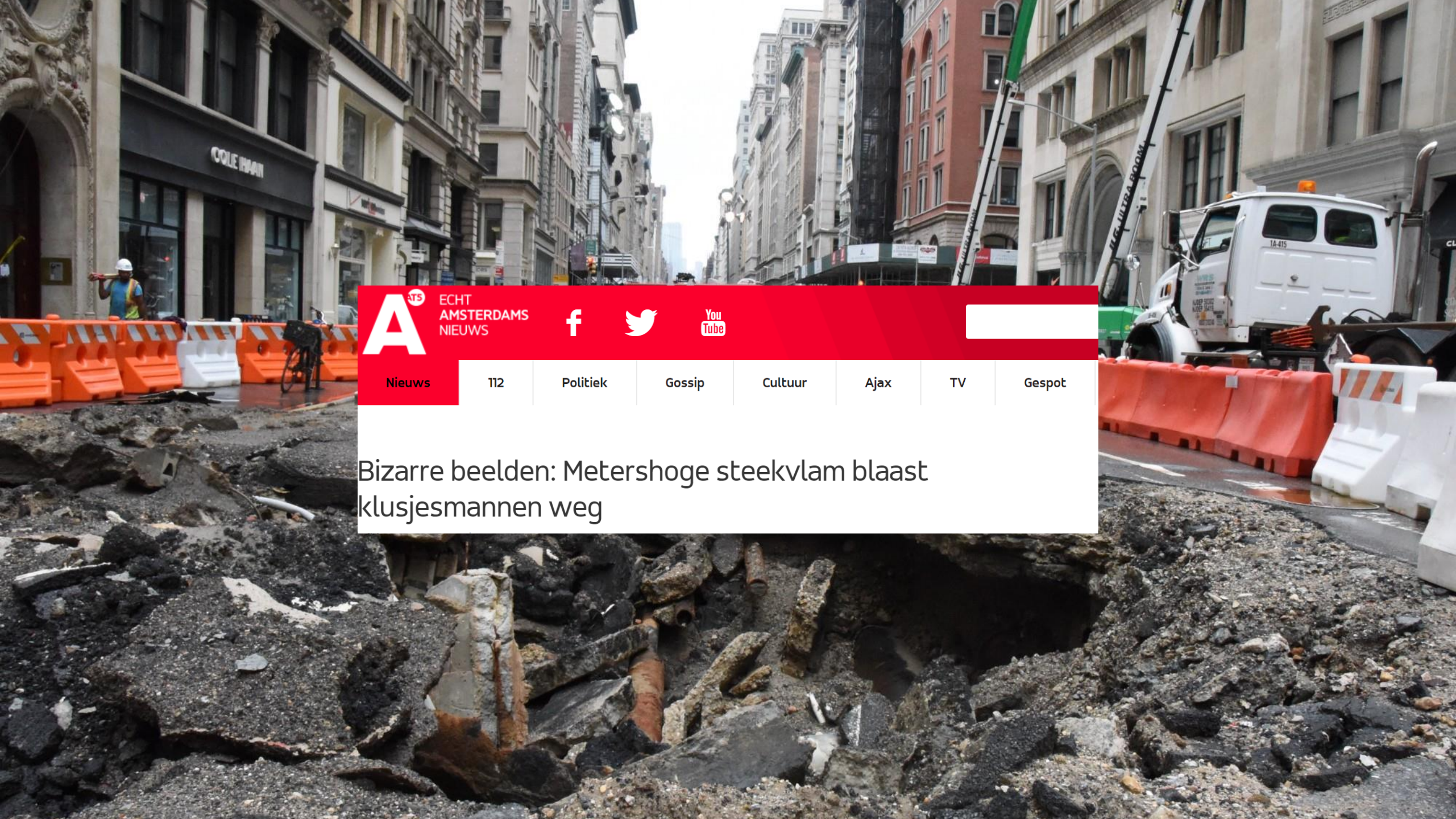
O efektivitě práce s GIS Esri rozhoduje i databázová platforma. Máte tu správnou?

René Fischer & Norbert Hanuska
7.11.2018


0800 - 9009
-LDV-1


P
alleen voor
opladen
elektrische
voertuigen


COLE HAAN
EMERGENCY



ECHT AMSTERDAMS NIEUWS

Nieuws | 112 | Politiek | Gossip | Cultuur | Ajax | TV | Gespot

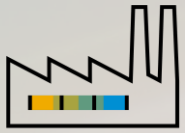
Bizarre beelden: Metershoge steekvlam blaast klusjesmannen weg


24 uur per dag bereikbaar
voor het melden van gaslucht,
stroom-, gas- en meterstoringen
0800 - 9009
nationaal
storingsnummer
gas en stroom
Liander
onderdeel van alliander


24 uur per dag bereikbaar
voor het melden van gaslucht,
stroom-, gas- en meterstoringen
0800 - 9009
nationaal
storingsnummer
gas en stroom
Liander
onderdeel van alliander


24 uur per dag bereikbaar
voor het melden van gaslucht,
stroom-, gas- en meterstoringen
0800 - 9009
nationaal
storingsnummer
gas en stroom
Liander
onderdeel van alliander

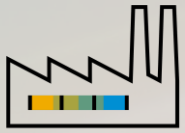
The Challenge: Silos create an incomplete picture



