

Federal GIS Conference 2014

February 10–11, 2014 | Washington DC



Leveraging ArcGIS in the Amazon Cloud

Bonnie Stayer, Esri

Amy Ramsdell, Blue Raster

Session Outline

- **AWS Overview**
- **ArcGIS in AWS**
- **Cloud Builder**
- **Benefits**
- **Security**
- **Case Study: Blue Raster and Dept. of Ed.**

AWS Overview



Services ▾

Edit ▾

Amazon Web Services

Compute & Networking



Direct Connect

Dedicated Network Connection to AWS



EC2

Virtual Servers in the Cloud



Elastic MapReduce

Managed Hadoop Framework



Route 53

Scalable Domain Name System



VPC

Isolated Cloud Resources

Storage & Content Delivery



CloudFront

Global Content Delivery Network



Glacier

Archive Storage in the Cloud



S3

Scalable Storage in the Cloud



Storage Gateway

Integrates On-Premises IT Environments with Cloud Storage

Databases



DynamoDB

NoSQL Database



Elastic Beanstalk

Managed Platform as a Service



Amazon RDS

Managed Relational Database



Amazon Rekognition

Image and Video Analysis

Deployment



AWS CloudFormation

Infrastructure as Code



AWS CloudTrail

Event History and Logging



AWS CodeDeploy

Application Deployment



AWS Elastic Beanstalk

Managed Platform as a Service



AWS IAM

Identity and Access Management



AWS OpsWorks

Configuration Management

Utility Computing

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



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







Amazon Web Services

Compute & Networking

-  **Direct Connect**
Dedicated Network Connection to AWS
-  **EC2**
Virtual Servers in the Cloud
-  **Route 53**
Scalable Domain Name System
-  **VPC**
Isolated Cloud Resources

Storage & Content Delivery

-  **CloudFront**
Global Content Delivery Network
-  **Glacier**
Archive Storage in the Cloud
-  **S3**
Scalable Storage in the Cloud
-  **Storage Gateway**
Integrates On-Premises IT Environments with Cloud Storage




Database

-  **DynamoDB**
Predictable and Scalable NoSQL Data Store
-  **ElastiCache**
In-Memory Cache
-  **RDS**
Managed Relational Database Service
-  **Redshift**
Managed Petabyte-Scale Data Warehouse Service

Deployment & Management

-  **CloudFormation**
Templated AWS Resource Creation
-  **CloudTrail**
User Activity and Change Tracking
-  **CloudWatch**
Resource and Application Monitoring
-  **Elastic Beanstalk**
AWS Application Container
-  **IAM**
Secure AWS Access Control
-  **OpsWorks**
DevOps Application Management Service

Analytics

-  **Data Pipeline**
Orchestration for Data-Driven Workflows
-  **Elastic MapReduce**
Managed Hadoop Framework
-  **Kinesis**
Real-time Processing of Streaming Big Data

App Services

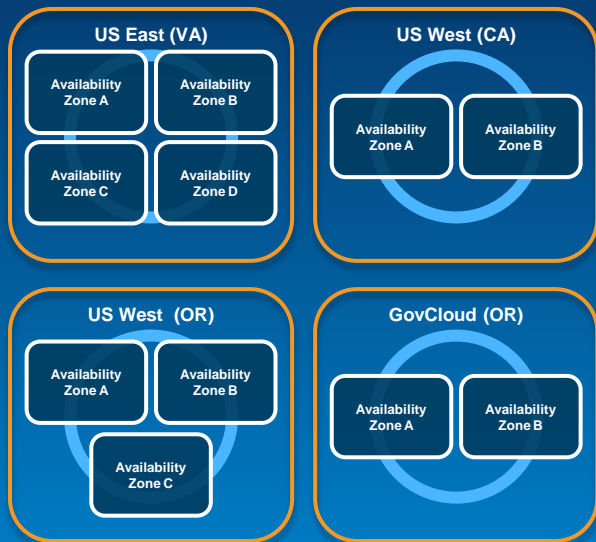
-  **CloudSearch**
Managed Search Service
-  **Elastic Transcoder**
Easy-to-use Scalable Media Transcoding
-  **SES**
Email Sending Service
-  **SNS**
Push Notification Service
-  **SQS**
Message Queue Service
-  **SWF**
Workflow Service for Coordinating Application Components



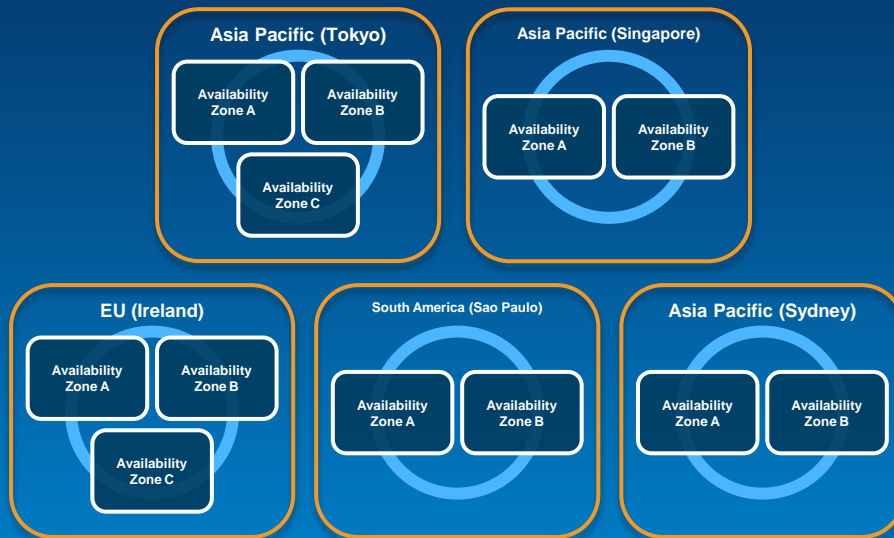
● 9* AWS Regions

● 30+ AWS Edge Locations

US Regions



Global Regions

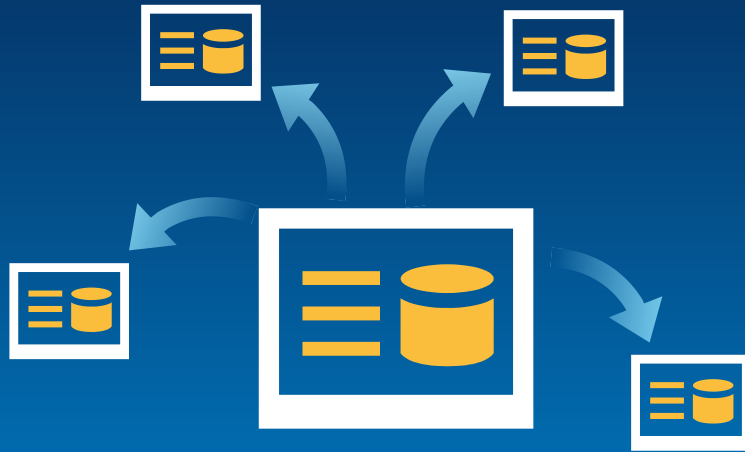


Note: Conceptual drawing only. The number of Availability Zones may vary.



Virtual machines (instance types) optimized for:

- General purpose
- Compute
- GPU
- Memory
- Storage



**Amazon
Machine
Image (AMI)**

Preconfigured with:

