

Federal GIS Conference

February 9–10, 2015 | Washington, DC



Using ArcGIS for Server in the Amazon Cloud

Bonnie Stayer, Esri

Amy Ramsdell, Blue Raster

Session Outline

- **AWS Overview**
- **ArcGIS in AWS**
- **Cloud Builder**
- **Benefits**
- **Security**
- **Case Study from Blue Raster**

AWS Overview

Utility Computing

**ON DEMAND
UNIFORM
PAY AS YOU GO
AVAILABLE**





**ON DEMAND
UNIFORM
PAY AS YOU GO
AVAILABLE**




Amazon Web Services

Compute

 **EC2**
Virtual Servers in the Cloud


 **Lambda**
Run Code in Response to Events

Storage & Content Delivery


 **S3**
Scalable Storage in the Cloud

 **Storage Gateway**
Integrates On-Premises IT Environments with Cloud Storage


 **Glacier**
Archive Storage in the Cloud


 **CloudFront**
Global Content Delivery Network

Database

 **RDS**
MySQL, Postgres, Oracle, SQL Server, and Amazon Aurora

 **DynamoDB**
Predictable and Scalable NoSQL Data Store


 **ElastiCache**
In-Memory Cache

 **Redshift**
Managed Petabyte-Scale Data Warehouse Service

Networking


 **VPC**
Isolated Cloud Resources


 **Direct Connect**
Dedicated Network Connection to AWS


 **Route 53**
Scalable DNS and Domain Name Registration

Administration & Security


 **Directory Service**
Managed Directories in the Cloud

 **Identity & Access Management**
Access Control and Key Management


 **Trusted Advisor**
AWS Cloud Optimization Expert


 **CloudTrail**
User Activity and Change Tracking

 **Config** PREVIEW
Resource Configurations and Inventory

 **CloudWatch**
Resource and Application Monitoring

Deployment & Management


 **Elastic Beanstalk**
AWS Application Container


 **OpsWorks**
DevOps Application Management Service

 **CloudFormation**
Templated AWS Resource Creation

 **CodeDeploy**
Automated Deployments


Analytics


 **EMR**
Managed Hadoop Framework


 **Kinesis**
Real-time Processing of Streaming Big Data

 **Data Pipeline**
Orchestration for Data-Driven Workflows

Application Services


 **SQS**
Message Queue Service

 **SWF**
Workflow Service for Coordinating Application Components


 **AppStream**
Low Latency Application Streaming


 **Elastic Transcoder**
Easy-to-use Scalable Media Transcoding


 **SES**
Email Sending Service

 **CloudSearch**
Managed Search Service


Mobile Services


 **Cognito**
User Identity and App Data Synchronization

 **Mobile Analytics**
Understand App Usage Data at Scale

 **SNS**
Push Notification Service

Enterprise Applications

 **WorkSpaces**
Desktops in the Cloud

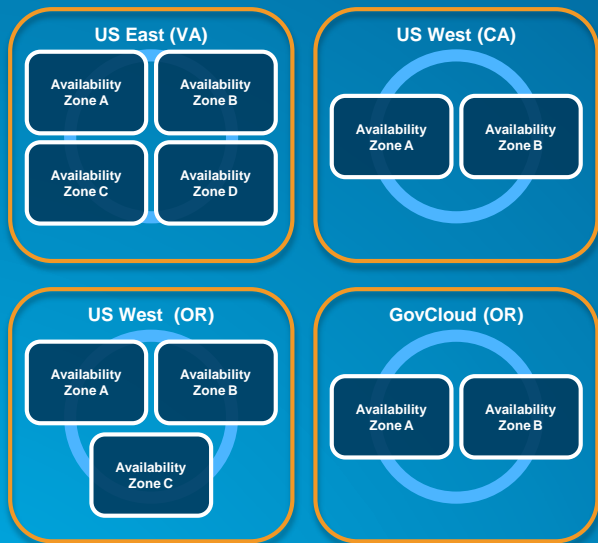
 **Zocalo**
Secure Enterprise Storage and Sharing Service



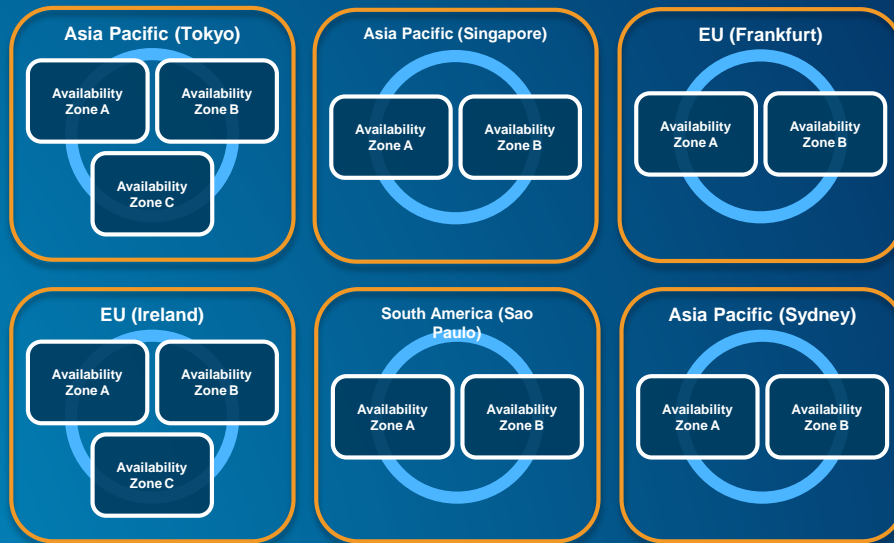
● 10 AWS Regions

● 30+ AWS Edge Locations

US Regions



Global Regions



Note: Conceptual drawing only. The number of Availability Zones may vary.



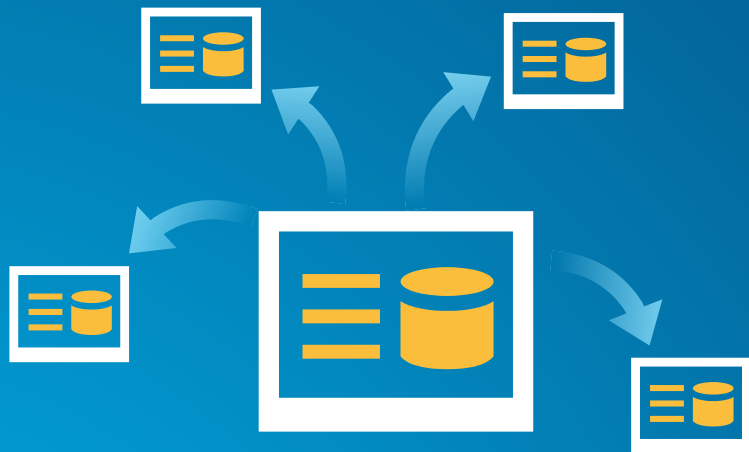
**Virtual machines (instance types)
optimized for:**

- **General purpose**
- **Compute**
- **GPU**
- **Memory**
- **Storage**

Elastic Block Storage (EBS)

- Storage volumes can be attached to EC2 instances
- Can be detached and preserved separately





**Amazon
Machine
Image (AMI)**

Preconfigured with:

- Operating system
- Architecture (32-bit or 64-bit)
- Storage
- Applications (i.e. ArcGIS)