Enterprise Applications

- Business data
- Master data
- Analytical data

The Challenge: Silos create an incomplete picture



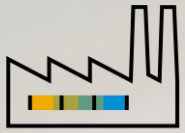
Enterprise Applications

- Business data
- Master data
- Analytical data

GIS Systems

- Geographical data and layers
- Networks
- Maps and topologies

The Challenge: Silos create an incomplete picture



Enterprise Applications

- Business data
- Master data
- Analytical data

Unstructured

- Social networks
- Photos & Videos
- Bio-metrics

GIS Systems

- Geographical data and layers
- Networks
- Maps and topologies

Engineering Systems

- Diagrams
- 2D & 3D
- Animations

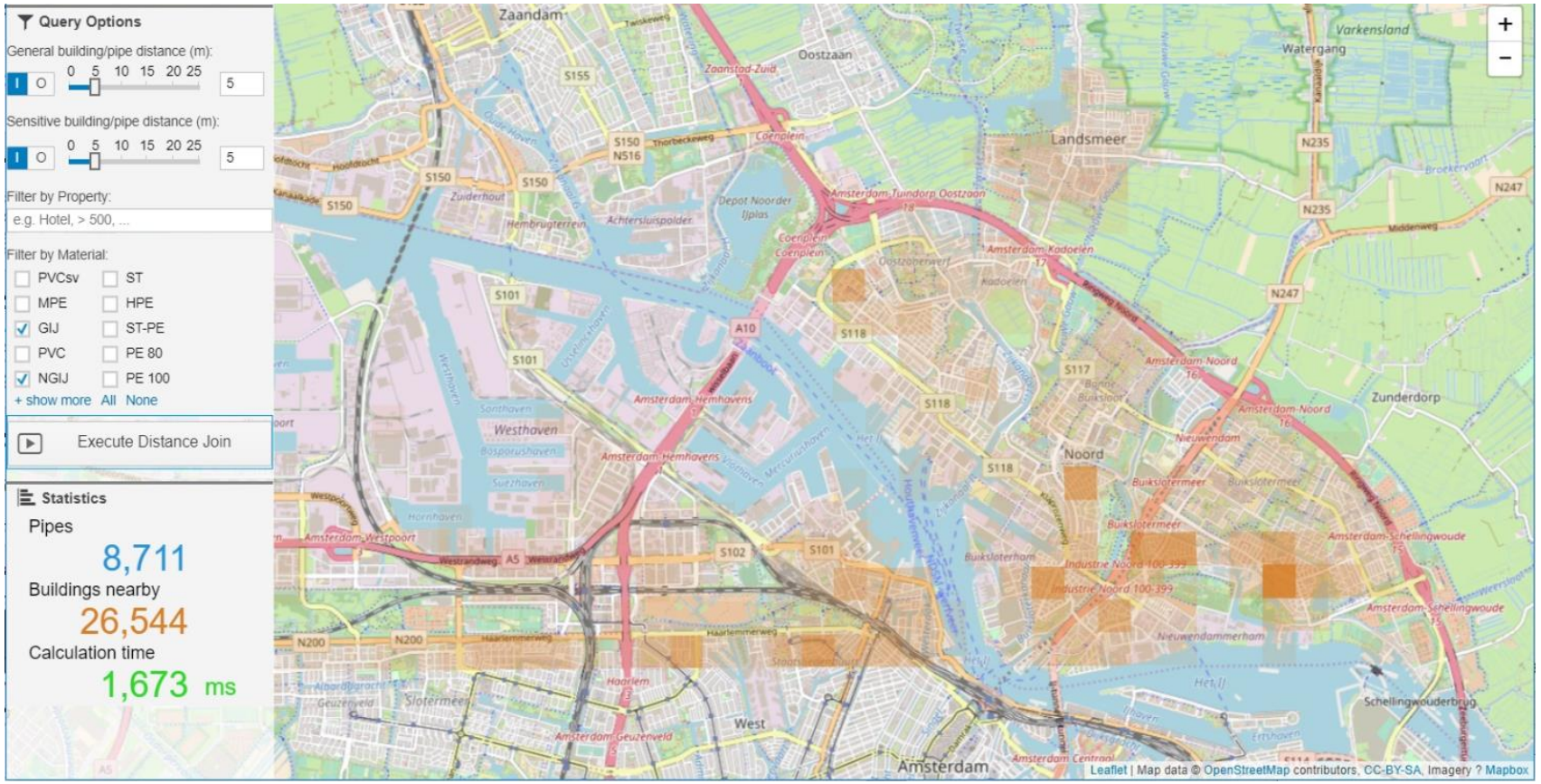
Sensors & Devices

- Streaming
- Telemetry
- Location, health and status

Earth Observations

- Land use
- Weather & climate data
- Surface condition data

DEMO



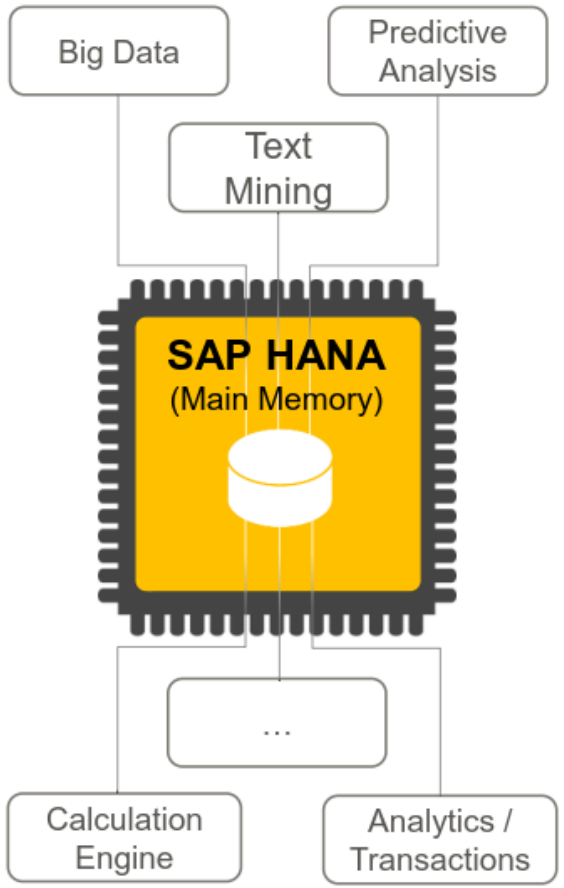

Query Options
General building/pipe distance (m):
0 5 10 15 20 25
15
Sensitive building/pipe distance (m):
0 5 10 15 20 25
15
Filter by Property:
e.g. Hotel, > 500, ...
Filter by Material:
PVCsv
ST
MPE
HPE
GU
ST-PE
PVC
PE 80
NGU
PE 100
+ show more All None
Execute Distance Join
Statistics
Pipes
0
Buildings nearby
0
Calculation time
0 ms
Amsterdam
Rotterdam
Leaflet | Map data © OpenStreetMap contributors, CC-BY-SA, Imagery © Mapbox

Thank you

Two leaders spatial-enabling the enterprise

SAP HANA

A common Database Approach for OLTP and OLAP Using an In-Memory Column Database



100% **In-Memory** computing
OLTP & OLAP in real-time

Column and row storage

5-30x **Compression**
Based on column storage

10-10,000x **Acceleration**
Massive parallelization

No Aggregates
On-the-fly data models without duplicates

Less Indices
Flexible and fast retrieval of the dataset

Less Code lines
Less complexity in data models and code