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

Demo

AWS Management Console



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

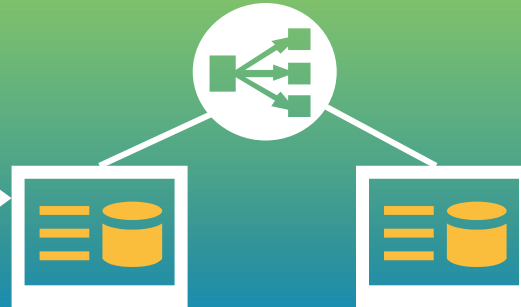
Availability Zone

Virtual Private Cloud

ArcGIS for Server Site

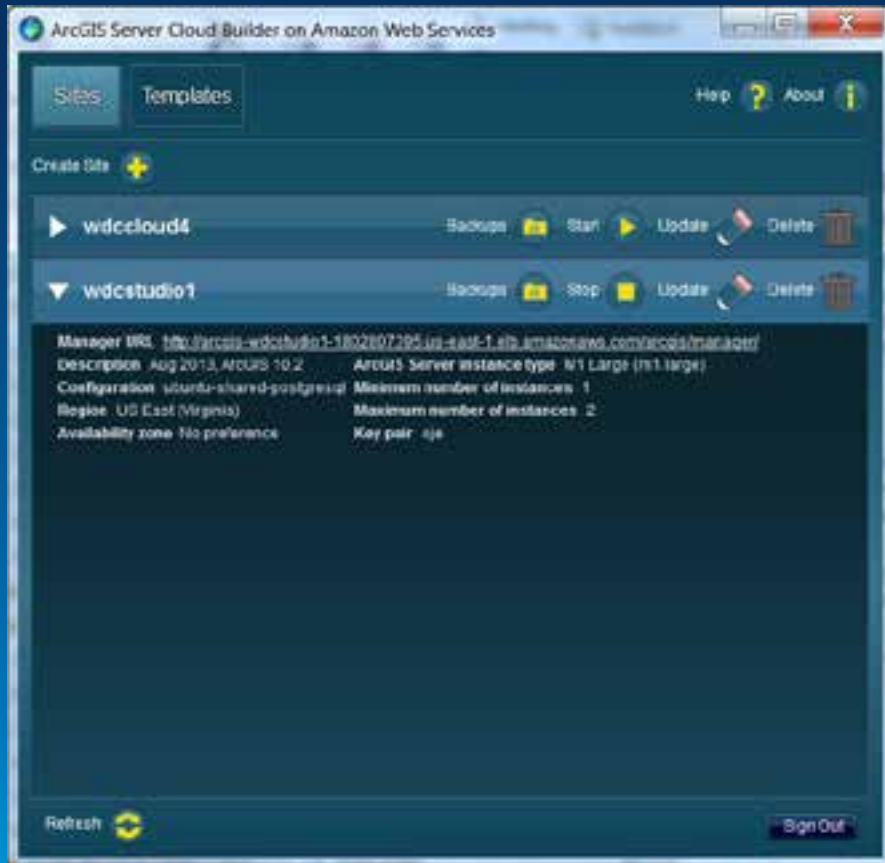
Cloud
Builder

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**

Demo

Cloud Builder



1. Initial setup

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



- **No hardware acquisition time**
- **Literally minutes to launch a new server**
- **Esri pre-built AMIs**
- **Can save own AMIs**





- Amazon offers monitoring & auto-scaling
- Detects CPU load, starts new server
- You set up max & min instances, thresholds

- **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)
- Storage: \$0.05 / GB of volume size



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

$$\begin{array}{r} 24 \times 365 \\ \times \underline{\$0.351/\text{hr}} \\ \hline \$3074.76/\text{yr} \end{array}$$

- Reserved Instance Pricing
- Heavy Utilization (always on)

$$\begin{aligned} & \$730 + \\ & 24 \times 365 \\ & \times \underline{\$0.128/\text{hr}} \\ & \mathbf{\$1851.28/\text{yr}} \end{aligned}$$

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

$$\begin{array}{r} 24 \times 7 \\ \times \underline{\$0.351/\text{hr}} \\ \hline \$58.97/\text{wk} \end{array}$$

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 and ITAR 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

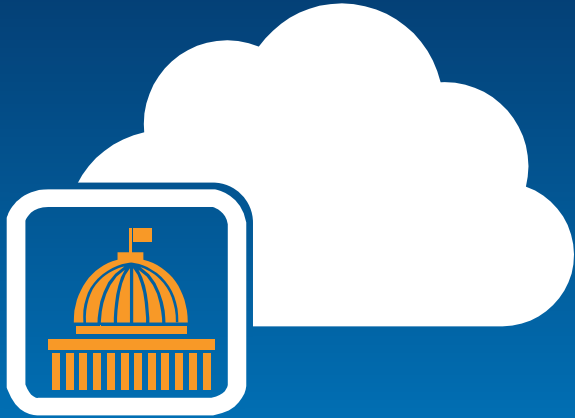
Bastion hosts

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



- **ITAR-compliant**
- **Supports CUI workloads**
- **Available to U.S. government clients**
- **More expensive**
- **Esri AMIs**



Migrating Department of Education ArcGIS Servers to Amazon Web Services Cloud Hosting

Amy Ramsdell, Blue Raster
@amyrams



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



SDDS SCHOOL DISTRICT DEMOGRAPHICS SYSTEM

[Home](#) | [Staff](#) | [Contact](#)

[About](#) | [Publications & Products](#) | [Data Tables](#) | [Map Viewer](#) | [Download Data](#) | [Download Maps](#) | [Reference](#)

What is SDDS?

The School District Demographics System provides access to school district demographic and related geographic data. The site's purpose is:

- 1 To provide access to information about demographics, social characteristics, and economics of children and school districts from the National Center for Education Statistics (NCES) of the U.S. Department of Education.
- 2 To enable users to directly access school district geographic and demographic data.
- 3 To provide information about school district demographic concepts, uses, and applications to facilitate effective use of these information resources.

Map Viewers



STANDARD

Map Viewer allows users to view maps of states, school districts and school points, while overlaying U.S. Census Bureau and Education data.

Select

EXPRESS

Create your map the easy way. Select your data theme, set your options, and you're done.

[Start Map Viewer Express](#)

MOBILE

Introducing the **NEW** SDDS Map Viewer Mobile designed especially for iPad (also for use by other mobile devices).

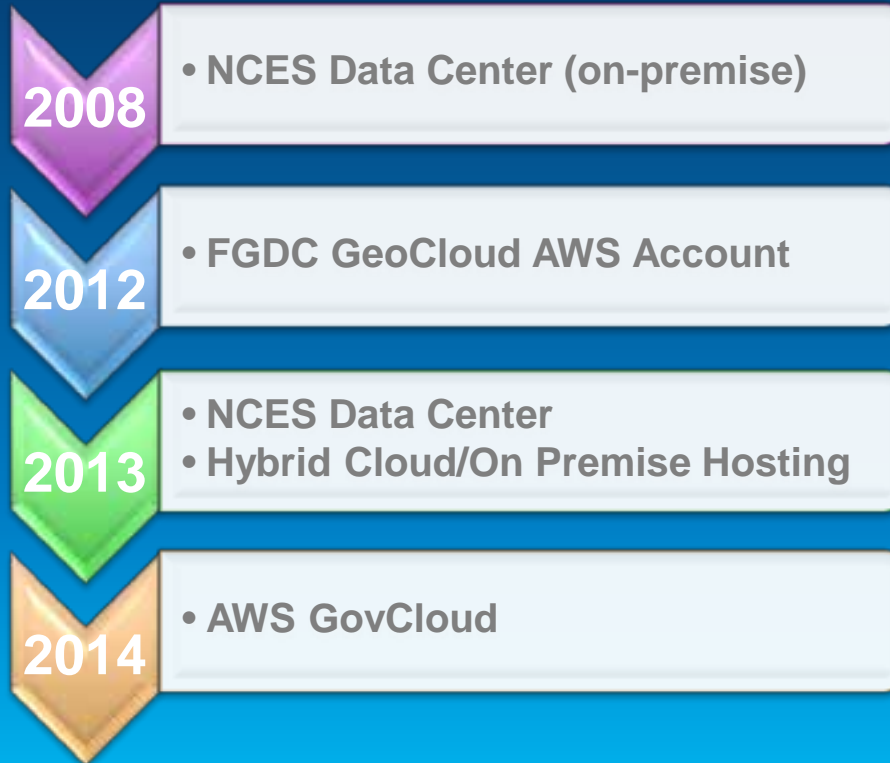
[Start Map Viewer Mobile](#)

NEW DEMOGRAPHIC PROFILE WEBMAP

Introducing the **NEW** Demographic Profile Webmap with American Community Survey 2006-10 and Census 2010 profile data, including percentages.

