



EasyWay



DATEX deployments – best practice & lessons learned

SRA implementations

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- **History**
- **DATEX node**
- **Exchange**
- **Publications used**
- **Location referencing**
- **Extensions**
- **Lessons learned**
- **Plans**



Swedish DATEX node

- DATEX I EDIFACT 1998
- DATEX I (TRIDENT XML 2002)
- DATEX I closed 2009
- DATEX II since 2007



Other projects



DATEX node

STRESS, reception of Floating car data

GST Safety channel, test site Gothenburg

SOLVI, IVSS

FeedMap

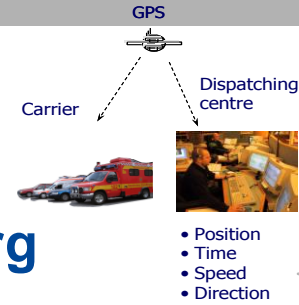
CVIS, test site Gothenburg

SafeSpot, test site Gothenburg

Municipalities Roadworks

Öresunds bridge

Denmark



1. **Separate the operational system from the DATEX node**
 2. **Use of generic software**
 3. **Look at the market trends**
 4. **Message exchange**
 5. **Based on standards**
- **ITS strategy, DATEX should be used to exchange information with external parties**
 - **The information is free of charge**

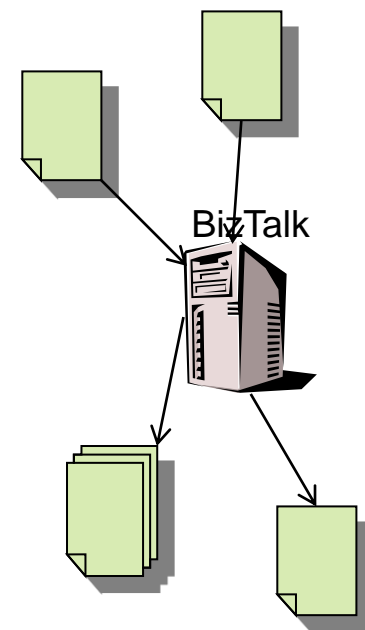


DATEX node is responsible for convert information from SRA internal systems to DATEX and deliver the information to external parties and Service Providers

Is also used to feed SRA own services, like web sites

Built on Biztalk Server

- Standard product
- Integration tool
- Deliver and receive information
- Convert between different formats
- DATEX II version 1.0 today
- Web services, Push / Pull

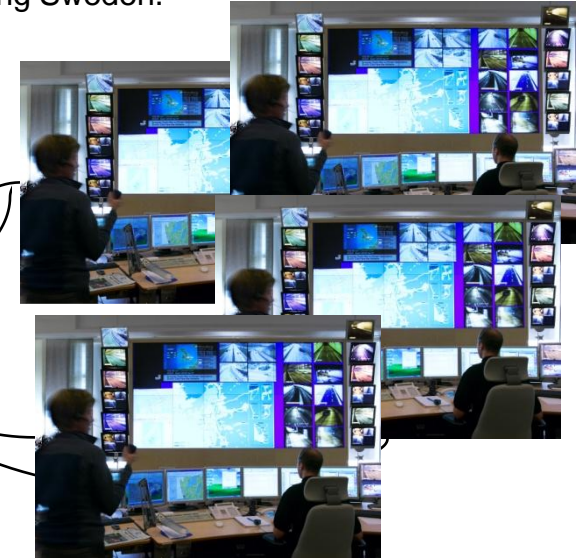


- Receive information from following internal systems

Travel Time and Traffic Status from Stockholm, Gothenburg and Malmö.



Traffic Information from SRA TMCs, 4 centrals covering Sweden.



