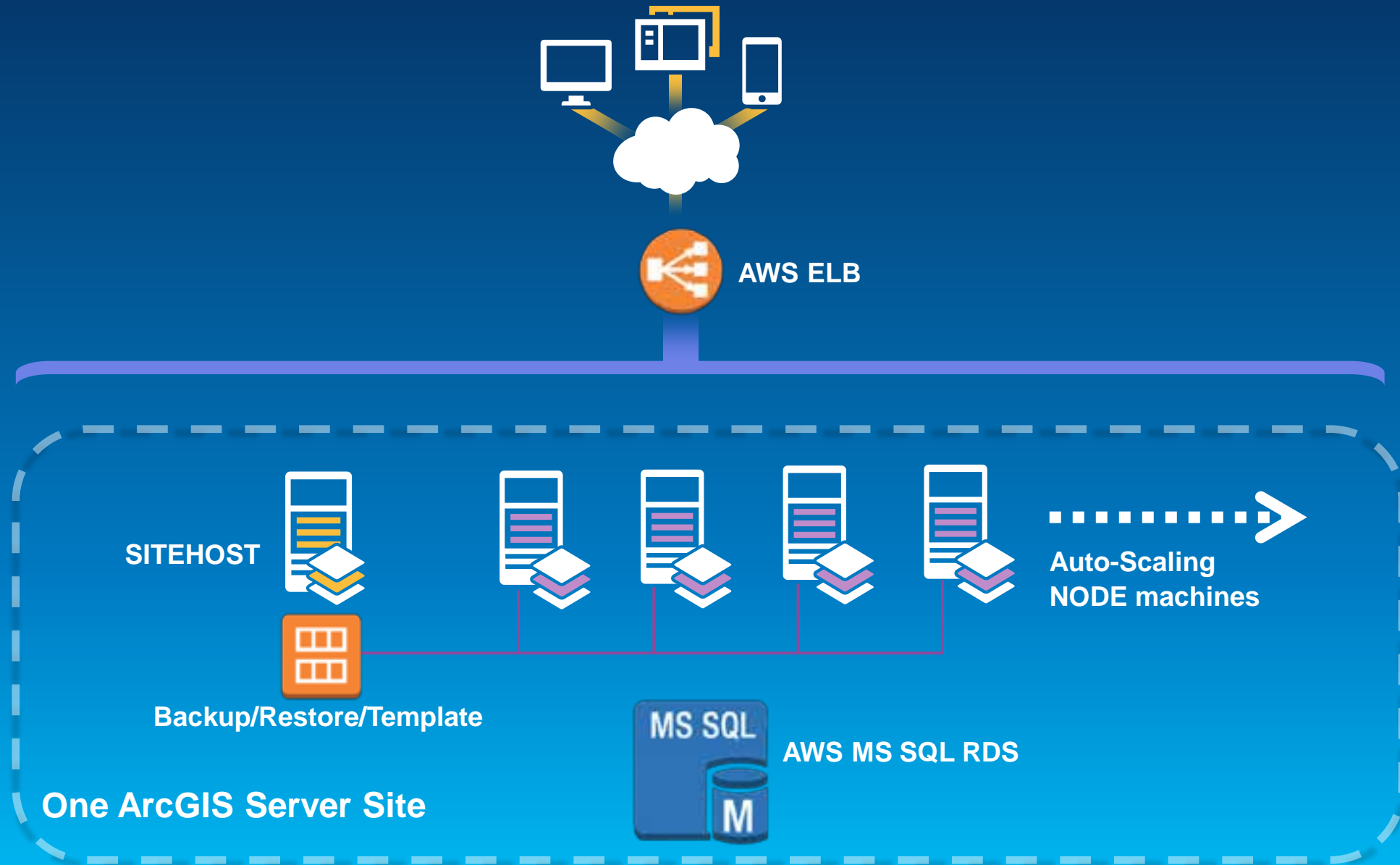
ArcGIS Server Architecture

- **Two types of ArcGIS Server architecture**
 - **ArcGIS Server SITE architecture**
 - Site created by Cloud Builder
 - **ArcGIS Server Sileod architecture**
- **On AWS and on-premise**