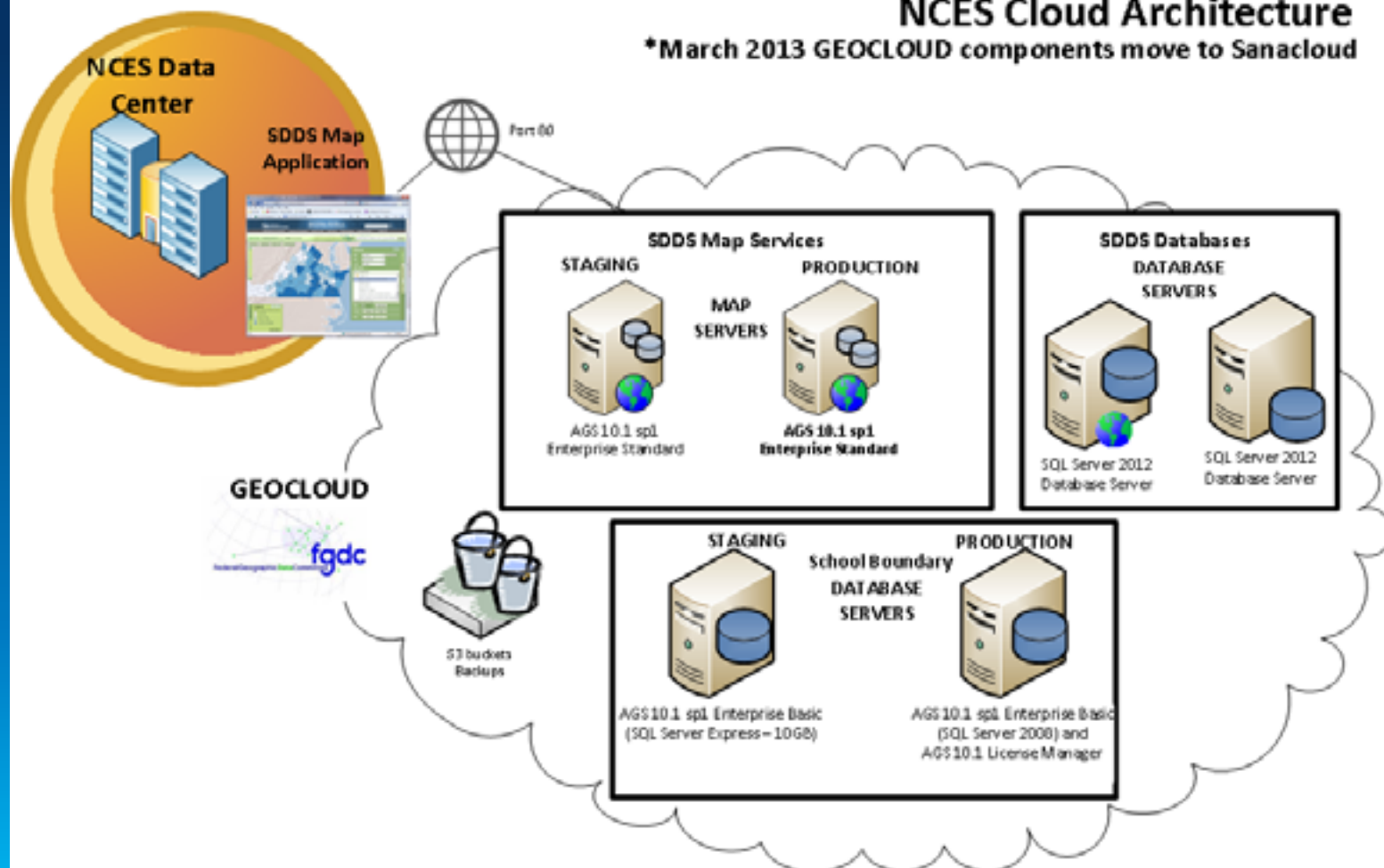
[Demographic Profile Webmap](#)

Progression of NCES ArcGIS Servers



NCES Cloud Architecture

*March 2013 GEOCLOUD components move to Sanacloud



Planning



Federal Cloud First Policy – Migrating ArcGIS

The screenshot shows the GSA website's 'Cloud IT Services' page. At the top, there is a navigation bar with 'WHAT GSA OFFERS', 'DOING BUSINESS WITH GSA', 'LEARN MORE', and 'BLOG'. Below this is a search bar and a secondary navigation bar with 'Home', 'Services & Support', 'Informational', 'Telecommunications', and 'Cloud IT Services'. The main content area is titled 'Cloud IT Services' and includes a 'Chat Now!' button. The page is divided into several sections: 'COMMERCIAL SERVICES CONTRACTS' (Email as a Service), 'END-TO-END SOLUTIONS CONTRACTS' (Governmentwide Acquisition Contracts), and 'Telecommunications services'. A sidebar on the left contains a navigation menu for 'Technology and Telecommunications' with sub-items like 'Cloud IT Services', 'Cloud SaaS Templates', 'Governmentwide', 'Data Center Services', 'SaaS IT', 'What's New Products and Services', 'Workflow and IT Services', 'Software Products and Services', 'State contract services', 'Interoperable', 'Value and Cloud Business Case', 'Cloud Migration', and 'IT Solutions Pageant'. The page also features a 'GET UPDATES' section with a checkbox and a 'CLOUD BROCHURE' section with a thumbnail image.

The image shows the cover of the 'FEDERAL CLOUD COMPUTING STRATEGY' document. The title is prominently displayed in blue text between two dark horizontal bars. Below the title, the name 'Vivek Kundra' and his title 'US Chief Information Officer' are listed. The date 'FEBRUARY 9, 2011' is printed below that. At the bottom center, there is a circular logo featuring a stylized building and the text 'U.S. GOVERNMENT'. The entire cover is framed by a thin grey border.

Support Forums

amazon web services

Sign In | No Account / Create | Log Out

AWS Products & Solutions | AWS Product Information | Search | Developers | Support

Discussion Forums

Welcome, [amazonid11_Mae](#) | Logout | Your Stuff | Private Messages (0) | Forums Help

Welcome to the Amazon Web Services Discussion Forums. Post your questions and feedback to these forums, use the RSS feeds and e-mail matches to stay in tune with AWS topics that interest you.

[Click on "Give Support" to give availability.](#)

AWS Support is a one-on-one, full-service support channel that is staffed 24x7x365 with experienced technical support engineers. The service helps customers of all sizes and technical abilities to successfully utilize the products and features provided by AWS. All plans offer an unlimited number of support cases with pay-by-the-month pricing and no long-term contracts.

[Sign up](#)

View 4,875 Forums, 825 Feeds

Search Forums: [Advanced search options](#)

Forum / Category	Views	Threads / Messages	Last Post
Amazon Web Services			
<ul style="list-style-type: none"> Alexa Top Sites The Alexa Top Sites web service provides access to lists of web sites ordered by Alexa traffic rank. 	122,272	286 / 1,624	Feb 5, 2014 1:45 PM Re: help
<ul style="list-style-type: none"> Alexa Web Information Service The Alexa Web Information Service makes available real-time information about the traffic and structure of the web available to developers. 	176,098	608 / 3,125	Feb 4, 2014 11:17 AM Re: redirection
<ul style="list-style-type: none"> Amazon CloudFront Amazon CloudFront is a content delivery web service. 	258,397	3,409 / 13,338	Feb 5, 2014 10:58 AM Re: CloudFront
<ul style="list-style-type: none"> Amazon CloudSearch Amazon CloudSearch is a fully-managed service in the AWS Cloud that makes it easy to set up, manage, and scale a search solution for your website or application. 	37,490	226 / 1,120	Feb 5, 2014 8:44 AM Re: TopicEART

Popular Tags

[aws](#) [aws](#) [community](#) [aws](#)

ec2 [aws](#) [amazon](#) [amazon](#) [amazon](#) [amazon](#) [amazon](#) [amazon](#) [amazon](#) [amazon](#)

[View all tags](#)

Popular Forums

- Amazon ElastiCache**
Compute Cloud
Messages: 275,113
Last message (posted at): Feb 4, 2014 1:26 PM