Internal format

DATEX

BizTalk

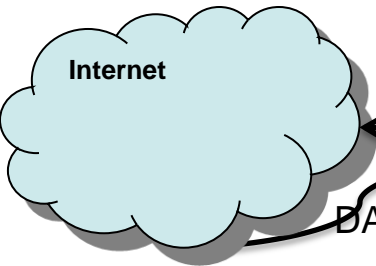


Internal format

VViS



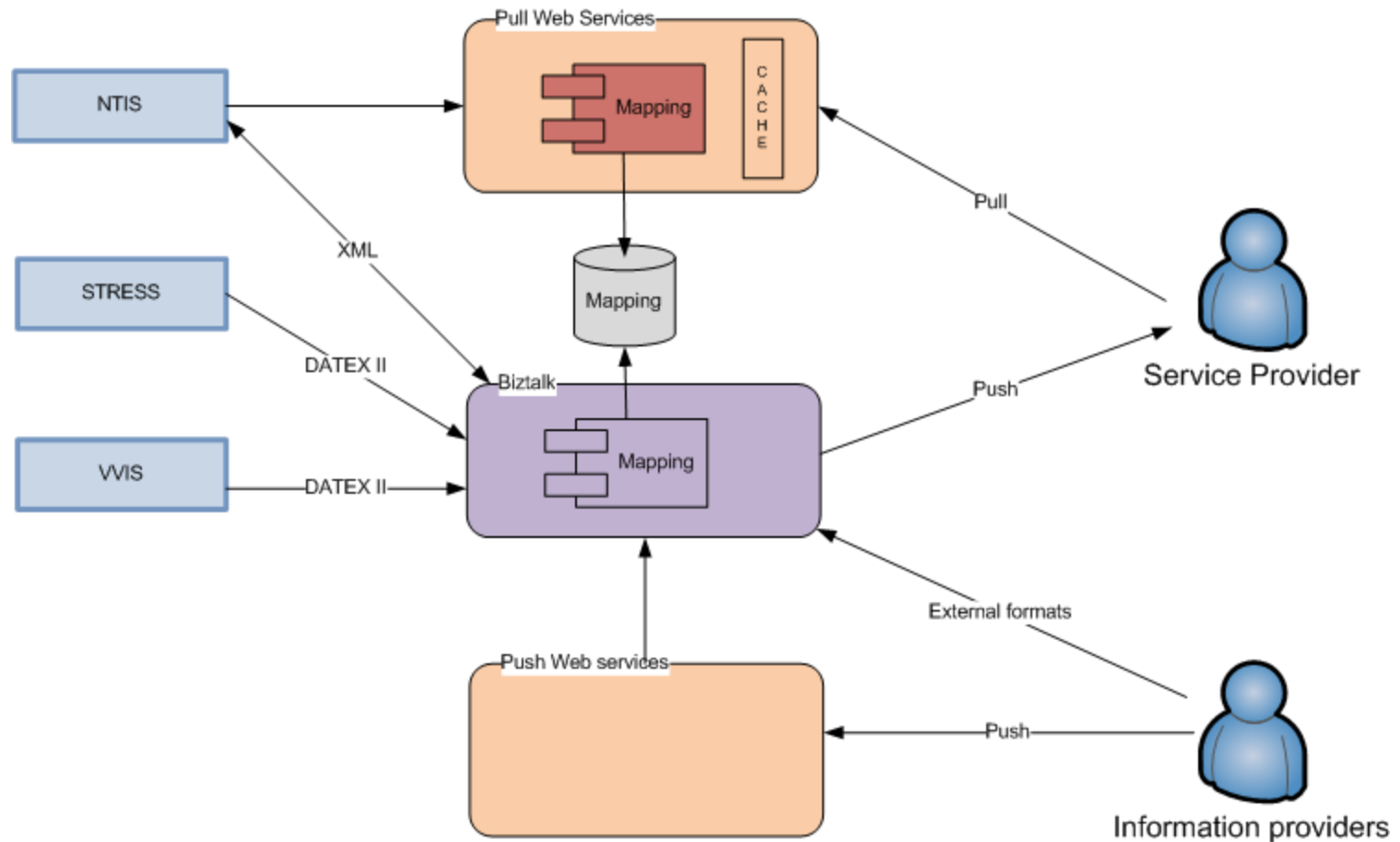
WeatherData measurement from 800 weather pools along the road