Parti-tioning Mass data analysis

SAP HANA Architecture

All Devices

SAP, ISV and Custom Applications

SAP HANA® Platform

On premise | Cloud

Application development

- Web server
- JavaScript
- SAP Fiori® user experience(UX)
- Graphic modeler
- Application lifecycle management

Advanced analytical processing

- Spatial
- Graph
- Predictive
- Search
- Text analytics
- Streaming analytics
- Series data
- Business functions

Data integration and quality

- Data virtualization
- Extract, load, transform and replication
- Data quality
- Apache Hadoop and Apache Spark integration
- Remote data sync

Database management

- Columnar store – Transaction and analytical processing
- Multicore and parallelization
- Advanced compression
- Multitenancy
- Multitier storage
- Data modeling
- Openness
- Administration and security
- High availability and disaster recovery

ONE Open Platform | **OLTP + OLAP** | **ONE Copy of the Data**

SAP HANA Architecture

All Devices

SAP, ISV and Custom Applications

SAP HANA® Platform

On premise | Cloud

Application development

- Web server
- JavaScript
- SAP Fiori® user experience(UX)
- Graphic modeler
- Application lifecycle management

Advanced analytical processing

- Spatial
- Graph
- Predictive
- Search
- Text analytics
- Streaming analytics
- Series data
- Business functions

Data integration and quality

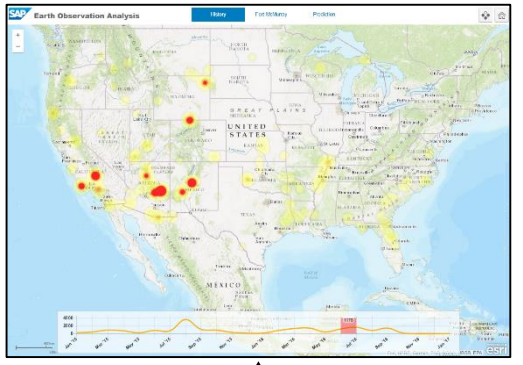
- Data virtualization
- Extract, load, transform and replication
- Data quality
- Apache Hadoop and Apache Spark integration
- Remote data sync

Database management

- Columnar store – Transaction and analytical processing
- Multicore and parallelization
- Advanced compression
- Multitenancy
- Multitier storage
- Data modeling
- Openness
- Administration and security
- High availability and disaster recovery