Support Plans

AWS Support Features

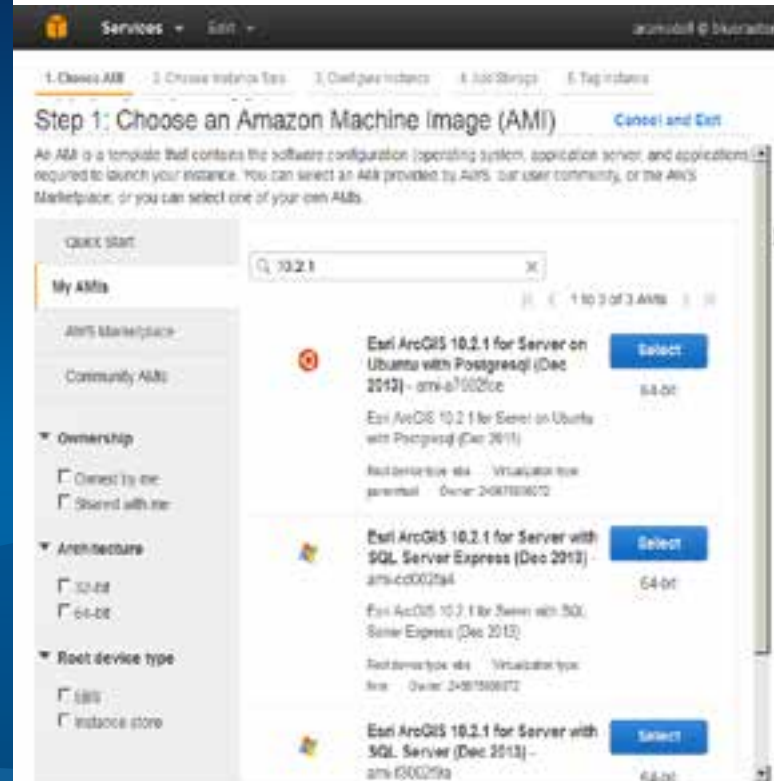
	Basic	Developer	Business	Enterprise
Customer Service - 24x7x365	✓	✓	✓	✓
Support Forums	✓	✓	✓	✓
Documentation, White Papers, Best Practice Guides	✓	✓	✓	✓
Access to Technical Support	Support by Health Checks (what's this? 6)	Email (best business hours)	Phone, Chat, Email, Live Screen Sharing (24/7)	Phone, Chat, Email, Live Screen Sharing, TAM (24/7)
Priority Case Handling	Technical Customer Service Associate	Cloud Support Associate	Cloud Support Engineer	1x Cloud Support Engineer
Named Contacts (what's this? 6)		1	5	Unlimited
Response Time		<12 hours	<1 hour	<15 minutes
Architecture Support (what's this? 6)		Building Blocks	Use Case Guidance	Application Architecture
Best Practice Guidance	✓	✓	✓	✓
Client Side Diagnostic Tools		✓	✓	✓
Identity Access Management (IAM) (what's this? 6)			✓	✓

Costs to project for expansion

- ∅ Operating hours
- ∅ Use Reserved Instances
- ∅ Use AWS Cost Calculator
- ∅ Bring Your Own License for SQL Server/Oracle or other database
- ∅ ArcGIS licensing

The screenshot displays the Amazon Cost Calculator interface. At the top, it features the Amazon logo and the text 'amazon web services SIMPLE MONTHLY CALCULATOR'. A language dropdown menu is set to 'English'. Below the header, there is a navigation bar with a search icon and a 'Services' dropdown menu. The main content area is titled 'Estimate of your Monthly Bill (\$ 0.00)'. It includes a 'Choose region:' dropdown menu set to 'US East (US Standard Time)'. Below this, there are sections for 'Computer: Amazon EC2 Instances', 'Storage: Amazon EBS Volumes', 'Elastic IP', and 'Data Transfer'. Each section contains a table with columns for 'Description', 'Instances/Usage', 'Type', 'Billing Option', and 'Monthly Cost'. The 'Amazon EC2 Instances' table has one row with a green plus icon and the text 'Add New Row'. The 'Amazon EBS Volumes' table also has one row with a green plus icon and the text 'Add New Row'. The 'Elastic IP' section has three input fields: 'Number of Additional Elastic IPs' (0), 'Elastic IP Associated Term' (1 Year Term), and 'Number of Elastic IP Examples' (0 Per Month). The 'Data Transfer' section has three input fields: 'Inter-Region Data Transfer Out' (0 GB/Month), 'Data Transfer Out' (0 GB/Month), and 'Data Transfer In' (0 GB/Month).

Considerations: Launching an Esri AMI from AWS Console



Services + Edit + arnold@amazon.com

1. Choose AMI 2. Choose instance type 3. Configure instance 4. Add Storage 5. Tag instance

Step 1: Choose an Amazon Machine Image (AMI) [Cancel and Exit](#)

An AMI is a template that contains the software configuration (operating system, application server, and applications) required to launch your instance. You can select an AMI provided by AWS, our user community, or the AWS Marketplace, or you can select one of your own AMIs.

QUICK START

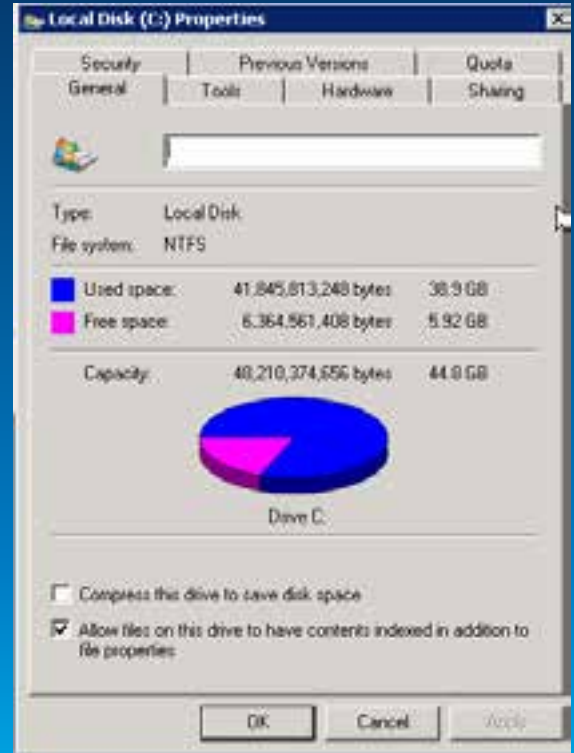
My AMIs

1 to 3 of 3 AMIs

Ownership	Architecture	Root device type	AMI ID	Size
AWS Marketplace	64-bit	Root device type: x86 Virtualization type: paravirtual Owner: 2407500072	ami-a7002f0c	64-bit
Community AMI	64-bit	Root device type: x86 Virtualization type: paravirtual Owner: 2407500072	ami-c0029a4	64-bit
Community AMI	64-bit	Root device type: x86 Virtualization type: paravirtual Owner: 2407500072	ami-630029a	64-bit

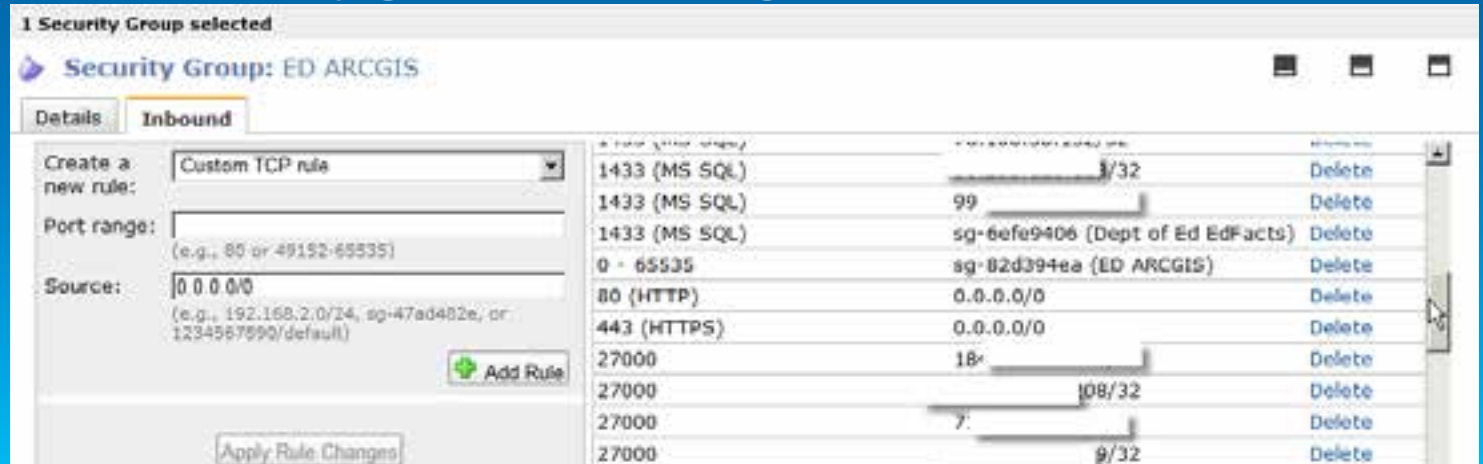
Disk Space

- ∅ ~ 40 GB taken by OS and Programs
- ∅ Good rule of thumb keep 10% disk space
- ∅ Easy to increase root disk space in AWS console
 - 1) Take snapshot of existing volume
 - 2) Create a new volume and resize it
 - 3) Detach existing
 - 4) Attach new



What Ports to Open on the Security Group?