AWS Services Edit DTC Studio Team (WDCS) N. Virginia Support

Amazon Web Services

- Compute**
 - EC2** Virtual Servers in the Cloud
 - Lambda** Run Code in Response to Events
- Storage & Content Delivery**
 - S3** Scalable Storage in the Cloud
 - Storage Gateway** Integrate On-Premises IT Environments with Cloud Storage
 - Glacier** Archive Storage in the Cloud
 - CloudFront** Global Content Delivery Network
- Database**
 - RDS** MySQL, PostgreSQL, Oracle, SQL Server, and Amazon Aurora
 - DynamoDB** Predictable and Scalable NoSQL Data Store
 - ElastiCache** In-Memory Cache
 - Redshift** Managed Petabyte-Scale Data Warehouse Service
- Networking**
 - VPC** Isolated Cloud Resources
 - Direct Connect** Dedicated Network Connection to AWS
 - Route 53** Scalable DNS and Domain Name Registration
- Administration & Security**
 - Directory Service** Managed Directories in the Cloud
 - Identity & Access Management** Access Control and Role Management
 - Trusted Advisor** AWS Cloud Optimization Expert
 - CloudTrail** User Activity and Change Tracking
 - Config** Resource Configurations and Inventory
 - CloudWatch** Resource and Application Monitoring
- Deployment & Management**
 - Elastic Beanstalk** AWS Application Container
 - OpsWorks** DevOps Application Management Service
 - CloudFormation** Templated AWS Resource Creation
 - CodeDeploy** Automated Deployments
- Analytics**
 - EMR** Managed Hadoop Framework
 - Kinesis** Real-time Processing of Streaming Big Data
 - Data Pipeline** Orchestration for data-driven Workflows
- Application Services**
 - SQS** Message Queue Service
 - SWF** Workflow Service for Coordinating Application Components
 - AppStream** Low-Latency Application Streaming
 - Elastic Transcoder** Easy-to-use Scalable Media Transcoding
 - SES** Email Sending Service
 - CloudSearch** Managed Search Service
- Mobile Services**
 - Cognito** User Identity and App Data Synchronization
 - Mobile Analytics** Understand App Usage Data at Scale
 - SNS** Push Notification Service
- Enterprise Applications**
 - WorkSpaces** Desktops in the Cloud
 - Zocalo** Secure Enterprise Storage and Sharing Service

Additional Resources

Getting Started

See our documentation to get started and learn more about how to use our services.

AWS Console Mobile App

View your resources on the go with our AWS Console mobile app, available from Amazon Appstore, Google Play, or iTunes.

AWS Marketplace

Find and buy software, launch with 1-Click and pay by the hour.

Service Health

✔ All services operating normally

Updated: Jan 20 2015 10:03:00 GMT-0500

[Service Health Dashboard](#)

Set Start Page

AWS Management Console Demo

ArcGIS in AWS





**Ubuntu with
PostgreSQL**



**Windows Server
with SQL Server**



**Windows Server
with SQL Express**



Esri AMI



Services



Web Application



Custom AMI

Amazon EC2

Region

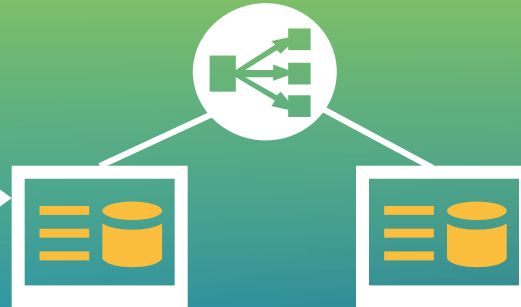
Availability Zone

Virtual Private Cloud

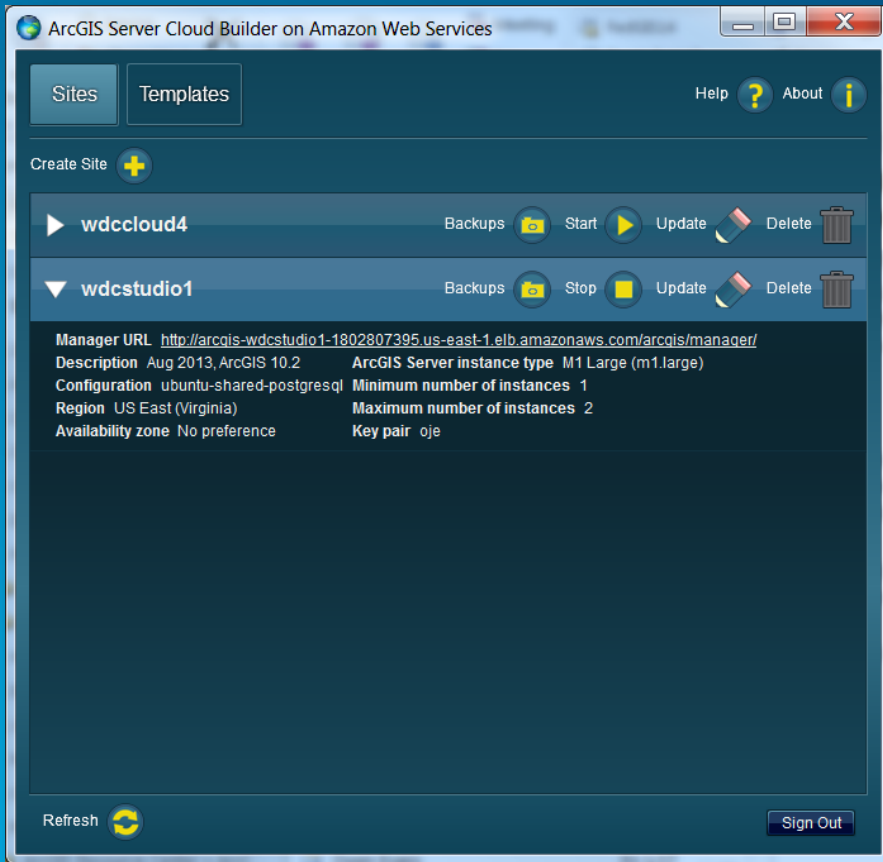
ArcGIS for Server Site

Cloud
Builder

AMIs



Cloud Builder



- Create new sites
- Create custom sites
- Manage sites
- Make backups

- **Applies the Server license file**
- **Optionally set up a database in a separate instance**
- **Creates the PSA account**
- **Creates an elastic load balancer and puts all the server instances under it**
- **Sets up a common configuration store, server directories, etc. for all instances**
- **Provides auto-scaling options**



Cloud Builder

Demo

1. **Initial setup**
 - a. **Sign up for an Amazon Account**
 - b. **Send AWS account # to service@esri.com**
 - c. **Get Cloud Builder (<http://my.esri.com>)**

1. **Initial setup**
2. **Deploy site using Cloud Builder**

1. **Initial setup**
2. **Deploy site using Cloud Builder**
3. **Publish Services**
 - a. **Copy/replicate data to server (optional)**
 - b. **Publish services**

1. **Initial setup**
2. **Deploy site using Cloud Builder**
3. **Publish Services**
4. **Create web maps/apps**

Benefits

- **Can help you optimize...**

- **Setup Time**
- **Scalability**
- **Cost**



- **Machine cost**

- Instance size and type
- Storage
- Bandwidth

- **Other costs**

- Extra storage: S3, CloudFront
- Elastic Load Balancer, Elastic IP, Route 53
- Monitoring: CloudWatch