DATEX



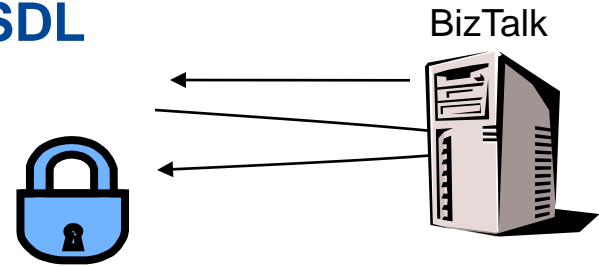
DATEX node



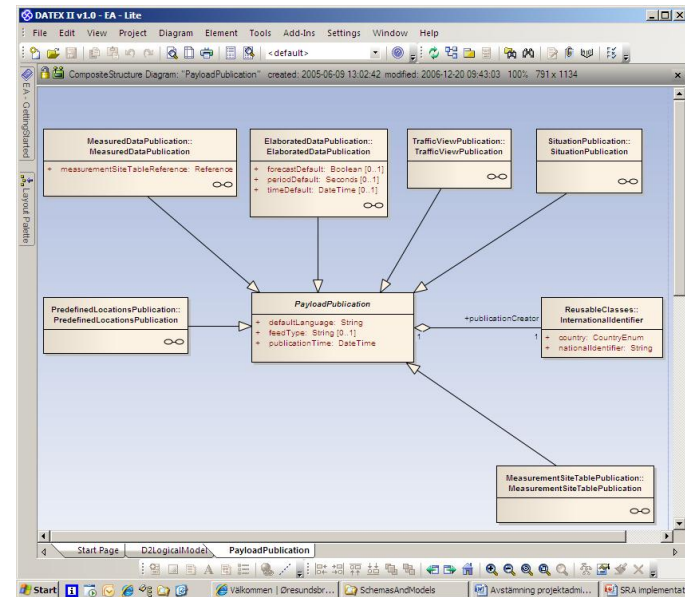
- **Agreement signed with over 70 customers**
- **14 new customers in 2009**
- **Active customers**
 - Pull 20 clients
 - Push 17 clients
- **Total 31 active customers in production**
- **Some under development**



- Use of regular profile (but PULL WS services are also accessible by basic HTTP clients)
- Web services with DATEX II 1.0 WSDL
- Both Push and Pull
- Basic authentication and HTTPS
- “Off line” subscriptions
 - Managed on the supplier side
 - Filter possible with Xpath expressions
- Pull services, split by type e.g. AccidentService



- **SituationPublication**
- **ElaboratedDataPublication (TravelTime, TrafficStatus)**
- **MeasuredDataPublication (WeatherData, TrafficMeasurements)**
- **PredefinedLocationsPublication**
- **MeasurementSiteTablePublication**





Publication	Service	Push	Pull
SituationPublication	Accident	X	X
	TrafficMessages	X	X
	Roadworks	X	X
	RoadConditions	X	X
	Ferries	X	X
	FrostDamages	X	X
LevelC SituationPublication	RestAreas	X	X
	EmergancyInfo (Freetext)	X	X
	RoadCondition Overview (Freetext)	X	X
ElaboratedDataPublication	TravelTimeService	X	X
MeasuredDataPublication	WeatherDataServcie	X	X
	TrafficMeasurements	X	X
MeasurementSiteTablePublication	WeatherMeasurementsSiteTable	-	X

- **AlertC LocationCode**
- **Added support for "Precise location referencing", TMCFS-2003-02, compliant with AlertCLocationMethod4 + SupplementaryPositionalDescription.lengthAffected**
- **Display coordinate (midpoint)**
- **Agora-C extension**
- **Predefined location (Road condition sections, TravelTime routes)**



Level B

- LocationText
- Header
- SituationVersionTime
- Agora-C, ISO/DIS 17572-3
- NetworkManagement extension
 - roadCleared

```
<LocationExtension>  
  <locationText>  
    <value lang="SE">Skåne län</value>  
  </locationText>
```

Level C

- RestAreas (Static information)
- RoadCondition overview (Freetext)
- EmergencyInfo (Freetext)
- Floating Car data

- **Some bugs found but extensions has solved it**
- **Smooth implementation**
- **Good response from Service Providers**
- **Keep it simple**
 - First we tried with WS-Security on Pull WS
 - Too difficult, too much interoperability problems
 - Switched to more simple Basic Authentication and HTTPS
- **Use of standard product**

2010

- **Meta data services**

Replace all excel spread sheets with PULL Web Services

- Weather posts
- Travel time routes
- Camera meta data
- Location Code table
- Data Dictionary
- Road condition Sections

- **Implement DATEX II version 2.0**

- 1.0 and 2.0 will run in parallel for some years.

- **RDS-TMC feed by DATEX II**



Thank you for your attention!

Questions ?