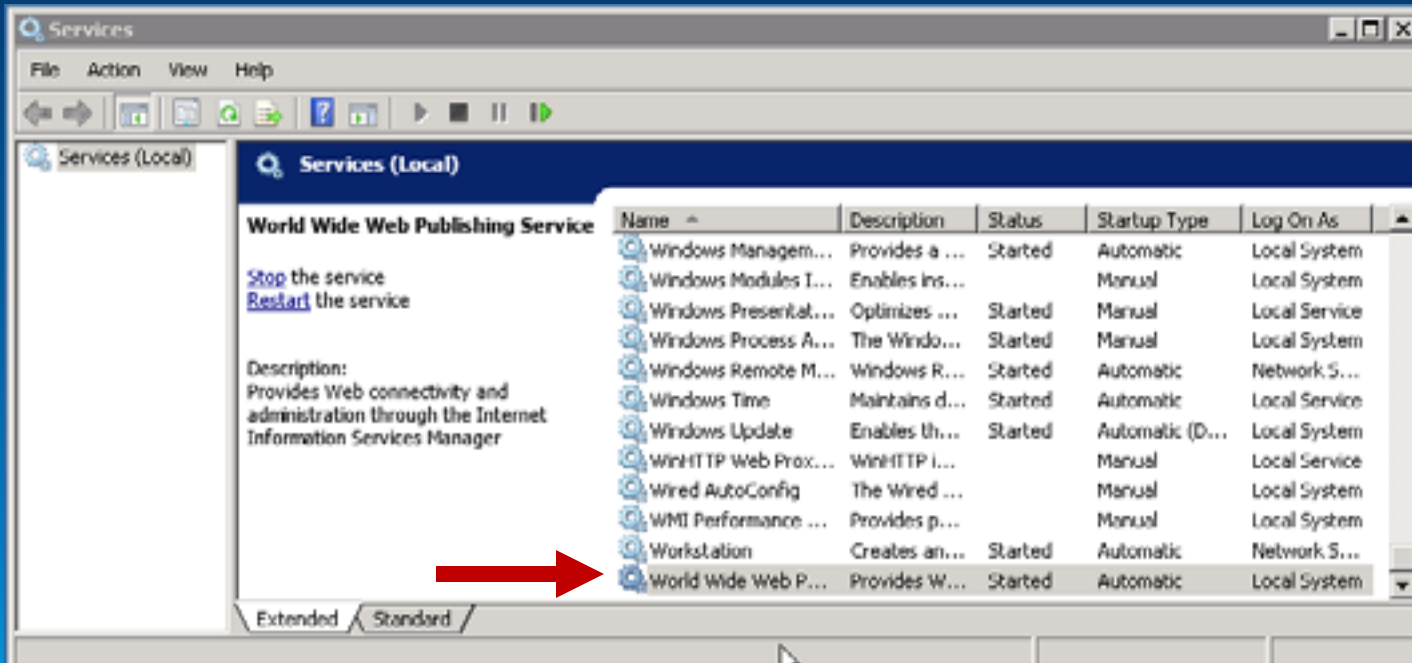
- Ø Ports 80 and 443 open by default
 - Ø ArcGIS Server uses 6080
 - Ø Use Web Adaptor to configure for port 80
 - Ø Download from Esri Customer Care Portal
- Ø Open 6080 in security group if not using Web Adaptor



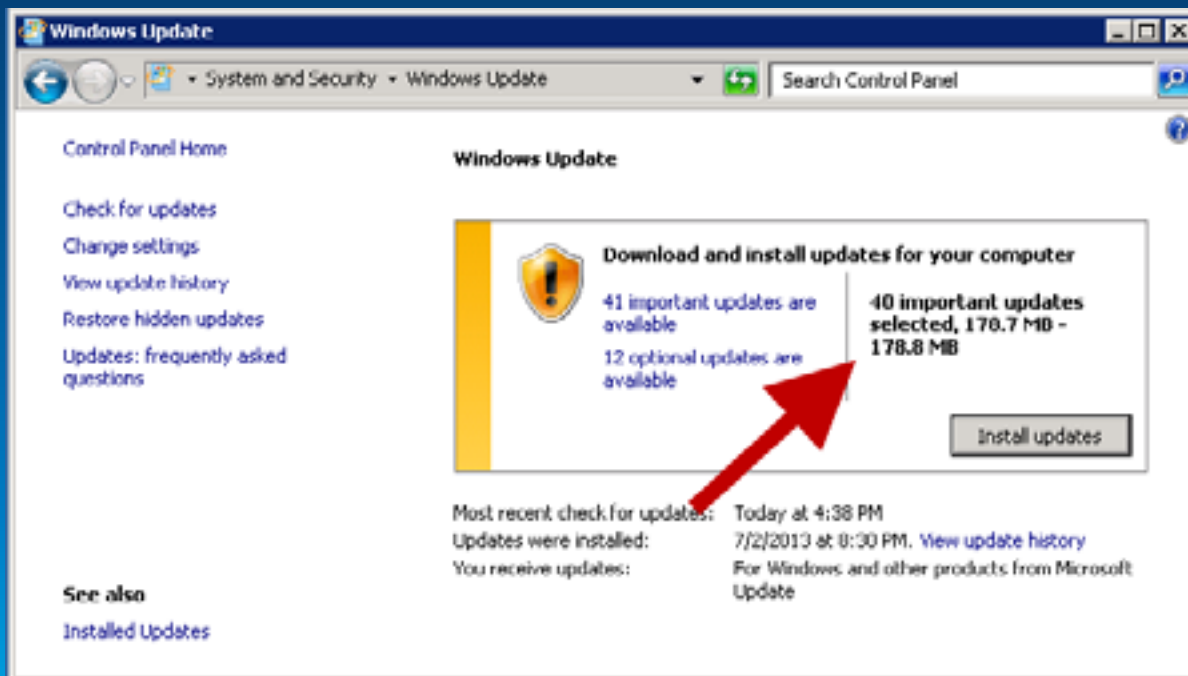
The screenshot shows the AWS IAM console interface for a Security Group named "ED ARCGIS". The "Inbound" tab is selected, displaying a list of rules. The "Create a new rule:" dropdown is set to "Custom TCP rule". The "Port range:" field is empty, and the "Source:" field is set to "0.0.0.0/0". The "Add Rule" button is visible. The table below shows the following rules:

Port	Protocol	Source	Priority	Actions
1433	MS SQL	0.0.0.0/0	32	Delete
1433	MS SQL	0.0.0.0/0	99	Delete
1433	MS SQL	sg-6efe9406 (Dept of Ed EdFacts)		Delete
0 - 65535		sg-82d394ea (ED ARCGIS)		Delete
80	HTTP	0.0.0.0/0		Delete
443	HTTPS	0.0.0.0/0		Delete
27000		0.0.0.0/0	18	Delete
27000		0.0.0.0/0	108/32	Delete
27000		0.0.0.0/0	7	Delete
27000		0.0.0.0/0	9/32	Delete

Start WWW service for Web Adaptor



Apply Windows Updates



The screenshot shows the Windows Update window in the Windows Control Panel. The window title is "Windows Update" and the breadcrumb path is "System and Security > Windows Update". The main content area is titled "Windows Update" and features a yellow warning icon. The primary message is "Download and install updates for your computer". It states that 41 important updates are available, with 12 optional updates also available. A red arrow points to the text "40 important updates selected, 170.7 MB - 178.8 MB". An "Install updates" button is located at the bottom right of this section. Below the main message, it shows the most recent check for updates was performed today at 4:38 PM. It also lists updates installed on 7/2/2013 at 8:30 PM and notes that updates are received for Windows and other products from Microsoft Update. A "See also" section at the bottom left points to "Installed Updates".

