Geospatial Services
Value in Platforms
About AAM?

- 55 years in operation
- Reinventing every day
- Geospatial information
  - Producer
  - Provider
  - Platform
Even how we see ourselves is changing
To find value we have to evolve

AAM has evolved from a professional service model to an information platform
The real value is in being able to visualise, analyse, and integrate BIG data
But we all know we have been limited by the computing not the ideas
But the world is changing
To some the Cloud is something looming and threatening
To others the Cloud is something to be contemplated
In 2016, spending on public cloud IaaS hardware and software is forecast to reach $38B, growing to $173B in 2026.

SaaS and PaaS spending are projected to reach $12B in 2016, growing to $55B in 2026.
451 Research’s Market Monitor forecasts that the market for cloud computing ‘as a service’ will hit $22B in 2016 more than doubling to $44B by 2020.

### Cloud Computing 'As a Service' Revenue ($B)

<table>
<thead>
<tr>
<th>Year</th>
<th>PaaS</th>
<th>Infrastructure SaaS</th>
<th>IaaS</th>
</tr>
</thead>
<tbody>
<tr>
<td>2014</td>
<td>$2.3</td>
<td>$3.1</td>
<td>$7.0</td>
</tr>
<tr>
<td>2015</td>
<td>$3.1</td>
<td>$4.1</td>
<td>$9.7</td>
</tr>
<tr>
<td>2016</td>
<td>$4.0</td>
<td>$5.4</td>
<td>$12.5</td>
</tr>
<tr>
<td>2017</td>
<td>$4.9</td>
<td>$6.8</td>
<td>$15.4</td>
</tr>
<tr>
<td>2018</td>
<td>$5.9</td>
<td>$8.4</td>
<td>$18.2</td>
</tr>
<tr>
<td>2019</td>
<td>$6.9</td>
<td>$10.0</td>
<td>$21.2</td>
</tr>
<tr>
<td>2020</td>
<td>$8.1</td>
<td>$11.6</td>
<td>$24.5</td>
</tr>
</tbody>
</table>

21% 2015-2020 CAGR
“Banking & Financial Service (BFS) institutions are possibly the most advanced in terms of technology adoption and use cloud computing capabilities as a key differentiator”
But we want to put the Cloud to work for you

**Increased agility** has become the #1 reason organizations use the cloud.
Four ingredients in Cloud Computing that change the economics

1. Replace up-front capital expense with low variable cost
   Average of 400 servers replaced per customer

2. Economies of scale allow providers to continually lower costs
   51 price reductions since 2006

3. Pricing-model choice supports variable and stable workloads
   Purchasing options:
   • On-demand
   • Reserved
   • Spot

4. Save more money as you expand
   Increase savings through:
   • Tiered pricing
   • Volume discounts
   • Custom pricing
Cloud infrastructure oversees the big picture, letting your security team focus on a subset of overall security needs.

- Facilities
- Physical security
- Compute infrastructure
- Storage infrastructure
- Network infrastructure
- Virtualization layer (EC2)
- Hardened service endpoints
- Rich IAM capabilities

+ Network configuration
  - Security groups
  - OS firewalls
  - Operating systems
  - Application security
  - Proper service configuration
  - AuthN and account management
  - Authorization policies

= More secure and compliant systems than any single entity could normally achieve on its own.
When we talk about BIG data there are organisations who share your concern and your need for security and trust.
Every day, AWS adds enough new server capacity to support all of Amazon’s global infrastructure when it was a $7B annual revenue enterprise.
AWS has been continually expanding its services to support virtually any cloud workload, now offering more than 40 services.

### AWS Services
- Amazon S3
- Amazon SQS
- Amazon EC2
- Amazon SimpleDB
- Amazon VPC
- Amazon RDS
- Amazon EBS
- Amazon CloudFront
- Elastic Load Balancing
- Auto Scaling
- Amazon SNS
- AWS Identity and Access Management
- Amazon Route 53
- AWS Storage Gateway
- Amazon DynamoDB
- AWS Identity and Access Management
- Amazon Direct Connect
- AWS GovCloud
- Amazon Elastic Transcoder
- AWS OpsWorks
- AWS CloudHSM
- Amazon AppStream
- AWS CloudTrail
- Amazon WorkSpaces
- Amazon Kinesis
- Amazon EFS
- Amazon WorkMail
- Amazon Machine Learning
- Amazon ECS
- Amazon Lambda
- AWS Config
- AWS CodeDeploy
- Amazon RDS for Aurora
- AWS KMS
- Amazon Cognito
- Amazon WorkDocs
- AWS Directory Service
- Amazon Mobile Analytics
The Cloud, is a global resource
Your business, your organisation, can not afford to be too slow

Old World: Infrastructure adapted in WEEKS

Cloud: Infrastructure adapted in MINUTES

- Add new dev environment
- Add new prod environment
- Add new environment in Japan
- Add 1,000 servers
- Remove 1,000 servers
- Deploy 1 PB data warehouse
- Shut down 1 PB data warehouse

A new level of agility transforms your operations
Cirrus (cloud classification symbol: Ci) is a genus of atmospheric cloud.
GEOCIRRUS is a cloud platform that enables you to take advantage of the cloud’s

- Flexibility
- Reliability
- High availability

To provide your business with access to spatial information and spatial intelligence
GEOCIRrus to deliver the complexities of Smart City models
GEOCIRRUS to deliver the simplicity of a single application
GEOCIRRUS to deliver the complexities of multiple applications
GEOCIRRUS to bring rich visualisation in your browser
GEOCIRRUS to integrate your data with multiple sources
GEOCIRRUS to analyse the virtual world
GEOCIRRUS platform bridging BIM and GIS
GEOCIRRUS platform bridging CAD and GIS
GEOCIRRUS platform bridging indoor and outdoor mapping
What does this for your value proposition?

- Embrace subscriber payment - pay as you use
- Look forward to further modularisation and even atomisation of GIS functionality
- Cascaded models of data access - multiple vendor and free to air data sets
- Combining traditional GIS layers with discrete models, multiple levels of details and meshes
Where's the money?

For us it is in:
• geoCloud = GEOCIRRUS, a platform for expansion and configurable true 3D virtualisation

For you it is in:
• Embracing the capability and possibility of geoCloud platform
• Allowing the cloud to move you and your users from static data to dynamic data to fluid data.