ArcGIS Server SITE Architecture



ArcGIS Server SITE Architecture



ArcGIS Server SITE Architecture

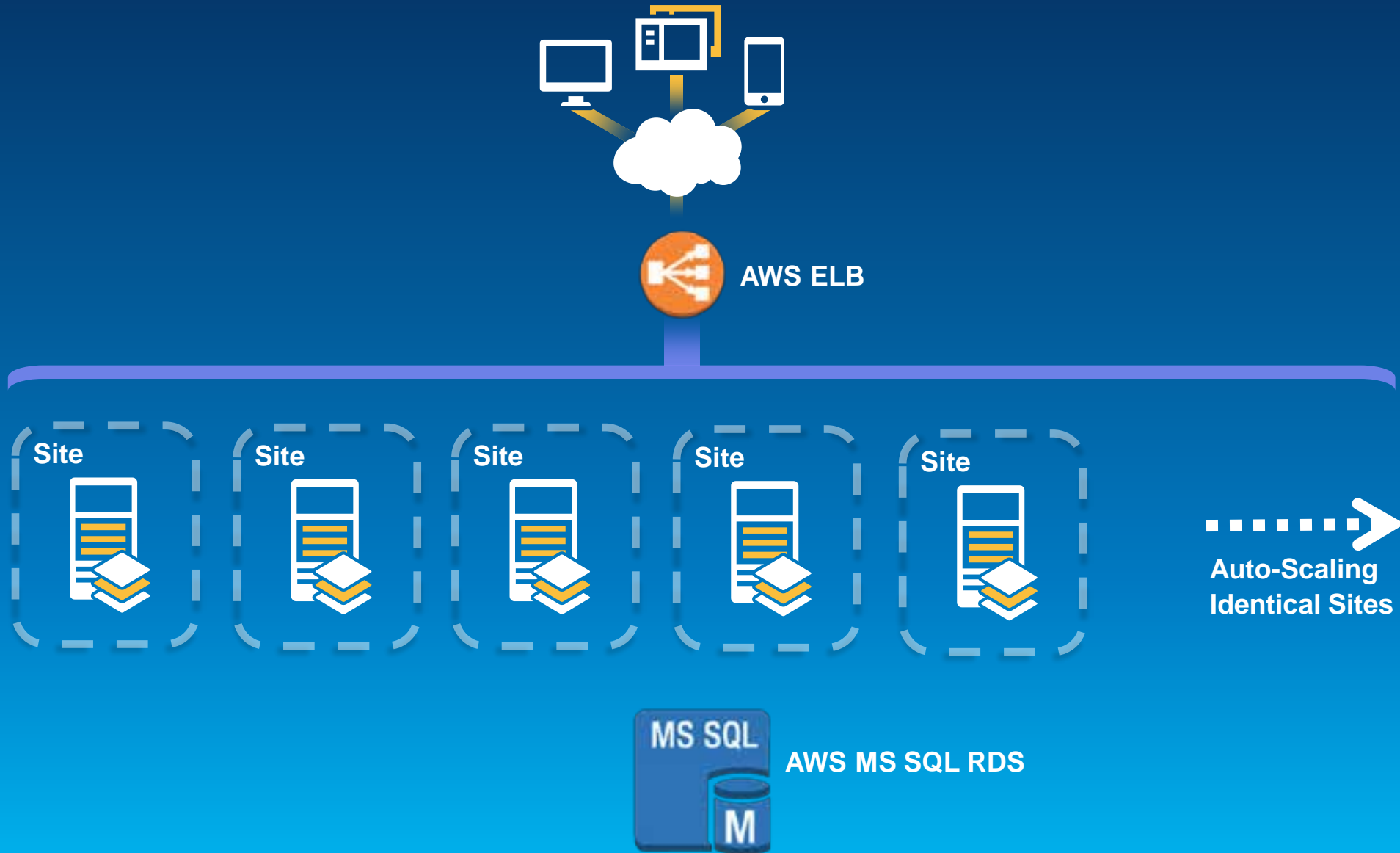
- **Pros:**

- Easy to Setup through Cloud Builder
- Full ArcGIS Server functionalities
- Easy to administrate ArcGIS Server
- High Availability designs/features built into Cloud Builder

- **Cons:**

- Require downtime when making backup and template
- Will need up to about 30 minutes to restore