Control Panel Home

Check for updates

Change settings

View update history

Restore hidden updates

Updates: frequently asked questions

Windows Update

Download and install updates for your computer

41 important updates are available

12 optional updates are available

40 important updates selected, 170.7 MB - 178.8 MB

Install updates

Most recent check for updates: Today at 4:38 PM

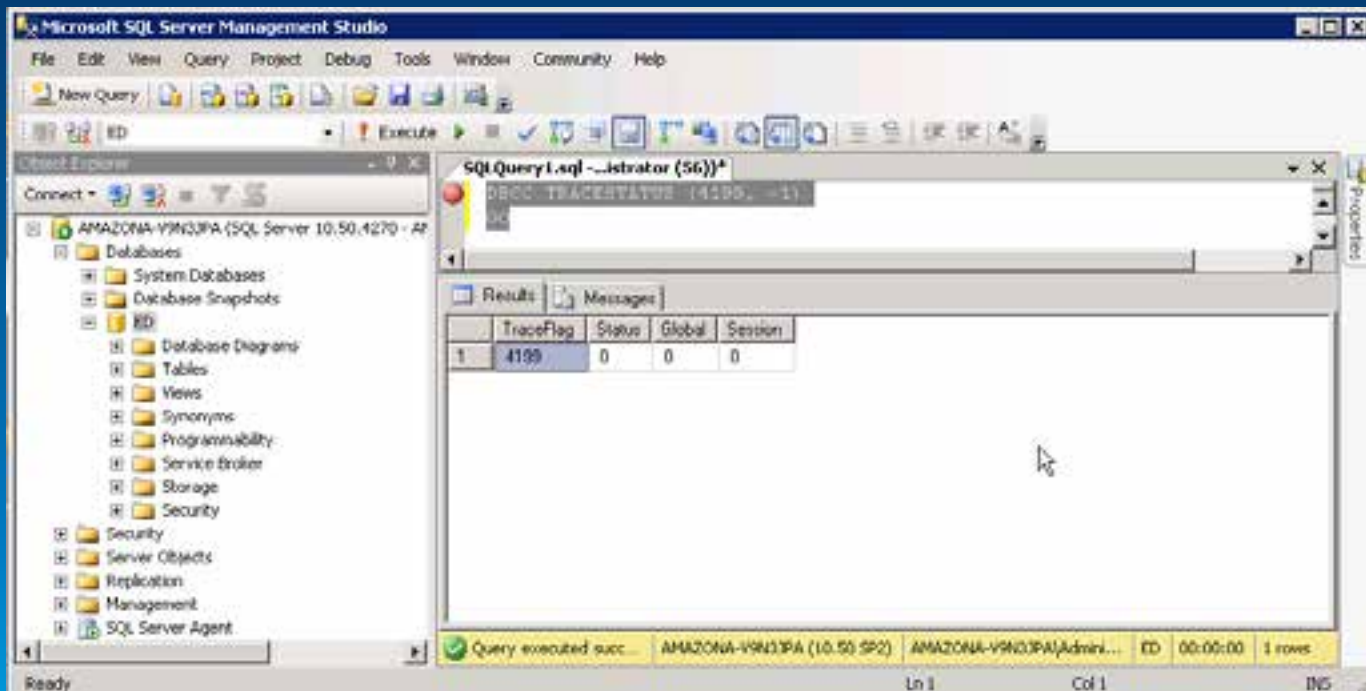
Updates were installed: 7/2/2013 at 8:30 PM. [View update history](#)

You receive updates: For Windows and other products from Microsoft Update

See also

[Installed Updates](#)

Apply Database Updates



The screenshot displays the Microsoft SQL Server Management Studio interface. The 'Server Enterprise' tree on the left shows the server instance 'AMAZONA-V9N3JPA (SQL Server 10.50.4270 - SP2)'. The 'Databases' folder is expanded, showing 'System Databases', 'Database Snapshots', 'ED', 'Database Diagrams', 'Tables', 'Views', 'Synonyms', 'Programmability', 'Service Broker', 'Storage', and 'Security'. The 'ED' folder is selected. The 'SQL Query 1.sql' window shows the following query:

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

The 'Results' pane shows the following table:

	TraceFlag	Status	Global	Session
1	4199	0	0	0

The status bar at the bottom indicates 'Query executed succ...', 'AMAZONA-V9N3JPA (10.50.SP2)', 'AMAZONA-V9N3JPA/Admin...', 'ED', '00:00:00', and '1 rows'. The status bar also shows 'Ln 1 Col 1 INS'.

What do I need to publish a Map Service?

Folder: ED

Current Version: 10.11

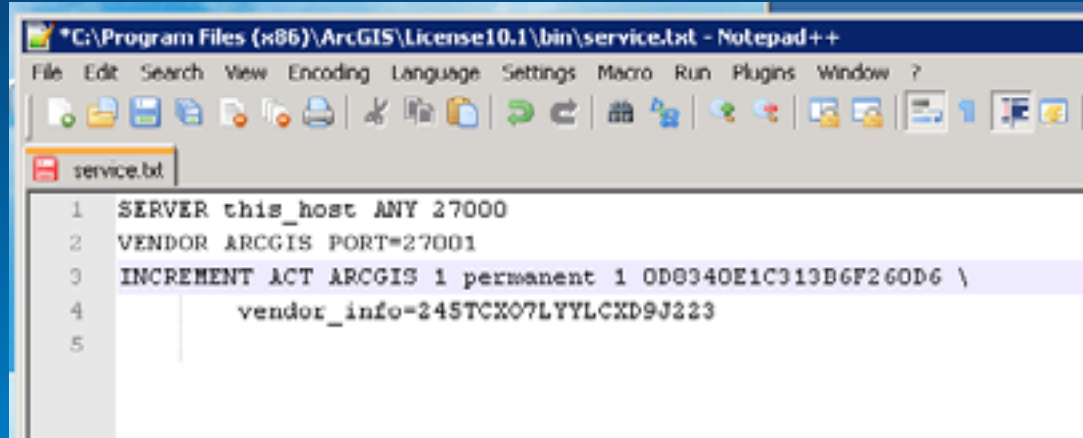
View Footprints In: [ArcGIS.com Map](#)

Services:

- [ED/AchievementResults_2010_2011_7](#) (MapServer)
- [ED/demographic_profile_map](#) (MapServer)
- [ED/EDSB_BASE](#) (MapServer)
- [ED/exportData](#) (MapServer)
- [ED/LocaleAssignmentService.3](#) (MapServer)
- [ED/optionalLayers](#) (MapServer)
- [ED/queryDistrictData](#) (MapServer)
- [ED/querySchoolData_mobile](#) (MapServer)
- [ED/querySchoolData](#) (MapServer)
- [ED/queryStateData](#) (MapServer)
- [ED/sdds_data_extraction](#) (GPServer)
- [ED/states](#) (MapServer)

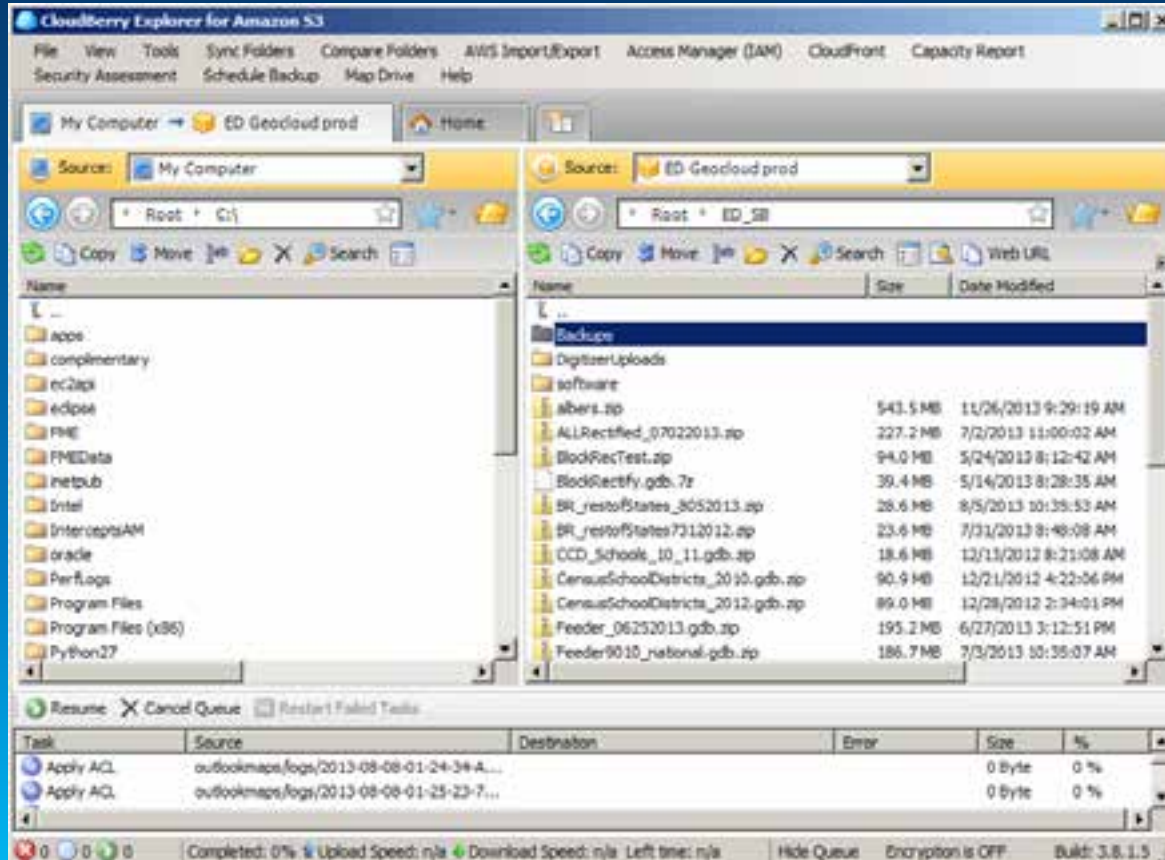
ArcGIS Desktop to administer and publish