ONE Open Platform | **OLTP + OLAP** | **ONE Copy of the Data**

HANA Advanced Services Turn Data into Intelligence



SAP HANA PLATFORM

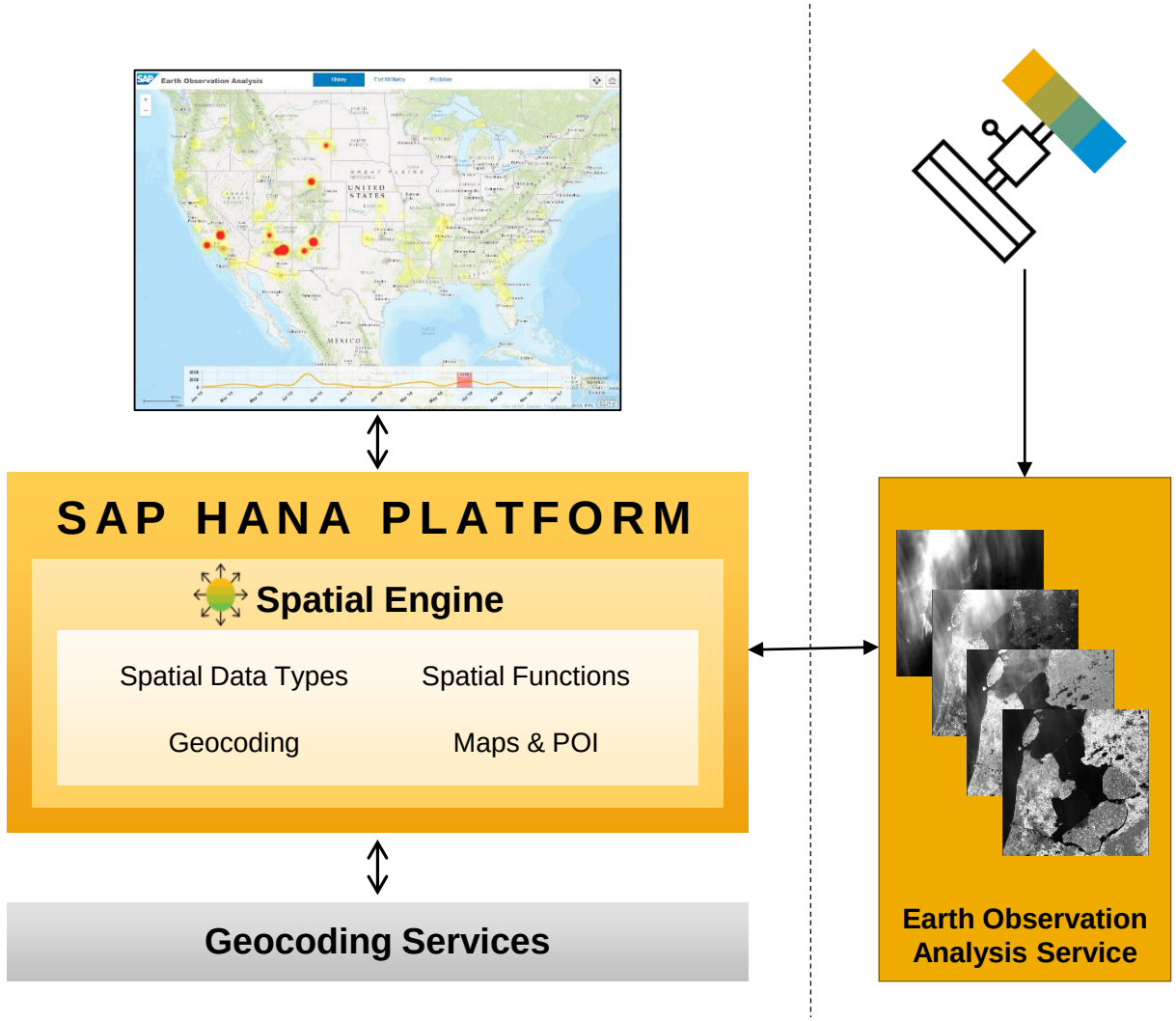
Spatial Engine

Spatial Data Types | Spatial Functions

Geocoding | Maps & POI

Geocoding Services

HANA Advanced Services Turn Data into Intelligence



HANA Advanced Services Turn Data into Intelligence

Series
Capture and analyze a sequence of successive data points

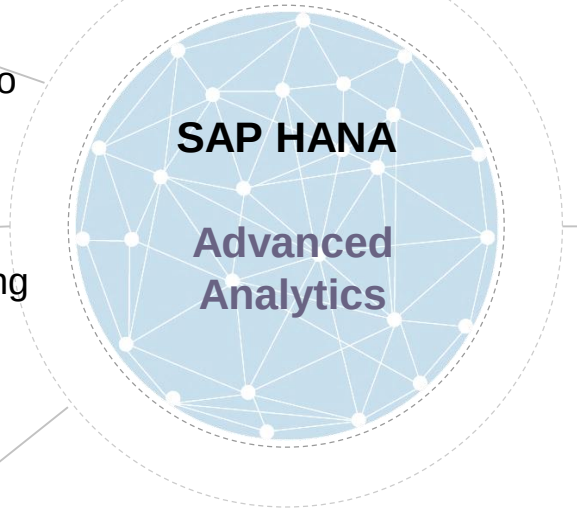
Text
Discover insights from unstructured text data

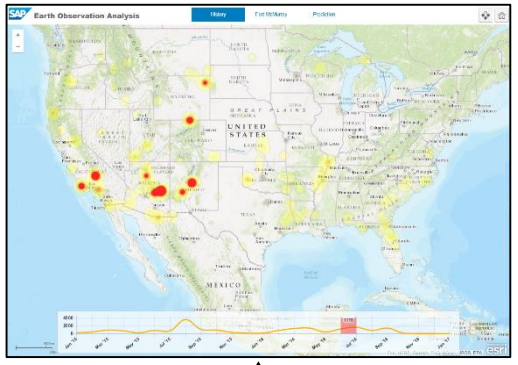
Streaming
Real-time analysis of data streams

