SAP Integration with GIS at Vienna Networks

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Eric Schmalen, AED-SICAD AG
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Agenda

1. Facts about Vienna Networks
2. Business process support with SAP-GIS integration
3. Types of integration
4. Analyses & reports
5. Summary
Some facts about Vienna Networks

- Responsible for the operation and maintenance of
  - Electricity network
  - District heating network
  - Telecommunication network
  - Gas network

- The largest gas distributor in Austria
  - 683,059 customers
  - 122,473 service points
  - 678,323 gas meters
  - 4,599 km length

- A multi-utility enterprise GIS from Desktop to Web and Mobile solutions
Typical IT landscape of utility companies

Middleware for system integration
Business process support with SAP – GIS integration

- The challenge

Technical asset data:
- Line type
- Material
- Dimension
- Length
- Creation date

Administrative asset data:
- Value
- Booking year
- Maintenance period/order
- Depreciation

1 dataset from 2 datasources!
But 1 real world object!
Business process support with SAP – GIS integration

- The middleware - UT Integrator
  - Based on Esri ArcGIS for Server
  - Bi-directional
  - Close to real-time
  - Synchronous / asynchronous
  - Interfaces
    - SOAP / XML
    - IDoc
    - RFC
    - Table Reader
    - CSV files
  - Reliable and secured communication
    - Logging (Messages, Jobs, ...)
    - Email notification
Business process support with SAP – GIS integration

SAP - GIS interface improves three major processes

• Service Point Management
• Pipe Network surveillance
• Outage Management

ArcFM UT Integrator – interface from GIS to

• SAP PM
• SAP BI

Backend and Frontend integration
Backend Integration

SAP Integration with GIS at Vienna Networks
Types of integration: Backend integration

- Transfer of data and function calls in the background
Examples of Backend integration

- Creation of a new service point line

<table>
<thead>
<tr>
<th>SAP PM</th>
<th>UT Integrator</th>
<th>ArcFM UT</th>
</tr>
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<tbody>
<tr>
<td>Service center creates a new service point line in SAP PM including all technical attributes</td>
<td>Middleware automatically generates a new alpha-numerical record in GIS and transfers the technical SP attributes</td>
<td>GIS Engineer draws the SP line and connects the alpha-numerical record with the new graphics</td>
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Advantage: Continuous workflow, no paperwork anymore, errors avoided
Examples of Backend integration

- Pipe network surveillance and inspection

**ArcFM UT**

**Austrian Gas Norms**

**SAP PM**

- Selection via spatial and attribute criteria
- Grouping

**UT Integrator**

- Import of group into a „free“ Functional Location (FL)
- Creation of maint. order
Frontend Integration

SAP Integration with GIS at Vienna Networks
Types of integration: Frontend integration

- Calling the GUI of the other system
Types of integration: Frontend integration

- Calling the GUI of the other system

[Diagram showing integration between SAP GUI, WebGIS, SAP, IDOC, RFC, UT Integrator, Database, and ArcGIS Server. Arrows indicate the flow of information.]
Examples of Frontend integration

- Service point (SAP PM)

With a Shortcut from GIS to SAP PM ...
Examples of Frontend integration

- Service point (SAP PM)

... directly to the corresponding functional location in SAP PM ...
Examples of Frontend integration

- Service point (SAP PM)

Access to all wellknown SAP PM functions, e.g.: show components, meter status, commissions, ...
Examples of Frontend integration

- Regulator stations (SAP PM)

Works in the same way with gas regulator stations...
Examples of Frontend integration

- Regulator stations (SAP PM)

With just a few mouse clicks, all details of the regulator are available!
Examples of Frontend integration

- Supply situation - integrated data query with GIS & SAP PM

Which customers are supplied by this service point?

This can be displayed in the map by GIS – SAP integration!
Examples of Frontend integration

- Display of consumption situation (SAP PM)

Consumption average over the last 3 years!
Outage Management starts in SAP PM where a fault notification is created ...
All fault information such as construction documents are stored in SAP PM. Location of the fault is documented in GIS—easily accessed via button in SAP.
Outage Management with GIS and SAP

A symbol which is linked to the fault message shows the location in WebGIS
Analysis & Reports

SAP Integration with GIS at Vienna Networks
Analyses & Reports

UT Integrator

Examples:
- How many outages in a certain district?
- Which materials were involved?
- Injured persons?

GIS + SAP = GISA reports
Analysis & Reports

- BI – Output

Simulation calculator
Reports for the management
Reports for E-Control

Trend analysis,
Fault probability,
Strategy for exchanging assets
Enterprise GIS integration with SAP

- **Benefits for Vienna Networks**
  - Business process support across established IT-Systems
  - GIS and SAP information synchronized and combined in one BI database for processing, analysis, reporting, asset management
  - Better documentation with GIS and SAP integration
  - Better visualization of asset information in the map
  - Better informed enterprise decisions
  - Reliability of processes and operations improved
  - Reduced costs through lean and efficient processes

More details: Please read AED-SICAD forum international 2014 p 10-12
Thank you for your attention!

Eric Schmalen
AED-SICAD AG
Carl-Wery-Str. 22
81739 München

eric.schmalen@aed-sicad.de
www.aed-sicad.de