- **Running Servers (includes OS licensing):**

- On Demand – hourly rate
- Reserved Instance – upfront charge, reduced hourly rate



- **Storing Data (per month):**

- Transfer in to AWS: free
- Transfer out from AWS: sliding scale (1 GB free, then \$0.12/GB max)
- EBS Storage: \$0.10 / GB of volume size



- 1 Windows Large Instance
- On-Demand Pricing (per hour, no upfront)
- US East (Northern VA)

24 x 365

x \$0.266/hr

\$2330.16/yr

- Reserved Instance Pricing
- Heavy Utilization (always on)

$$\begin{aligned} & \$602 + \\ & 24 \times 365 \\ & \underline{\times \$0.106/\text{hr}} \\ & \$1530.56/\text{yr} \end{aligned}$$

- Add a server for a week
- On-Demand Pricing (per hour, no upfront)
- US East (Northern VA)

$$24 \times 7$$
$$\times \underline{\$0.266/\text{hr}}$$

\$44.69/wk

Security

Customer

Customer Data

Platform, Applications, Identity & Access Management

Operating System, Network & Firewall Configuration

Client-side Data Encryption &
Data Integrity Authentication

Server-side Encryption
(File System and/or Data)

Network Traffic Protection
(Encryption/Integrity/Identity)

- Customers implement their own set of controls
- Multiple customers with FISMA Low and Moderate ATOs

Amazon

Foundation Services

Compute

Storage

Database

Networking

AWS Global
Infrastructure

Availability Zones

Regions

Edge Locations

- SAS-70 Type II
- ISO 27001/ 2 Certification
- Payment Card Industry (PCI)
- Data Security Standard (DSS)
- NIST Compliant Controls
- DoD Compliant Controls
- FedRAMP Compliant Controls
- HIPAA Compliant

Dedicated Instances

Single Tenant Physical Nodes

Run your virtualized operating systems and apps in a “single tenant per physical node” model within the AWS infrastructure

Security Groups

Instance firewalls

Firewall control on instances via Security Groups

CLIs and APIs

Instantly audit your entire AWS infrastructure from scriptable APIs – generate an on-demand IT inventory enabled by programmatic nature of AWS

VPC

Subnet control

Create low level networking constraints for resource access, such as public and private subnets, internet gateways and NATs

Bastion hosts

Only allow access for management of production resources from a bastion host.
Turn off when not needed

Direct Connect & VPN

Private connections to VPC

Secured access to resources in AWS over software or hardware VPN and dedicated network links



GovCloud

- Available to U.S. federal, state, and local government clients, contractors, and educational institutions
- ITAR-compliant
- Supports CUI workloads
- More expensive
- Esri AMIs



Migrating the National Center for Education Statistics ArcGIS Servers to Amazon Web Services Cloud Hosting

Amy Ramsdell, Blue Raster
[@amyrams](#)

Topics Covered



- **NCES ArcGIS Server platform**
- **Planning for operation in Amazon cloud**
- **Launching an Esri ArcGIS Server AMI**
- **Requirements for publishing a map service**
- **Monitoring and Backups**
- **Other Useful Amazon Web Services**
- **Lessons Learned**



Background

National Center for Education Statistics (NCES)

- Primary federal entity for collecting and analyzing education data
- NCES uses the Esri ArcGIS platform to provide geospatial context to education data



map.ed

Educational Attainment Comparison of School Districts and the Nation

Compare school districts to the nation for ages 25 years and over in three levels of educational attainment: high school graduate (or equivalent) or higher, bachelor's degree or higher, and graduate or professional degree.

[View Story](#)



Educational Attainment



Enrollment in Public/Private School by Race



School Bullying



Assessment

Math Reading



Demographic

Age Ancestry
Language Place of Birth
Race Sex



Economic

Income Poverty



Employment

Commuting Occupation
Status



Housing

Costs Mortgage
Rent Residence
Structure Value



Social

Citizenship Education
Family Household
Veteran

ACS

American Community Survey

[Info](#) [Map](#)

CCD

Common Core of Data

[Info](#) [Map](#)

IPEDS

Integrated Postsecondary Education Data System

[Info](#) [Map](#)

NAEP

National Assessment of Educational Progress

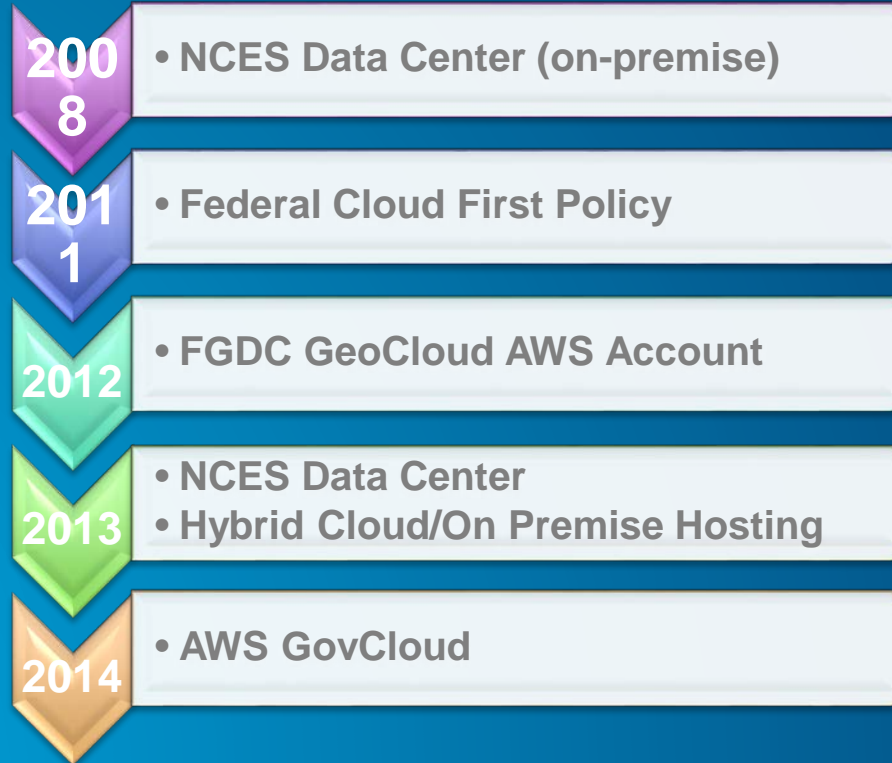
[Info](#) [Map](#)

PSS

Private School Universe Survey

[Info](#) [Map](#)

Progression of NCES ArcGIS Servers



Planning



Costs to project for expansion

- Operating hours:
- Use Reserved Instances
- VPC or Classic EC2
- Bring Your Own License for SQL Server/Oracle or other database
- ArcGIS licensing

<http://calculator.s3.amazonaws.com/index.html>

The screenshot shows the Amazon Simple Monthly Calculator interface. The top navigation bar includes the Amazon Web Services logo, the text "SIMPLE MONTHLY CALCULATOR", and a "Language" dropdown. Below the navigation bar, there are links for "Need Help? Watch the Videos" and "Read 'How AWS Pricing Works'". The main content area is titled "Estimate of your Monthly Bill (\$ 235.38)". It includes a "FREE USAGE TIER" section for new customers. The "Services" section is active, showing the configuration for Amazon EC2 instances. The "Compute: Amazon EC2 Instances" table shows one instance of type "Windows on m3.large" with 1 instance and 100% utilization. The "Storage: Amazon EBS Volumes" table shows one volume of type "General Purpose (SSD)" with 400 GB storage and 1200 IOPS. The "Elastic IP" section shows 1 additional Elastic IP. The "Data Transfer" section shows 0 GB/month for various transfer types. The "Elastic Load Balancing" section shows 0 Elastic Load Balancing instances.