ArcGIS Server Silo Architecture



ArcGIS Server Silo Architecture

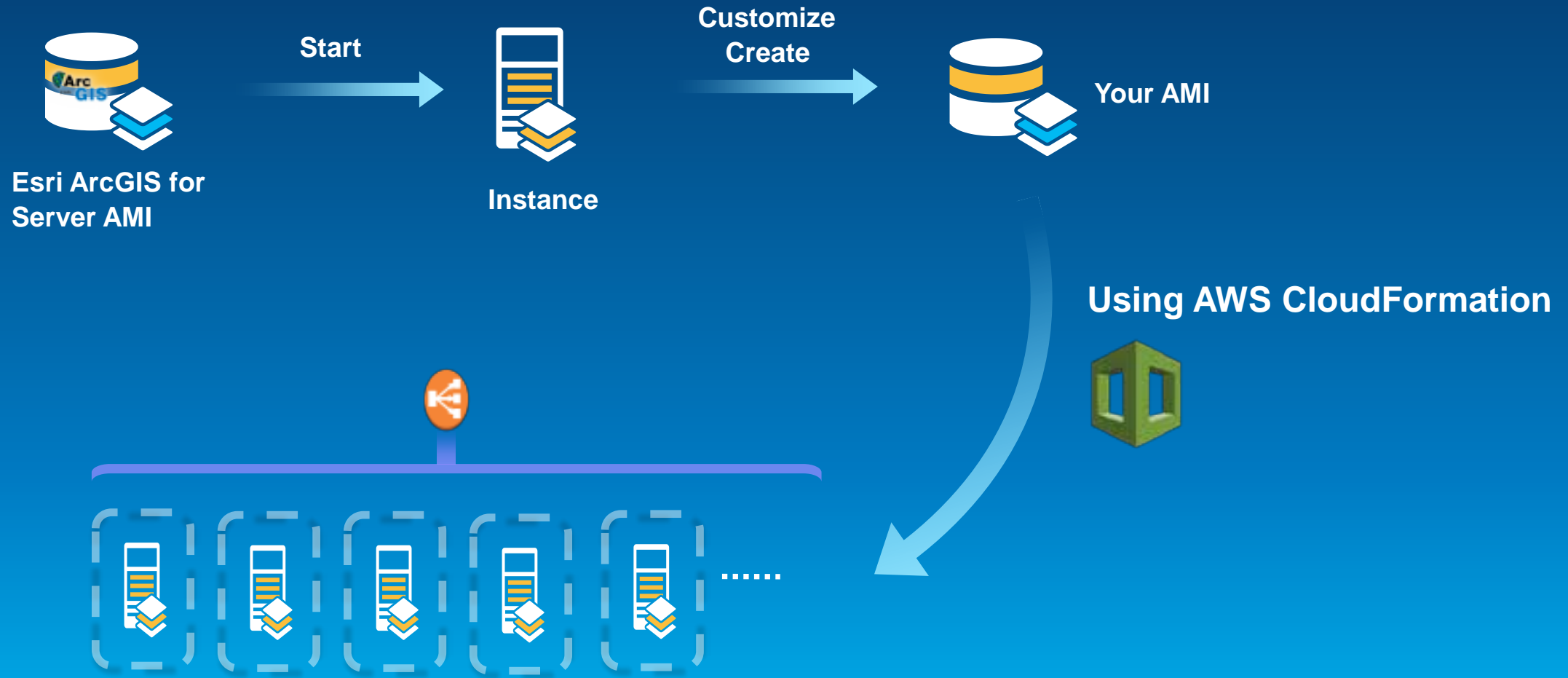
- **Pros**

- **Highly available: reduce downtime to very minimum**
- **Highly available during update too.**

- **Cons**

- **More difficult to manage**
 - **“Read-only” Site**
 - **More effort to update, e.g. publishing a new service**
- **Less ArcGIS Server functions**
 - **Not for Caching tasks**

ArcGIS Server Silo Architecture: Workflow



AWS CloudFormation

- Define your architecture
- Create/Manage your resources in a predictable way
- Automate/Customize your deployment
- Use JSON format templates.
- AWS provided templates. <http://esriurl.com/AWSTemplate>

ArcGIS Server CloudFormation Templates

- **Classic EC2 and VPC**
- **EC2 instances to be across zones**
- **Update pattern to be a predictable way**
- **Output Image format to be MIME**
- **Load Balancer Cookie Stickiness**
- **Online Help: <http://esriurl.com/EsriAWSTemplate>**

Survey

- <http://www.esri.com/events/devsummit/session-rater>
- Enter: “ArcGIS Server for the Amazon Cloud”
- 10 seconds
- Comments really welcome

FYI: Slides for this presentation are available at:

<http://1drv.ms/1fnkpTK>



Understanding our world.