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

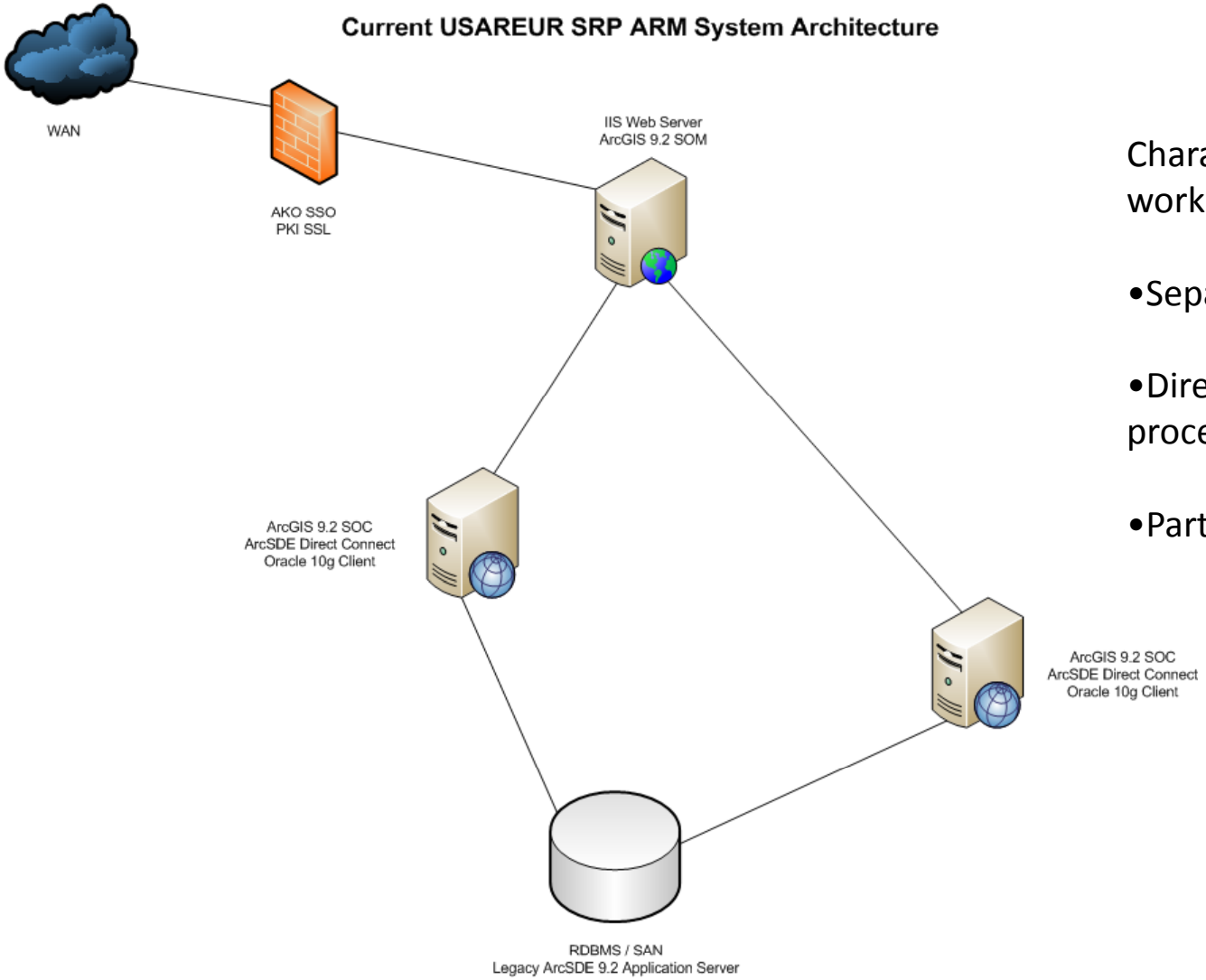
- Today, ARM facilitates the dissemination of geospatial data across the Internet for over 160 training areas, ranges, Forward Operating Sites/Cooperative Security Locations (FOS/CSL) spread throughout EUCOM, AFRICOM, and CENTCOM

- 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)