amazon web services SIMPLE MONTHLY CALCULATOR

Need Help? [Watch the Videos](#) or [Read 'How AWS Pricing Works'](#)

AWS can help you reduce your overall IT costs in multiple ways. [Learn more about our Pricing Philosophy](#)

FREE USAGE TIER: New Customers get free usage tier for first 12 months

Reset All

Services Estimate of your Monthly Bill (\$ 235.38)

Choose region: Inbound Data Transfer is Free and Outbound Data Transfer is 1 GB free per region per month

Amazon Elastic Compute Cloud (Amazon EC2) is a web service that provides resizable compute capacity in the cloud. It is designed to make web-scale computing easier for developers. Amazon Elastic Block Store (EBS) provides persistent storage to Amazon EC2 instances.

Compute: Amazon EC2 Instances:

Description	Instances	Usage	Type	Billing Option	Monthly Cost
<input type="button" value="minus"/> Windows 2012 Server	<input type="text" value="1"/>	<input type="text" value="100"/> % Utilized/Mo	Windows on m3.large	<input type="button" value="plus"/> On-Demand (No Cor)	\$ 194.72
<input type="button" value="plus"/> Add New Row					

Storage: Amazon EBS Volumes:

Description	Volumes	Volume Type	Storage	IOPS	Snapshot Storage
<input type="button" value="minus"/> D Drive	<input type="text" value="1"/>	General Purpose (SSD)	400 GB	1200	<input type="text" value="0"/> GB-month of Storage
<input type="button" value="plus"/> Add New Row					

Elastic IP:

Number of Additional Elastic IPs:

Elastic IP Non-attached Time: Hours/Month

Number of Elastic IP Remaps: Per Month

Data Transfer:

Inter-Region Data Transfer Out: GB/Month

Data Transfer Out: GB/Month

Data Transfer In: GB/Month

VPC Peering Data Transfer: GB/Month

Intra-Region Data Transfer: GB/Month

Public IP/Elastic IP Data Transfer: GB/Month

Elastic Load Balancing:

Number of Elastic LBs:

Total Data Processed by all ELBs: GB/Month

IAM Console Security

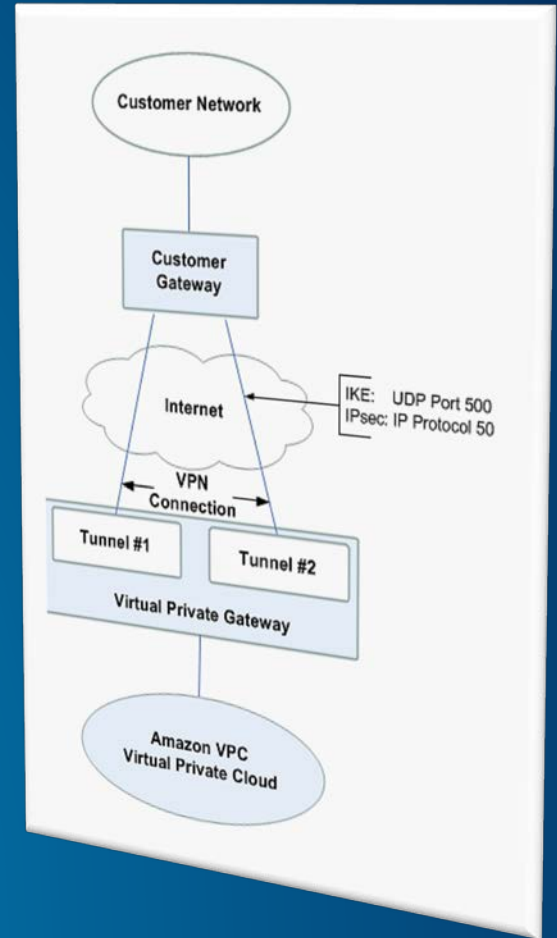
➤ Control users and groups within account

➤ Unique security credentials for access keys and login/passwords

The screenshot displays the AWS IAM console dashboard for the account 'sdds'. The top navigation bar includes 'Services', 'Edit', and the user 'Tai.Phan@ed.gov'. A left sidebar lists navigation options: 'Dashboard', 'Details', 'Groups', 'Users', 'Roles', and 'Password Policy'. The main content area is titled 'Getting Started' and features a yellow banner with the text 'AWS Identity and Access Management (IAM) enables you to manage access to your AWS resources.' and a 'Create a New Group of Users' button. Below this are four informational cards: 'What Are Users?' (Users interact with websites and services), 'What Are Groups?' (Groups enable you to manage permissions for multiple users), 'What Are Permissions?' (Permissions specify which actions a user can perform), and 'What Are Roles?' (Roles allow AWS services and IAM users to act on your behalf). The 'Security Status' section shows 'Root Account MFA' as Disabled (with a 'Manage MFA Device' button) and 'Password Policy' as Enabled (with a 'Manage Password Policy' button). The 'IAM Resources' section lists '5 Groups', '10 Users', and '0 Roles'. The 'AWS Account Alias' section shows the alias is 'sdds' and provides a sign-in link: 'https://sdds.signin.aws.amazon.com/console' (with a 'Remove Account Alias' button). The 'IAM Documentation' section includes links for 'IAM Getting Started Guide', 'Using IAM', 'IAM CLI Reference', 'IAM API Reference', and 'Report an Issue'.

Amazon Virtual Private Cloud

- 1) Set Up the VPC and Internet Gateway
- 2) Create a Security Group for Your VPC
- 3) Launch an Instance into Your VPC
- 4) Assign an Elastic IP Address to Your Instance



Launching an Esri AMI

AWS Services Edit

1. Choose AMI 2. Choose Instance Type 3. Configure Instance 4. Add Storage

Step 1: Choose an Amazon Machine Image (AMI)

Quick Start

My AMIs

AWS Marketplace

Community AMIs

Ownership

- Owned by me
- Shared with me

Architecture

- 32-bit
- 64-bit

Root device type

- EBS
- Instance store

Esri ArcGIS 10.3 for Server on Ubuntu with Postgresql (Nov 2014) - ami-7649c71e **Select** 64-bit

Esri ArcGIS 10.3 for Server on Ubuntu with Postgresql (Nov 2014)