- ∅ Publish with Desktop
 - ∅ Install on the server
 - ∅ Connect from your computer
- ∅ License Manager
 - ∅ Lock down ports to 27000, 27001
 - ∅ Add to Security Group



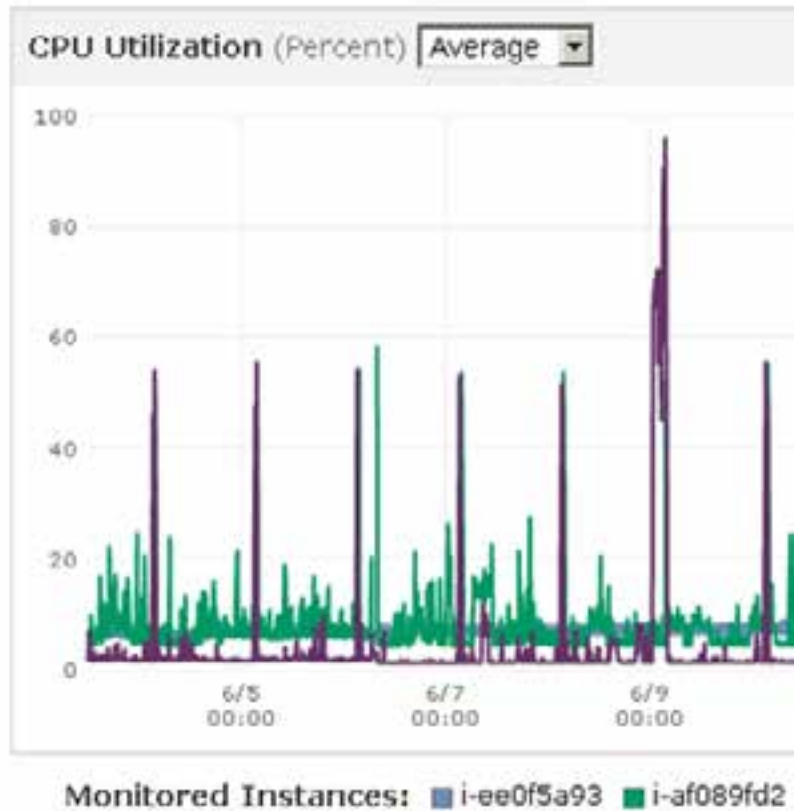
```
*C:\Program Files (x86)\ArcGIS\License10.1\bin\service.txt - Notepad++
File Edit Search View Encoding Language Settings Macro Run Plugins Window ?
service.txt
1 SERVER this_host ANY 27000
2 VENDOR ARCGIS PORT=27001
3 INCREMENT ACT ARCGIS 1 permanent 1 OD0340E1C313B6F260D6 \
4 vendor_info=245TCX07LYYLCXD9J223
5
```