Search
Full-text or fuzzy search to optimize your findings

Predictive
In-memory machine learning capabilities for trend and predictive analysis

Graph
Build and analyze relationships in data on the fly





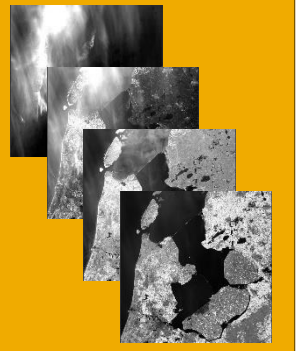
SAP HANA PLATFORM

Spatial Engine

Spatial Data Types | Spatial Functions

Geocoding | Maps & POI

Geocoding Services



Earth Observation Analysis Service

HANA Advanced Services Turn Data into Intelligence

Series
Capture and analyze a sequence of successive data points

Text
Discover insights from unstructured text data

Streaming
Real-time analysis of data streams

Search
Full-text or fuzzy search to optimize your findings

Predictive
In-memory machine learning capabilities for trend and predictive analysis

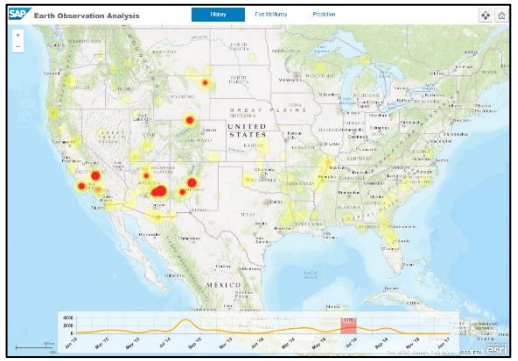
Graph
Build and analyze relationships in data on the fly

SAP HANA

Advanced Analytics

Transactional Data

Customers | Suppliers | Orders



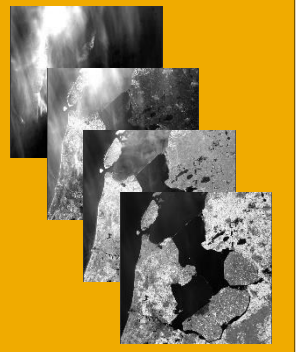
SAP HANA PLATFORM

Spatial Engine

Spatial Data Types | Spatial Functions

Geocoding | Maps & POI

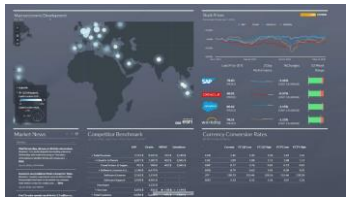
Geocoding Services



Earth Observation Analysis Service

Innovating for future with SAP HANA Spatial

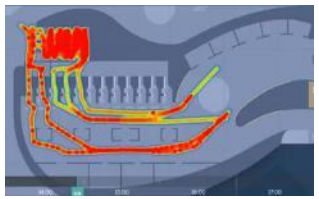
SAP Analytics



S/4 HANA

esri

Custom Apps



SAP HANA

Cloud, Multi-Cloud, On-Premise, Hybrid

Advanced Analytics Engines

Esri ArcGIS Geodatabase

Simplify

Manage your business data, Esri ArcGIS geodatabase, and live data in the trusted, unified landscape

Accelerate

Supercharge spatial processing of GIS powered by SAP HANA and drive insight to action