Root device type: ebs
Virtualization type: paravirtual Owner: 248675906072

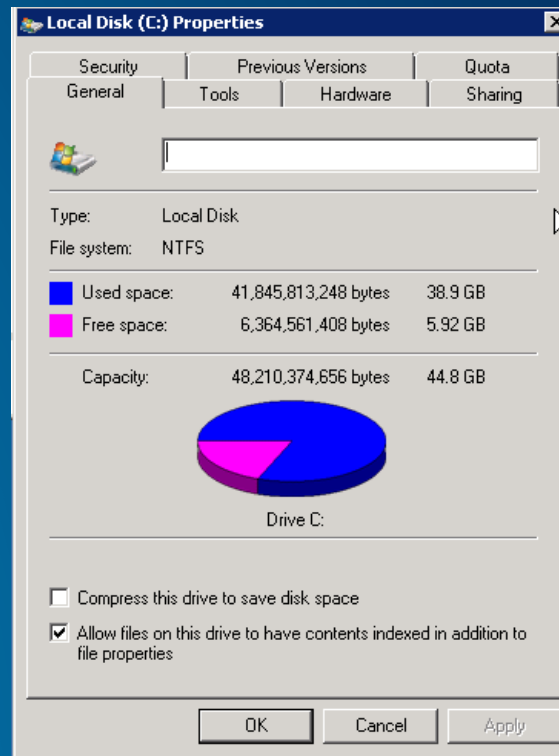
Esri ArcGIS 10.3 for Server with SQL Server (Nov 2014) - ami-7eb33d16 **Select** 64-bit

Esri ArcGIS 10.3 for Server with SQL Server (Nov 2014)

Root device type: ebs
Virtualization type:

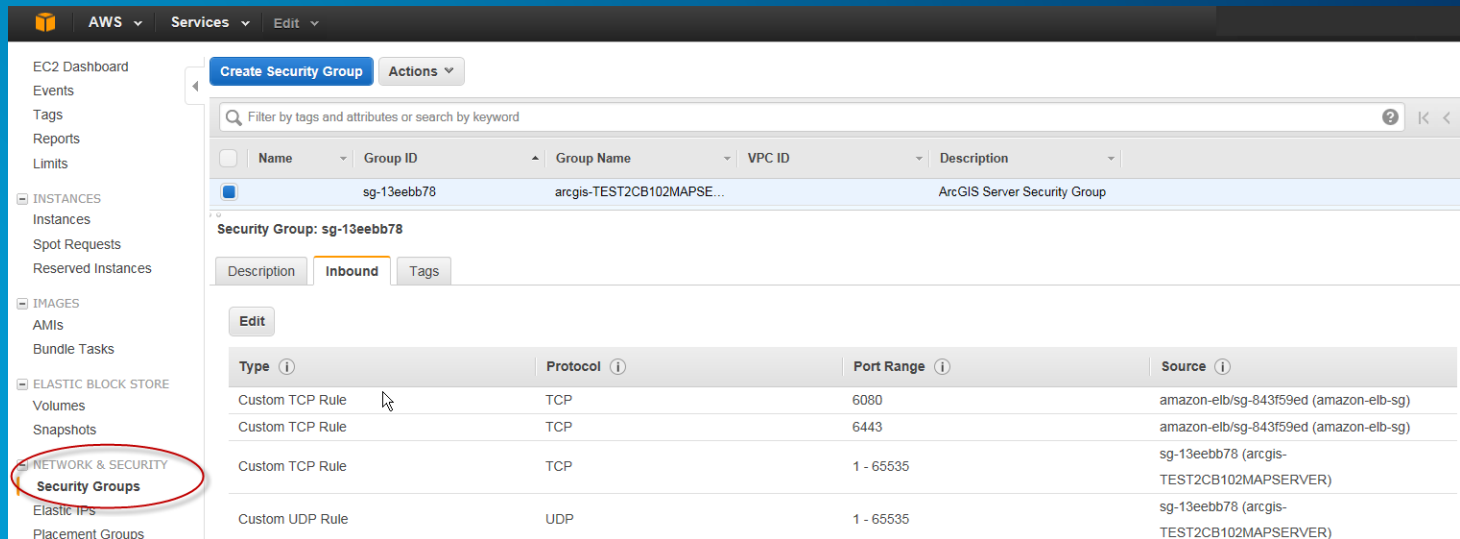
Disk Space

- ~ 40 GB taken by OS and Programs
- Good rule: keep 10% C Drive space free
- Easy to increase disk space
 - 1) Take snapshot of existing volume
 - 2) Create a new volume and resize it
 - 3) Detach existing
 - 4) Attach new and extend volume



What Ports to Open on the Security Group?

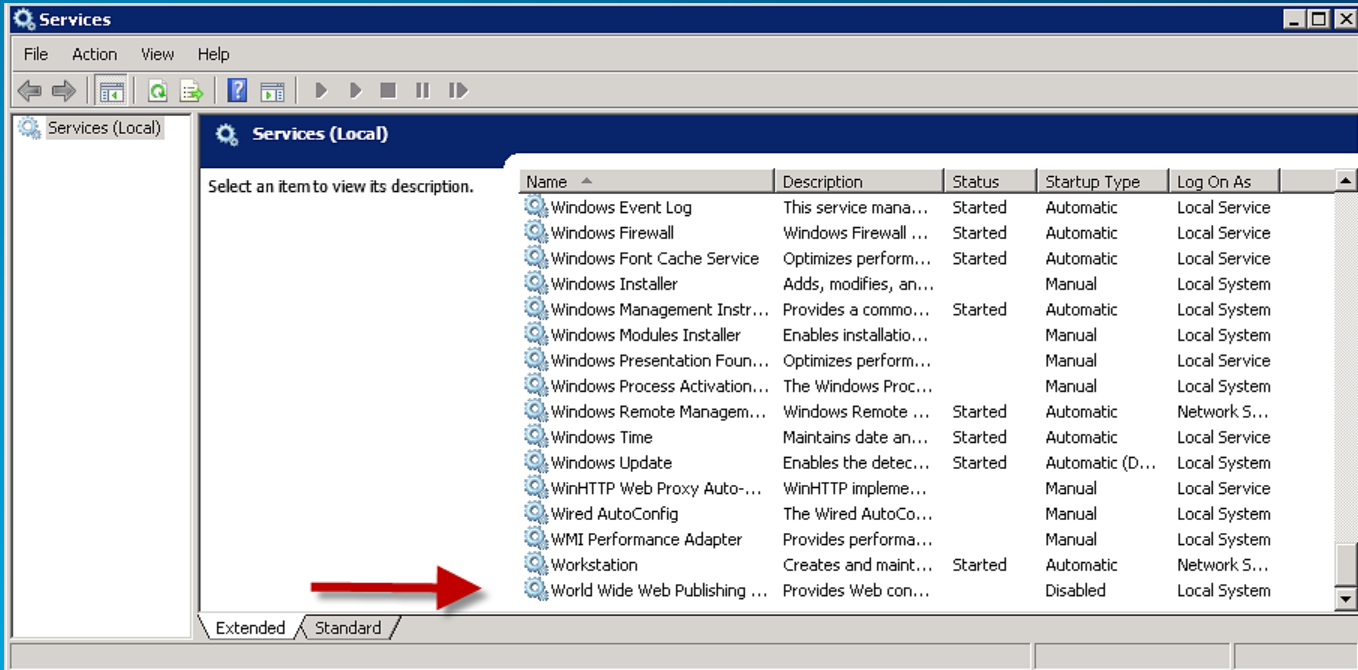
- Web Adaptor or load balancer
- For Web Adaptor
 - Open Ports 80 and 443
 - Download from Esri Customer Care Portal