Migrate Data and MXDS to AWS S3 via CloudBerry



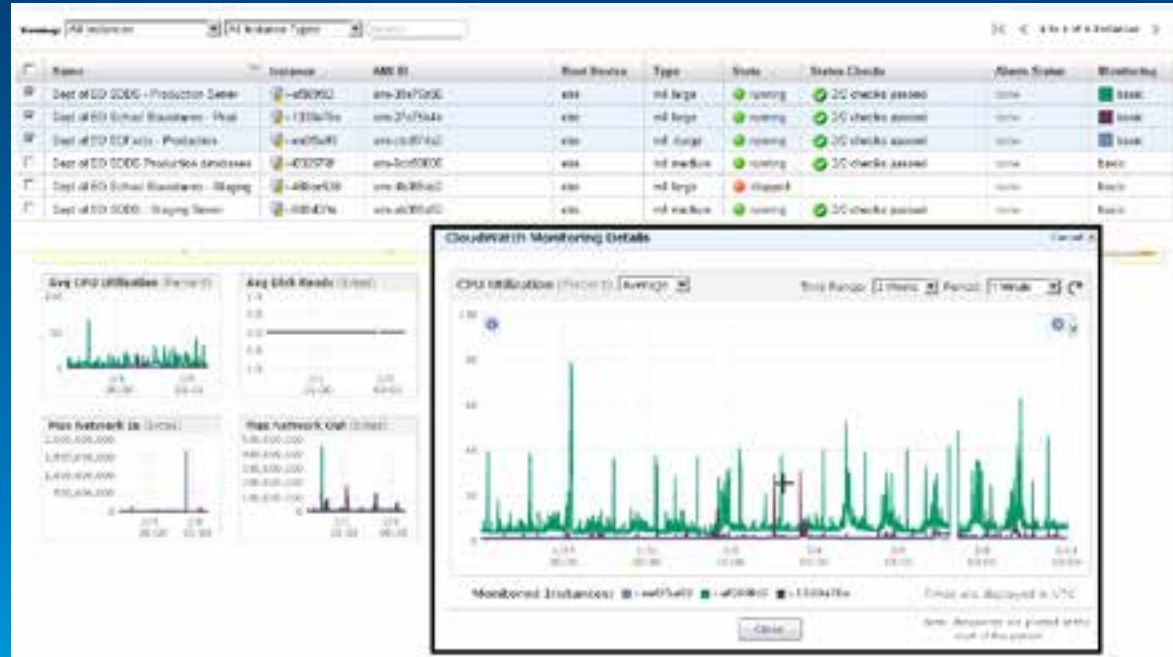
Monitoring

CloudWatch Monitoring Details

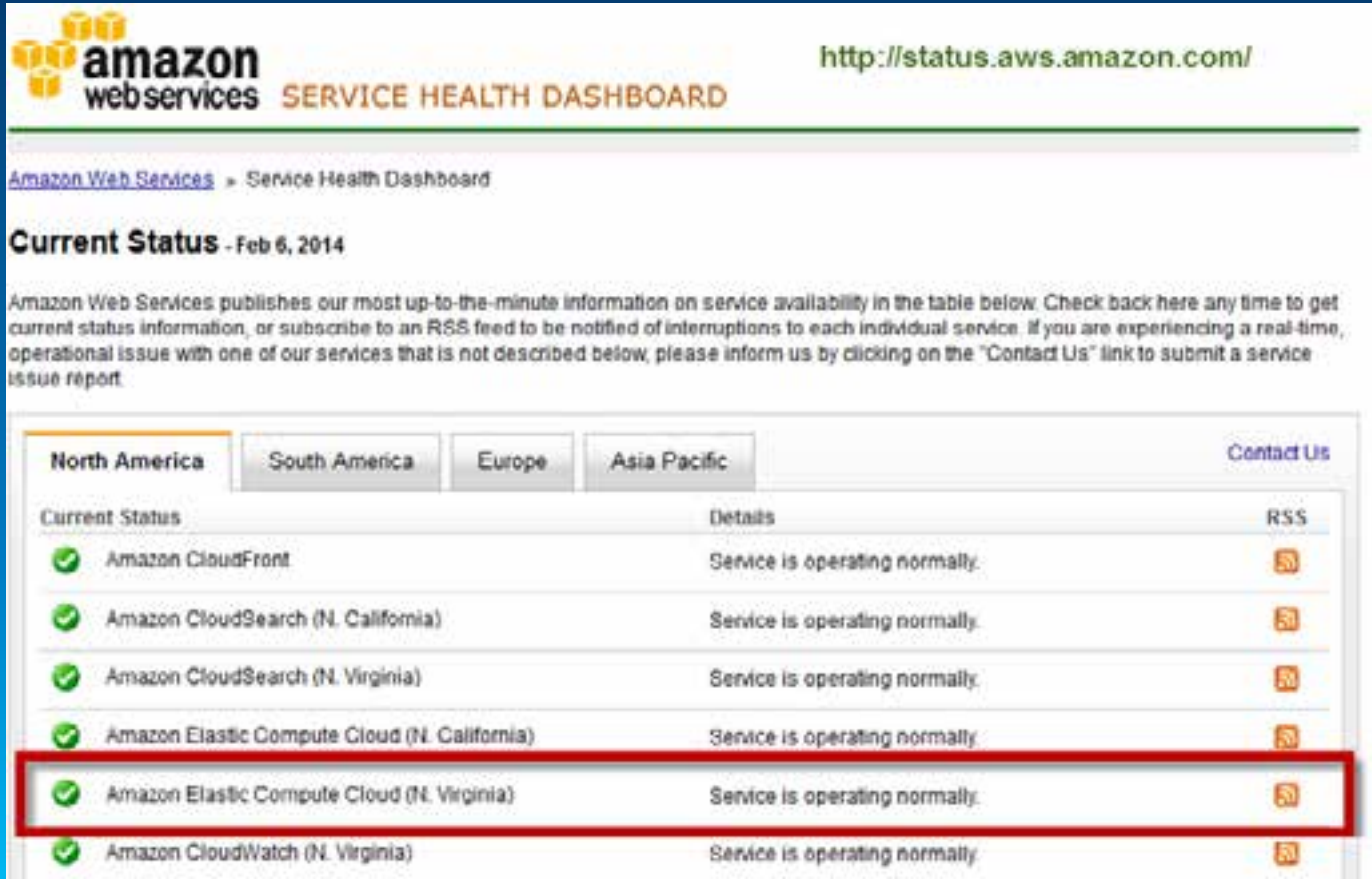


CloudWatch Metrics

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



Amazon Service Health Dashboard



The screenshot shows the Amazon Service Health Dashboard for North America. The page title is "amazon web services SERVICE HEALTH DASHBOARD" with the URL "http://status.aws.amazon.com/". The current status is "Current Status - Feb 6, 2014". A paragraph explains that Amazon Web Services publishes up-to-the-minute information on service availability. Below this is a table with columns for "Current Status", "Details", and "RSS". The table lists several services, all of which are operating normally. The row for "Amazon Elastic Compute Cloud (N. Virginia)" is highlighted with a red border.

amazon web services SERVICE HEALTH DASHBOARD <http://status.aws.amazon.com/>

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

Current Status - Feb 6, 2014

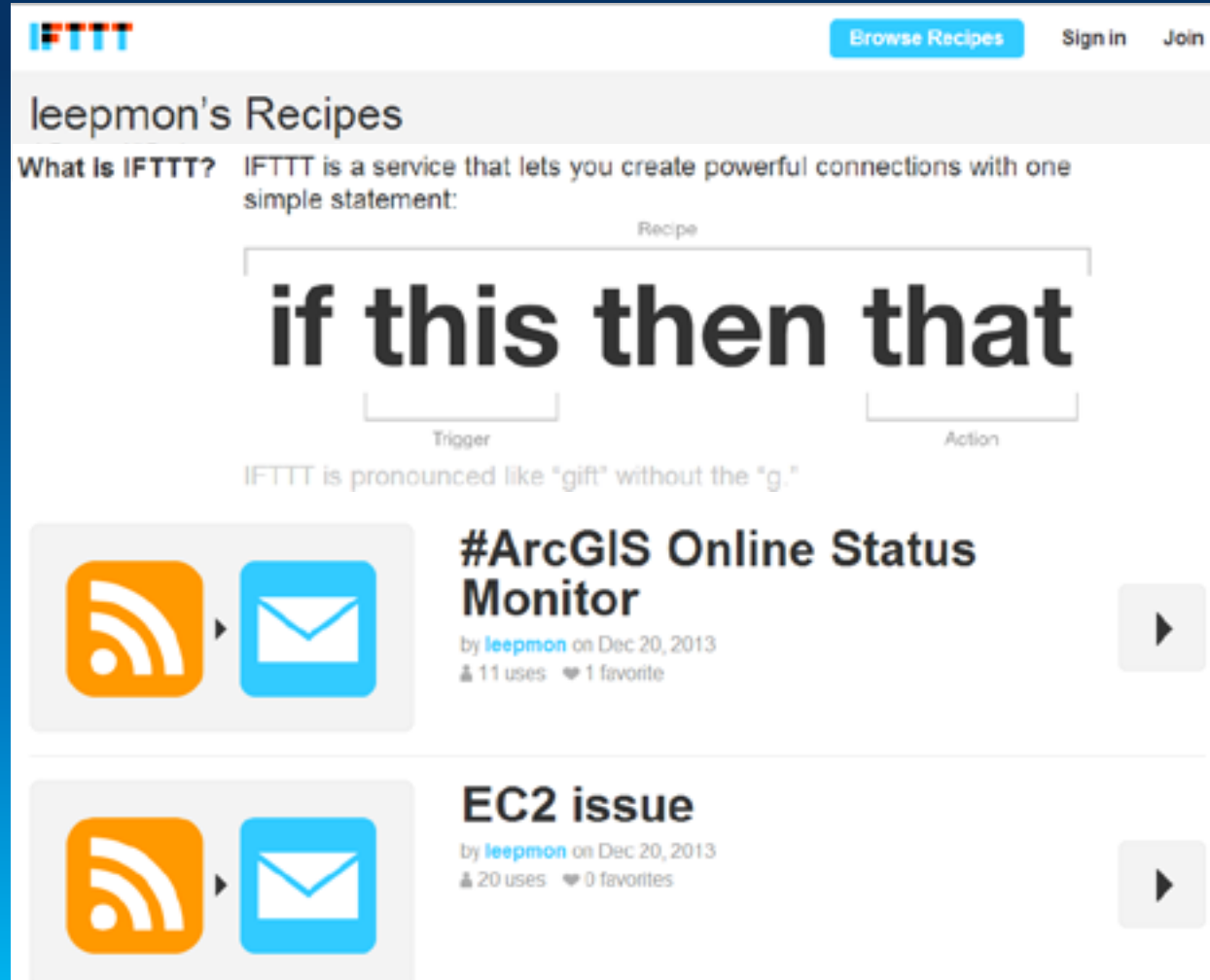
Amazon Web Services publishes our most up-to-the-minute information on service availability in the table below. Check back here any time to get current status information, or subscribe to an RSS feed to be notified of interruptions to each individual service. If you are experiencing a real-time, operational 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.

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

IFTTT Recipes

Set up alerts

<https://ifttt.com/>



IFTTT [Browse Recipes](#) [Sign in](#) [Join](#)

leemon's Recipes



What is IFTTT? IFTTT is a service that lets you create powerful connections with one simple statement:



Recipe

if this then that

Trigger Action

IFTTT is pronounced like "gift" without the "g."

  **#ArcGIS Online Status Monitor**
by [leemon](#) on Dec 20, 2013
▲ 11 uses ♥ 1 favorite

  **EC2 issue**
by [leemon](#) on Dec 20, 2013
▲ 20 uses ♥ 0 favorites

Website Monitoring with Pingdom



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



IAM Console Security

Ø Control users and groups within account

Ø Unique security credentials for access keys and login/passwords

The screenshot displays the AWS IAM console dashboard. The top navigation bar includes 'Services', 'List', and 'AWS IAM console (us-east-1)'. The left sidebar contains a 'Dashboard' menu with options for '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.' Below this is a 'Create a new group of users' button. Four informational cards are present: 'What Are Users?' (Users interact with resources 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' and 'Password Policy' as 'Enabled', with a 'Manage Password Policy' button. The 'IAM Resources' section lists '0 Groups', '10 Users', and '3 Roles'. The 'AWS Account Alias' section provides a link to the account alias and a 'Follow Account Alias' button. The 'IAM Documentation' section lists links for 'IAM Getting Started Guide', 'Using IAM', 'IAM CLI Reference', 'IAM API Reference', and 'Report an Issue'. The footer contains copyright information for Amazon Web Services, Inc. and a 'Feedback' button.

Lessons Learned

- ∅ **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**



Thank You – Questions?

Amy Ramsdell

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- **ArcGIS Cloud Security Roadmap & Best Practices for Federal Agencies**
 - Tues. 8:30am – 9:30am; 145 AB
 - Tues. 4:00pm – 5:00pm; 146 C
- **Understanding ArcGIS Deployments in Public and Private Clouds**
 - Tues. 11:00am – 12:00am; 151 A
- **ArcGIS and the Cloud – A Management Perspective**
 - Tues. 5:15pm – 6:15pm

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