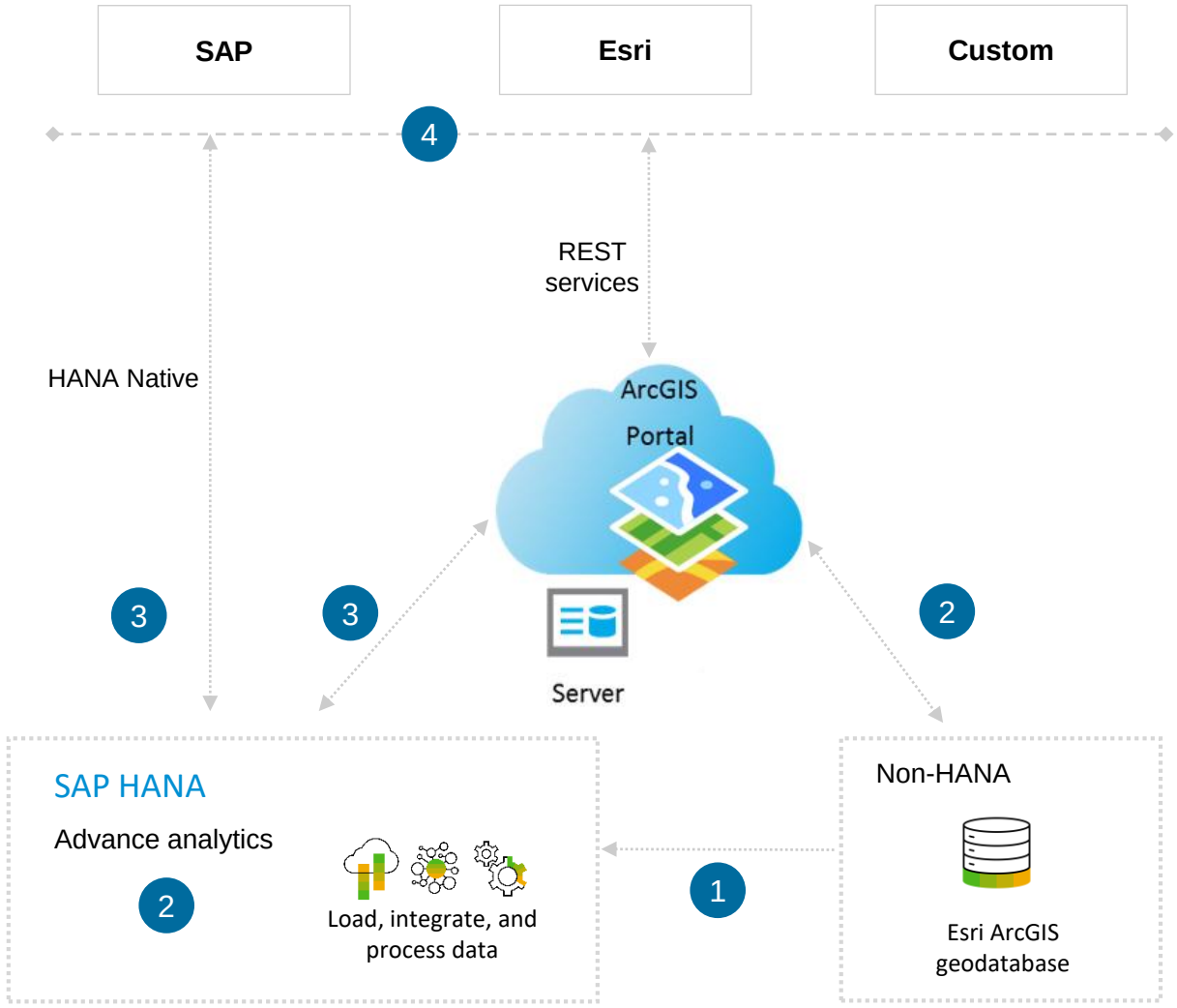
Innovate

Future-proof your investment with SAP HANA, an open, frictionless platform providing comprehensive analytical intelligence and consumer-grade user experience

SAP and Esri – Integration Patterns

Pattern 1 – Esri ArcGIS acceleration

Publish, Move or copy ArcGIS Data into HANA



1. **Ingest**: Move or replicate desired feature classes from Esri ArcGIS Geodatabase in non-HANA to HANA system (1)

2. **Combine**: Combine ArcGIS feature classes with business and live data from other sources in SAP HANA (2)

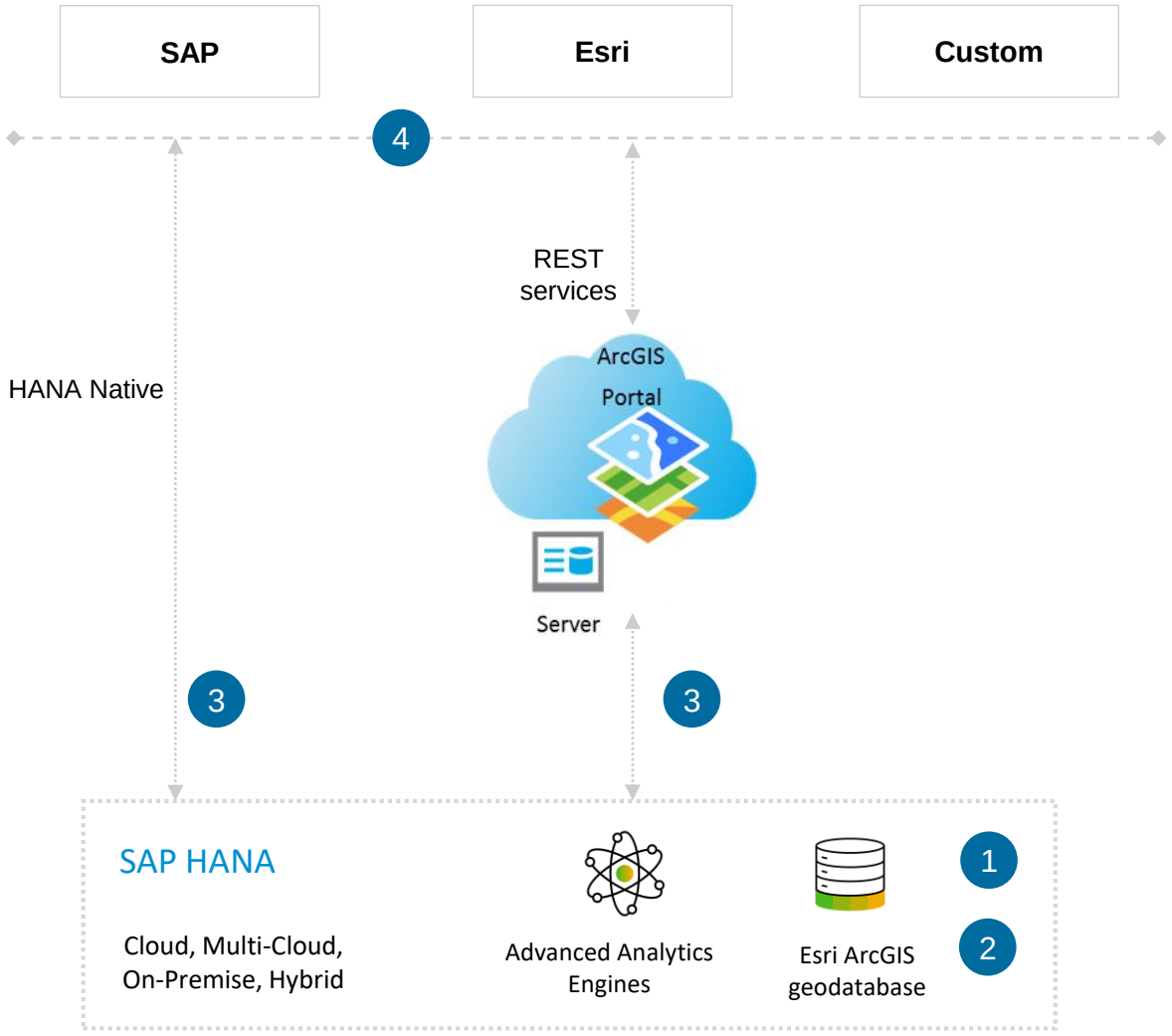
3. **Analyze**: Push down spatial and other advanced analytics to HANA engines (2)