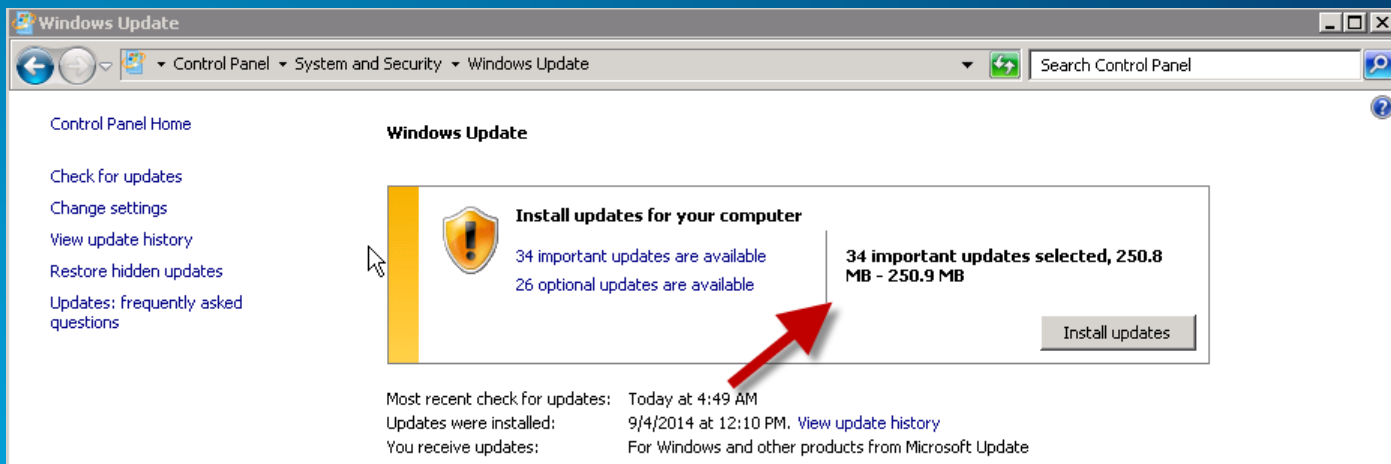
The screenshot displays the AWS Management Console interface for configuring a Security Group. The left-hand navigation pane shows the 'Network & Security' section circled in red, with 'Security Groups' highlighted. The main content area shows the configuration for the security group 'sg-13eebb78' (arcgis-TEST2CB102MAPSE...). The 'Inbound' tab is selected, and the 'Edit' button is visible. Below the 'Edit' button is a table of inbound rules:

Type	Protocol	Port Range	Source
Custom TCP Rule	TCP	6080	amazon-elb/sg-843f59ed (amazon-elb-sg)
Custom TCP Rule	TCP	6443	amazon-elb/sg-843f59ed (amazon-elb-sg)
Custom TCP Rule	TCP	1 - 65535	sg-13eebb78 (arcgis-TEST2CB102MAPSERVER)
Custom UDP Rule	UDP	1 - 65535	sg-13eebb78 (arcgis-TEST2CB102MAPSERVER)

Start WWW service for Web Adaptor



Apply Windows Updates



Apply Database Updates

The screenshot displays the Microsoft SQL Server Management Studio interface. The Object Explorer on the left shows the server instance 'AMAZONA-V9N3JPA (SQL Server 10.50.4270 - A)' with various folders expanded, including 'Databases', 'Database Diagrams', 'Tables', 'Views', 'Synonyms', 'Programmability', 'Service Broker', 'Storage', 'Security', 'Server Objects', 'Replication', 'Management', and 'SQL Server Agent'. The main window shows a query window titled 'SQLQuery1.sql -...istrator (56)*' with the following SQL code:

```
DBCC TRACESTATUS (4199, -1)
GO
```

The Results pane shows a single row of data:

	TraceFlag	Status	Global	Session
1	4199	0	0	0

The status bar at the bottom indicates 'Query executed succ...' and 'AMAZONA-V9N3JPA (10.50 SP2) AMAZONA-V9N3JPA\Admini... ED 00:00:00 1 rows'. The bottom right corner shows 'Ln 1 Col 1 INS'.

What do I need to publish a Map Service?

Folder: MapEd

Current Version: 10.3

View Footprints In: [ArcGIS.com Map](#)

Services:

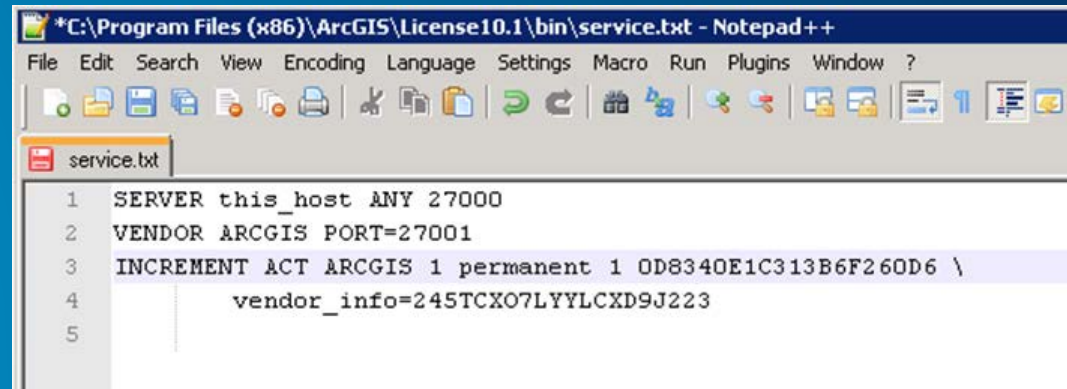
- [MapEd/DistrictData](#) (MapServer)
- [MapEd/MapEdExportWebMap](#) (GPServer)
- [MapEd/optionalLayers](#) (MapServer)
- [MapEd/SchoolBoundaryData](#) (MapServer)
- [MapEd/SchoolData](#) (MapServer)
- [MapEd/StateData](#) (MapServer)

Supported Interfaces: [REST](#) [SOAP](#) [Sitemap](#) [Geo Sitemap](#)

