US Army Europe Sustainable Range Program (USAREUR SRP)

Deploying ArcGIS Sever (9.2) Based Army Range Mapper (ARM).

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Abstract:

• Army Range Mapper facilitates the dissemination of geospatial data for over 160 military training areas, ranges, Forward Operating Sites, Cooperative Security Locations (FOS/CSL) throughout EUCOM, AFRICOM, and CENTCOM. It supports a broad spectrum of users from the technical war fighter to the environmental GIS analyst.

• The application resides in a secured environment, based on ArcGIS Server 9.2, ASP.net 2.0, and AJAX 1.0 and served by ArcSDE 9.2, Oracle 10g and IIS 6.0. It provides basic web viewing tools, data manipulation and presentation tools as well as custom tools such as the Range Manager Tool Kit (RMTK).

• This presentation will discuss the challenges encountered during its deployment and testing.
Agenda

• Background

• System Environment

• Deployment Issues

• Resolution of Issues

• Performance Tests

• Questions
Background

- USAREUR SRP has assumed the challenge of delivering accurate and up-to-date geospatial data for training area management in an unclassified multi-layered secure network environment to its customers, the U.S. Army Europe.

- The Army Range Mapper (ARM, formerly known as ITAM Mapper) has been employed by USAREUR SRP for this purpose for over 7 years.

- Today, ARM facilitates the dissemination of geospatial data across the Internet for over 160 training areas, ranges, Forward Operating Sites/Cooperative Security Locations (FOS/CSL) spread throughout EUCOM, AFRI COM, and CENTCOM.

- Supporting a broad spectrum of users from the training war fighter community to the environmental GIS analyst, it provides online data visualization, manipulation and presentation tools, including a web-based version of the Range Manager Tool Kit (RMTK).
System Environment

• ArcGIS Server 9.2

• Oracle 10g release 2, ArcSDE 9.2

• IIS 6.0, Windows 2003 Server

• .Net Framework 2.0, ASP.Net 2.0, AJAX 1.0

• DOD PKI/SSL Server Authentication

• AKO CAC User Authentication (SSO)
Characterized by a distributed workload

- Separation of SOM, SOC (x2)
- Direct Connect = reduction of processes
- Partitioning of Map Services
Deployment Issues and Resolution

- USAREUR Server Baseline
  - Check Permissions and server lockdown

- Patches and Updates
  - Software vendor workaround

- Security Configuration
  - Web-server and SSL configuration
Deployment Issues and Resolution

• Application Errors
  ✓ Data connection/application bugs

• Network Traffic
  ✓ Hope for the best

• Personnel
  ✓ Training
Deployment Issues and Resolution

- Application Performance
  - Test tools for optimum performance
Performance Tests

• Stopwatch: mass web rendering of application

• Fiddler: granular web page performance measurement. Captures and displays web session information

• MxdPerfStat: diagnoses typical MXD performance problems. Map document refresh times provide information on scale, projection, symbology and large features

• Geodatabase Toolset (GDBT): debugging and optimizing ArcSDE data (ArcMap / ArcCatalog extension)
ARMY RANGE MAPPER

Any Mission, Anywhere!
USAREUR Sustainable Range Program (SRP)

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