4. **Consume**: Present and share data in applications of your choice via REST services from ArcGIS Enterprise or directly from SAP HANA

(1) Methods: Safe FME, Esri Interoperability Extension, SAP Data Services/HANA Smart Data Integration tools, by pushing the features from ArcGIS Pro
(2) Methods: In HANA or using ArcGIS Query layer

Pattern 2 – Esri ArcGIS Geodatabase in HANA

Workflow – Reduce data movement and managing multiple databases



1. **Ingest**: Create, copy or move one or more geodatabases to HANA system (1)

2. **Combine**: Combine ArcGIS feature classes with business and live data from other sources in SAP HANA (2)

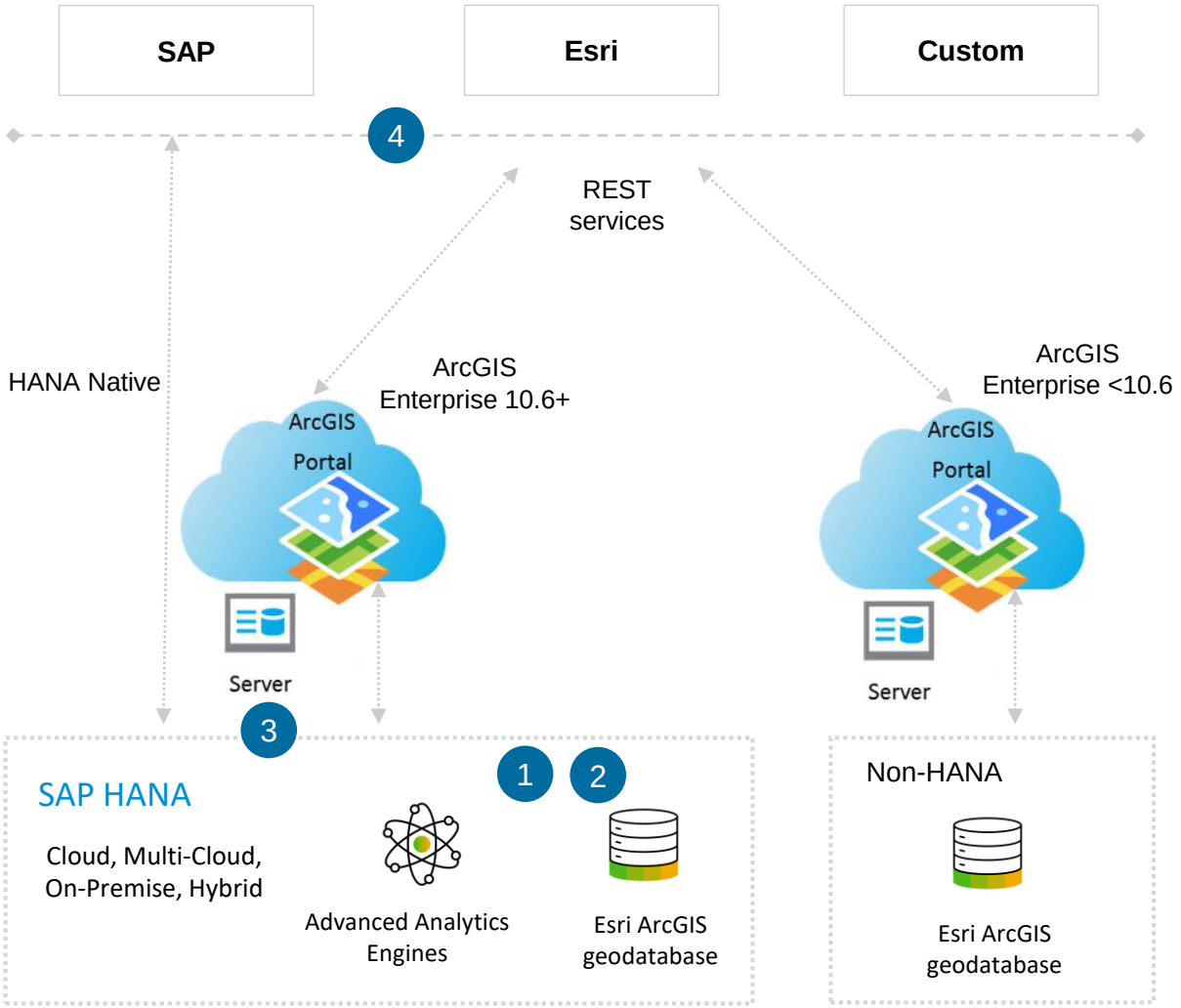
3. **Analyze**: Push down spatial and other advanced analytics to HANA engines (2)