ArcGIS Desktop to administer and publish

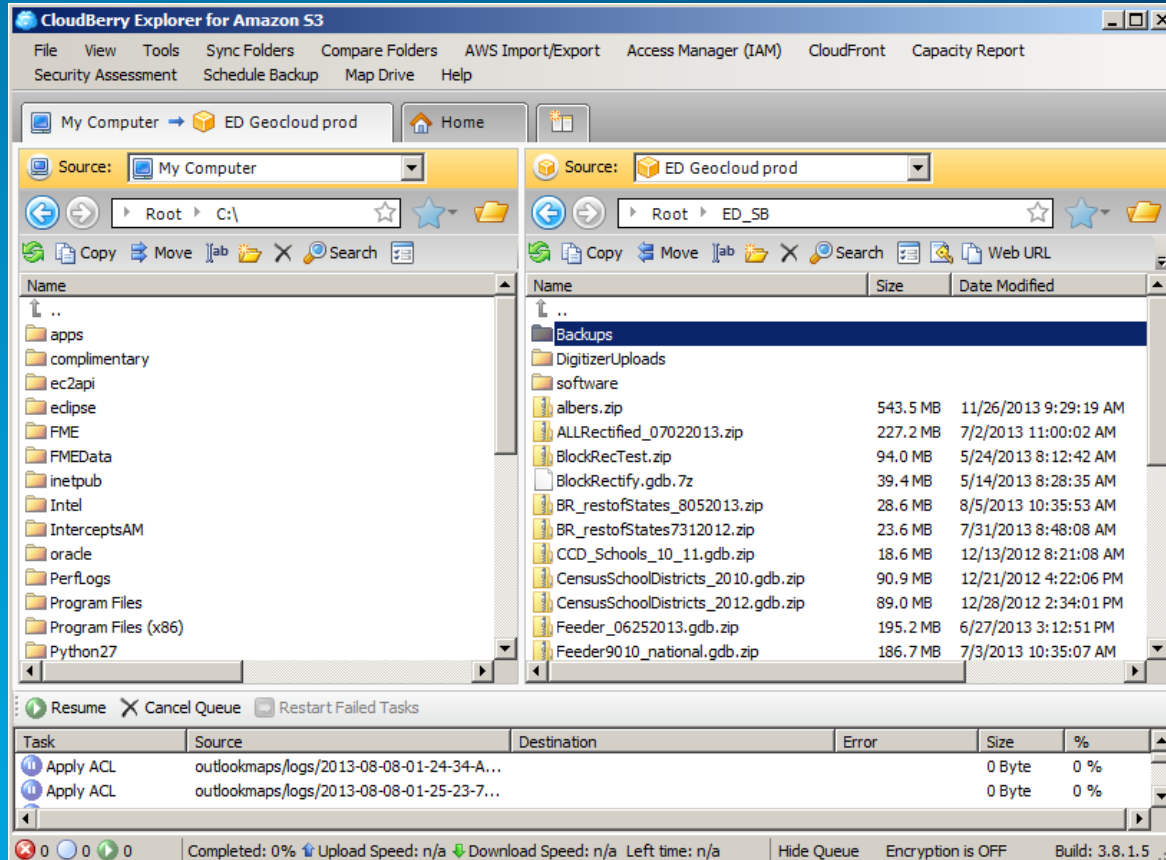
- Publish with Desktop
 - Install on the server or
 - Connect from your computer

- License Manager on EC2
 - Lock down ports to 27000, 27001
 - Add to Security Group



```
*C:\Program Files (x86)\ArcGIS\License10.1\bin\service.txt - Notepad++
File Edit Search View Encoding Language Settings Macro Run Plugins Window ?
service.txt
1 SERVER this_host ANY 27000
2 VENDOR ARCGIS PORT=27001
3 INCREMENT ACT ARCGIS 1 permanent 1 0D8340E1C313B6F260D6 \
4     vendor_info=245TCX07LYYLCXD9J223
5
```

Migrate Data and MXDS to AWS S3 via CloudBerry



The screenshot displays the CloudBerry Explorer interface for Amazon S3. The window is titled "CloudBerry Explorer for Amazon S3" and features a menu bar with options like File, View, Tools, Sync Folders, Compare Folders, AWS Import/Export, Access Manager (IAM), CloudFront, Capacity Report, Security Assessment, Schedule Backup, Map Drive, and Help. The main interface is split into two panes. The left pane shows the local file system "My Computer" with a tree view of folders including apps, complimentary, ec2api, eclipse, FME, FMEDData, inetpub, intel, InterceptsAM, orade, PerfLogs, Program Files, Program Files (x86), and Python27. The right pane shows the remote S3 bucket "ED Geocloud prod" with a tree view of folders including Backups, DigitizerUploads, software, and a list of files with their sizes and modification dates. A task bar at the bottom shows a table of migration tasks.

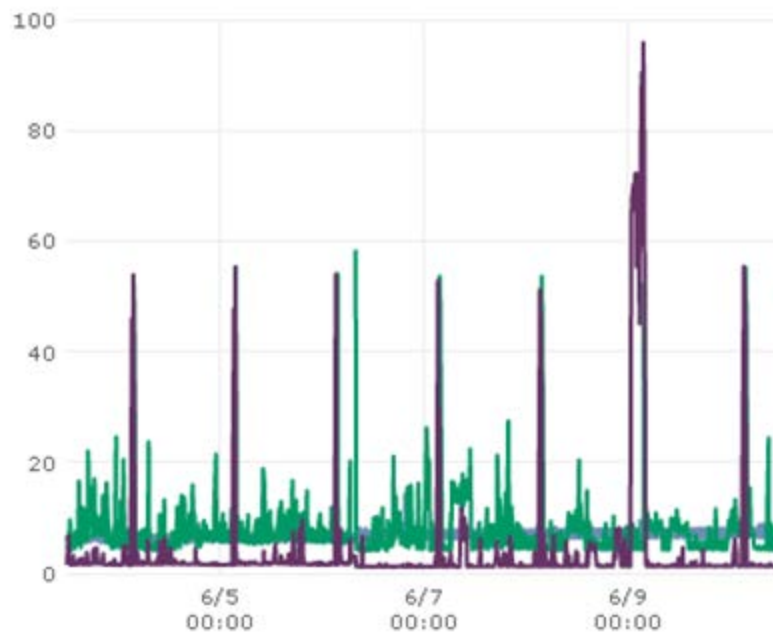
Task	Source	Destination	Error	Size	%
Apply ACL	outlookmaps/logs/2013-08-08-01-24-34-A...			0 Byte	0 %
Apply ACL	outlookmaps/logs/2013-08-08-01-25-23-7...			0 Byte	0 %

At the bottom of the window, a status bar shows: Completed: 0%, Upload Speed: n/a, Download Speed: n/a, Left time: n/a, Hide Queue, Encryption is OFF, Build: 3.8.1.5

Monitoring

CloudWatch Monitoring Details

CPU Utilization (Percent)



Monitored Instances: i-ee0f5a93 i-af089fd2

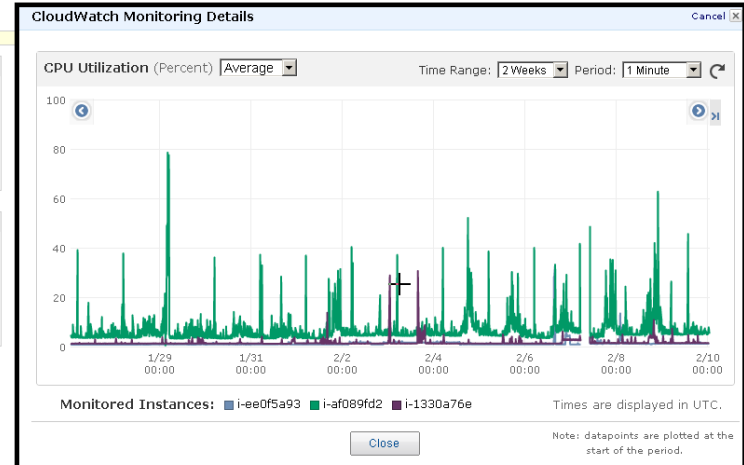
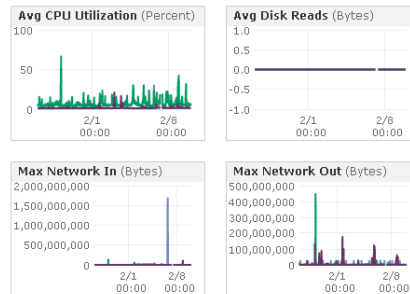
CloudWatch Metrics

