3-GIS Live & Massive Scaling in the Cloud
Geospatial World Forum
May 9, 2014
Founded in May 2006 in Decatur, AL
- 2008 Esri Business Partner of the Year
- 2009 TeleAtlas Innovator’s Award
- 2011 Esri’s Partner Choice Winner
- 2011 Esri’s Innovative Web Application Award
- 2012 First Cloud-Based Esri Utility Solution

GIS Historical Involvement since mid-1980’s
- Intergraph, MESA Solutions, Telcordia

*ESRI, Intergraph, MESA Solutions, and Telcordia are registered trademarks of their respective or parent corporations.
GIS Implementation Driving Historical Factors

- Purchase Cost
- Installation / Turn-up
- Training / Re-training
- Maintenance Upgrades
- Reach of Application (Domain & Enterprise)
- Performance & Scalability
- Configurability; Field & Office
- Total Cost of Ownership!
Product Development – Tools that...

- Leverage ArcGIS Server
- Are Lightweight, Mission Specific, Easy to Learn
- Are Easy to Configure and Administer
- Help Realize the goal of the Enterprise GIS
- Are Esri Ecosystem Friendly!!

Built for the Cloud
The Utility Enterprise

- Network Planning & Growth
- Network Availability / Utilization
- Customer Service
- Construction
- Crew Management
- Scheduled Outages
- Public Information Sharing
- Environmental Impact/Remediation
- Damage Assessment
- Outage Analysis
Why 3-GIS Live

- One Solution for planning, engineering, operations and external access
- Leverage Esri Data Model
- Speed of data development
- Multi-user access to dataset
- Thin Client through Browser

- Highly Configurable
- Simple to Use
- Use of Web Services
- Low cost of entry versus traditional client/server
- Configurable mobile client solution allowing for disconnected cache and edit
Built For a Broader Audience:
- Configurability
- Administrative Tools
- Different Perspective – Not Just E&O

Fast Adoption Rate:
- Fast and Focused Training
- KISS Principal in Every Component
- Planned Roadmap w/ Esri
- Affordable
Leading Deployment Strategies

- Traditional On-Premise
- Multi-Tenant SaaS Model
- Private SaaS Model
- Hybrid Model: Multi-Tenant w/ On-Premise Data

(all SaaS models include ArcGIS OnLine)
Overview
- Modern Targeted Interface to stay “On Task”
- Live Geodatabase Editing on the Web
- No deployment concerns – fully web enabled
- Multi-Discipline Platform
- Web 2.0 compliant
- Open ESRI Ecosystem
- Scalable SOA

Functions
- Editing – Placement, Deletes, Attribute Edits, Related Records*

- Tracing – Connected & Isolation
- Plotting & Printing*
- Flexible Query Tool*
- Configurable Reporting*
- Address Location, Routing*
- Work Order Management
Live Data Feeds

Network Health

Live Data Feeds

Crew Location

Common Operating Picture
Analyze Heat Maps

Find Closest Network Access Points

Plan Build-out

Cable Capacity/Usage at a Glance

View Coverage Zones
3-GIS Mobile

- Disconnected Functionality
- Create & Edit Features
- Locate Features
- Review Attributes
- Full Navigation
- Zoom To GPS
- High Accuracy GPS**
- Capture and Upload Photos to GIS

Android and iOS
• WO Creation
• Add Tasks & Assets To WO
• WO Assignment

• WO & Task Download
• Review & Update
• Check Off Assigned Tasks
When compared to a Pay As You Grow Model; SaaS starts at 50% savings and accelerates quickly as even more users are engaged.
Case Study
- Utility Infrastructure
- “Greenfield” Design & Construction
- Large & Complex Geographies
- Multiple Global Users
  - Read and Write
  - 24 Hour Access
- Compressed Timeline
**Factors to SCALE**

- **Users**
  - Global
  - 24 Hour Availability
  - Ease of Use
  - Ease of Access (Global)

- **Administration**
  - Limited Maintenance Window
  - Data Transfer
  - Application Tuning
  - Database Tuning

- **Application**
  - Parallel Processing
  - Highly Configurable
  - Software as a Service

- **Database**
  - Availability
  - Recovery
  - Fail-Over
  - Non-Versioned!
Auto Scaling Web Tier

Parallelized App Tier

GeoDB

Z1

Z2

GeoDB

GeoDB

S3
Daily Edit Actions on 3-GIS Live

- SITE2
- SITE2
- SITE2
Conventional Desktop:
- Man Weeks: 552
- Man Months: 138
- Resources: 31

3-GIS Live:
- Man Weeks: 221
- Man Months: 55
- Resources: 12

Productivity = ~250% Increase!
Example 3-GIS Daily Statistics:

- **Average Number of Users**
  - 190 Concurrent over 24 Hours

- **Average Number of Commits**
  - 30,000 over 24 Hours
  - 1,250 over 1 Hour

- **Average Availability**
  - 98% over 24 Hours
Targeted 3-GIS Daily Statistics (FY2014)

- **Average Number of Users**
  - 1,000-3,000 Concurrent over 24 Hours

- **Average Number of Commits**
  - 4,500,000 over 24 Hours
  - 187,500 over 1 Hour

- **Average Availability**
  - 98% over 24 Hours
One Solution, Many Uses
In the Cloud

- Planning & Design
- Data Cleansing
- Construction
- Analytics
- Maintenance
- Sharing
- Engagement

But there's more than ONE cloud!

3-GIS | Network Solutions

Scaling Solution

A Complete, Integrated System
Questions

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