4. **Consume**: Present and share data in applications of your choice via REST services from ArcGIS Enterprise or directly from SAP HANA

(1) Methods: ArcGIS Pro, Python scripts (for volume), Safe FME, SAP Database Migration Factory, or partner services and tools
(2) Methods: In HANA or using ArcGIS Query layer

Mixed pattern – Multiple systems and versions

Workflow – Combine the output from multiple systems



1. **Ingest**: Create, copy or move one or more geodatabases to HANA system (1)

2. **Combine**: Combine ArcGIS feature classes with business and live data from other sources in SAP HANA (2)

3. **Analyze**: Push down spatial and other advanced analytics to HANA engines (2)

4. **Consume**: Present and share data in applications of your choice via REST services from ArcGIS Enterprise or directly from SAP HANA. Combine the visualizations from multiple ArcGIS servers.

(1) Methods: ArcGIS Pro, Python scripts (for volume), Safe FME, SAP Database Migration Factory, or partner services and tools
(2) Methods: In HANA or using ArcGIS Query layer

Why customers choose SAP HANA for Esri

The Next Generation Geodatabase Platform

1 Performance

Experience in-memory first performance improvements for your GIS and location intelligence workloads

2 Simplify

Seamless integration of spatial & SAP enterprise data on one platform

3 Democratize

Spatially enable the entire enterprise through the SAP HANA platform

4 Innovative

Leverage other advanced engines like graph, machine learning, text analysis for better insights, improved decision making, and drive innovation

5 Scalable

Consume, store, process, and analyze extreme volumes of spatial & enterprise data

6 Flexible

Leverage SAP HANA in various scenarios with Esri including Geodatabase, side car GIS accelerator, geo-analytics hub

7 Smart

Virtualize, federate, and process data whereever it may be

8 Proven

Leverage strong integration history and customer use cases between Esri and SAP HANA

9 Modern

SAP HANA supports the latest Esri innovations including Utility Network Model, ArcPro 2.1, Enterprise 10.6, and Esri Insights

10 Open

Deploy OGC compliant SAP HANA platform on-premise, in the cloud, as a service, or both

Thank you

Contact information

Rene Fischer

SAP ČR

Technical sales

rene.fischer@sap.com

+420 725351987

Norbert Hanuska

SAP ČR

Senior Utilities Presales

norbert.hanuska@sap.com

+420 608323517

© 2018 SAP SE or an SAP affiliate company. All rights reserved.

Součástí každého geoprostorového projektu je kromě práce nad samotným vývojem analytické funkcionality i práce s databázovou platformou, nad kterou váš GIS běží. Optimální databázová platforma by vám měla umožnit maximum času trávit prací s aplikační logikou a ne její správou a provozem. Podobně na to nahlížel i jeden z našich zákazníků, kterého příklad bychom během prezentace rádi představili a ukázali i praktický příklad reálného využití.

Efektivní zpracování, kombinování, procházení a analýza nepravidelně strukturovaných data s komplexními a dynamickými vztahy

Graph Engine je úzce spojen s enginem HANA databáze pro garantování maximálního výkonu a zajištění spojení dat relačního, textového a geografického původu s grafovými daty.

Jak už napovídá samotný název prezentace, obdobní otázku si kladl i jeden náš zákazník, o kterém budeme v prezentaci mluvit a ukážeme si i demo aplikaci. Byznysové príklady. Demo.

+ nie iba rýchlosť, riešenie reálného problému, nie IT věci. Spojenie byznysu s geodátami.

Ťažkopádne joiny, idexi, Flexibilná. Presmerujte čas na prácu s GISom a nie na správu databáze

Jednoduchosť spojenia byznys dát s geopriestorovými dátami.

Živé dáta zo systému vs 2dňový batch

Priniesť geoanalýzy do byznysových aplikácii – bezpečnost, predaje, churn atd.

Spojenie priestorových analytýk, pokročilé analytiky, grafové, textové analytiky na jednom mieste. Textová analýza a vyhledávání, síťová analýza a vizualizace

Ten systém je HANA. Slajdík o HANA.

+ čo je to hana a čo to prináša

SAP HANA - databázová platforma pro efektivnější geoanalýzy / SAP HANA jako geodatabáze pro Esri GIS /

SAP HANA pro Esri GIS – geodatabázová platforma nové generace

HANA jako akcelerátor / sidecara

Pokročilé analytické zpracování dat

Rychlé odezvy na analytické dotazy

Automatická síťová analýza:

Detekce propagace změn v síti.

Komunity v několika úrovních. Identifikace typu vazeb.