Current USAREUR SRP ARM System Architecture



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

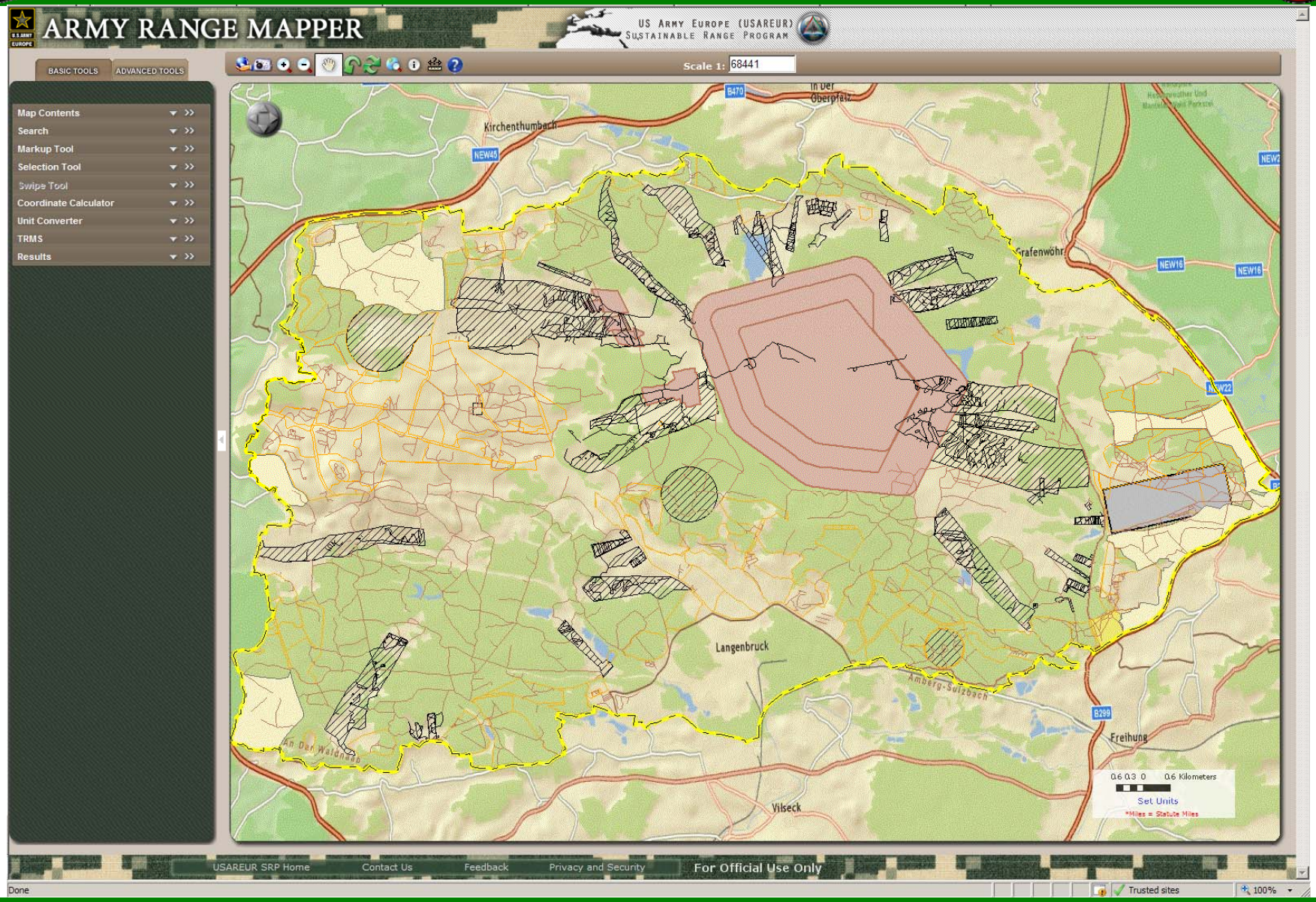
Performance Tests

•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)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BASIC TOOLS
ADVANCED TOOLS
Scale 1: 68441
Map Contents
Search
Markup Tool
Selection Tool
Swipe Tool
Coordinate Calculator
Unit Converter
TRMS
Results
Kirchenthumbach
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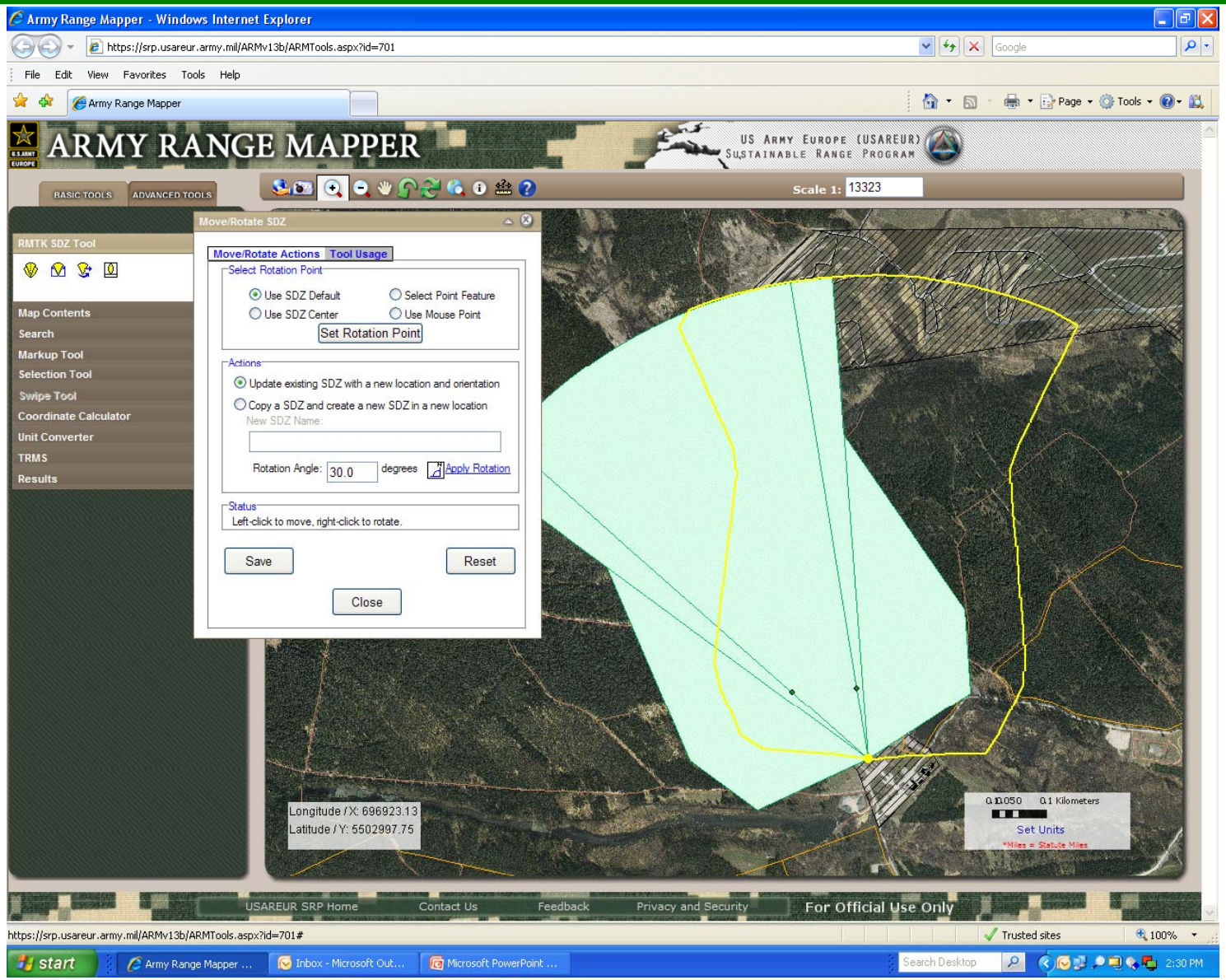
Army Range Mapper - Windows Internet Explorer
https://srp.usareur.army.mil/ARMv13b/ARMTools.aspx?id=701
File Edit View Favorites Tools Help
Army Range Mapper
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BASIC TOOLS
ADVANCED TOOLS
Scale 1: 13323
RMTK SDZ Tool
Map Contents
Search
Markup Tool
Selection Tool
Swipe Tool
Coordinate Calculator
Unit Converter
TRMS
Results
Move/Rotate SDZ
Move/Rotate Actions
Tool Usage
Select Rotation Point
Use SDZ Default
Select Point Feature
Use SDZ Center
Use Mouse Point
Set Rotation Point
Actions
Update existing SDZ with a new location and orientation
Copy a SDZ and create a new SDZ in a new location
New SDZ Name:
Rotation Angle: 30.0 degrees
Apply Rotation
Status
Left-click to move, right-click to rotate.
Save
Reset
Close
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Latitude / Y: 5502997.75
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