1. Status Checks
2/2 checks
2. Create alarms
3. Good server capacity planning tool

Viewing: All Instances | All Instance Types | Search

1 to 6 of 6 Instances

<input type="checkbox"/>	Name	Instance	AMI ID	Root Device	Type	State	Status Checks	Alarm Status	Monitoring
<input checked="" type="checkbox"/>	Dept of ED SDDS - Production Server	i-af089fd2	ami-39e75b50	ebs	m1.large	running	2/2 checks passed	none	basic
<input checked="" type="checkbox"/>	Dept of ED School Boundaries - Prod	i-1330a76e	ami-27e75b4e	ebs	m1.large	running	2/2 checks passed	none	basic
<input checked="" type="checkbox"/>	Dept of ED EDFacts - Production	i-ee0f5a93	ami-cbc87da2	ebs	m1.xlarge	running	2/2 checks passed	none	basic
<input type="checkbox"/>	Dept of ED SDDS Production databases	i-532578f	ami-6cb90605	ebs	m1.medium	running	2/2 checks passed	none	basic
<input type="checkbox"/>	Dept of ED School Boundaries - Staging	i-486ee536	ami-db088ab2	ebs	m1.large	stopped		none	basic
<input type="checkbox"/>	Dept of ED SDDS - Staging Server	i-808d07fe	ami-eb088a82	ebs	m1.medium	running	2/2 checks passed	none	basic



Amazon Service Health Dashboard

<http://status.aws.amazon.com/>



SERVICE HEALTH DASHBOARD

[Amazon Web Services](#) » Service Health Dashboard

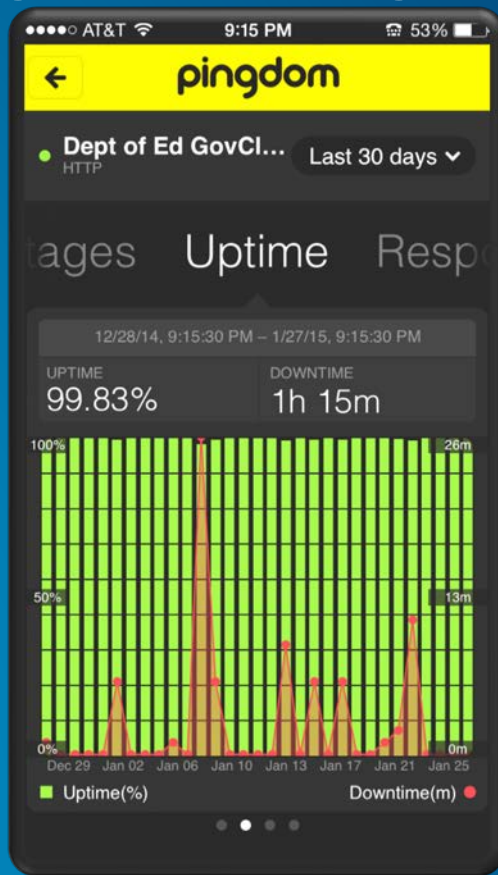
Current Status - Jan 26, 2015 PST

Amazon Web Services publishes our most up-to-the-minute information on service availability in the table below. Check back here any time to get current status information, or subscribe to an RSS feed to be notified of interruptions to each individual service. If you are experiencing a real-time, operational issue with one of our services that is not described below, please inform us by clicking on the "Contact Us" link to submit a service issue report. All dates and times are Pacific Time (PST/PDT).

North America		South America	Europe	Asia Pacific	Contact Us
Current Status					RSS
✓	Amazon AppStream (N. Virginia)			Service is operating normally	
✓	Amazon CloudFront			Service is operating normally	
✓	Amazon CloudSearch (N. California)			Service is operating normally	
✓	Amazon Elastic Compute Cloud (N. Virginia)			Service is operating normally	

Website Monitoring with Pingdom

<https://www.pingdom.com/>



Instance Backup Strategy

Instance backups automated with Powershell scripts

- Daily volume snapshots and weekly AMIs
- Script cleans up snapshots and AMIs to reduce storage costs



The screenshot shows a blog post on the website messor.com. The page title is "AWS Disaster Recovery Automation w/ Powershell". The author is Chris Hettinger. The post content includes a paragraph about AWS SDKs, a section titled "Setup Amazon Simple Email Service (SES)", and a section titled "Get the AWS SDK". The post also includes a "Donate" button and a "Recent Posts" sidebar.

messor.com *Non timetis messor* <http://messor.com> Contact Sitemap

Home About Resume search...

Home » Amazon Web Services » AWS Disaster Recovery Automation w/ Powershell Donations Welcome

AWS Disaster Recovery Automation w/ Powershell

Posted by [Chris Hettinger](#) in [Amazon Web Services](#), [Powershell](#), [SharePoint](#), [The Cloud](#) | 1 comment

Amazon has provided several powerful SDKs for developers to interface with Amazon Web Services (AWS). Anything that can be completed using the AWS console can be accomplished via SDK. In this post, we will examine how .Net developers can leverage the AWS SDK to provide a simple disaster recovery plan for a 3-tier SharePoint environment (domain controller, database server, SharePoint server). This approach could be applied to nearly any environment, for more information, you might want to review the [AWS Disaster Recovery Demo](#).

Setup Amazon Simple Email Service (SES)

The first thing you will want to do is apply for access to SES and setup a verified sender address; this may take several hours.

Get the AWS SDK

Download the [AWS SDK for .NET](#).

Get the scripts

After the SDK has been installed, pick a place to store the scripts (ex. C:\AWS). Next, download the four files below (AWSConfig.ps1, AWSUtilities.ps1, DailySnapshots.ps1, and WeeklySnapshots.ps1) into your AWS directory. Alternatively, if you hover over the code, the [Script Highlighter Plugin](#) will provide the ability to copy/paste, view source, etc. Additionally, create a directory called "Logs" inside of your AWS directory.

AWSCfg.ps1

Donate

Donations are greatly appreciated but are not required. Thank you for your consideration.

Recent Posts

- SharePoint 2013 Default KeywordQuery Results Columns
- Errors and solutions when creating your first SharePoint 2013 App
- BEWARE! Support Technicians Attempting to Gain Root Access
- Migrating a VMware VM to Azure
- Setting up SharePoint 2010 in Amazon Web Services

Recent Comments

- Chris Hettinger on AWS Disaster Recovery Automation w/ Powershell

Frequently used Amazon Web Services



- Route 53 – hosted Domain Name server
- Cloudfront – Content delivery network for hosting your website on a global network of edge locations
- Simple Email Service (SES) – Email service instead of SMTP on EC2
- Simple Queue Service (SQS) - Message queuing service
- Simple Notification Service (SNS) – Push notifications to mobile devices by SMS text or email

Project Insights

- Esri's Amazon Machine Image for ArcGIS Server is a successful approach for a GIS platform.
- Work closely with IT group and know your security requirements
- Benefits of Cloud hosting
 1. Rapidly deploy/develop
 2. Reliable
 3. Flexible
- Change configuration as needed



Resources

- Amazon EC2 - http://aws.amazon.com/ec2/?nc2=h_l3_c/
- ArcGIS for Server on AWS Help - <http://server.arcgis.com/en/server/latest/cloud/amazon/amazon-quick-start-guide.htm>
- Cloud Builder - <http://server.arcgis.com/en/server/latest/cloud/amazon/overview-cloud-builder.htm>

- Blue Raster:
 - <http://www.blueraster.com/>
 - Booth 519

Upcoming Sessions

- **ArcGIS for Server: What's New**
 - 2:45pm – 3:45pm
 - Room 201

- **Deploying ArcGIS Using Esri Managed Cloud Services**
 - 5:15pm – 6:15pm
 - Room 209B



Understanding our world.