DIGITAL DESIGN

ENTERPRISE APPLICATION INTEGRATION

Competence and Customer Cases

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- Application and process integration - main issues and purposes

- Why integration is important

- EAI/process integration advantages

- When you need integration

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- Benefits

- Additional materials:
  - BizTalk Server
  - Integration bus based on BizTalk Server for document management

APPLICATION AND PROCESS INTEGRATION

What is integration, its main issues and purposes

- Enterprise-wide integration means combining different applications into one system that uses common set of data structures and rules for effective data and process sharing. It is also known as EAI – Enterprise Application Integration.

Purposes

- EII (Enterprise Information Integration) - keep the data consistent, comparable and full

- Vendor independence – extracting business policies or rules from applications, so that even if one of the business applications is replaced, the business rules do not have to be re-implemented.

- Common Facade: single front-end for a cluster of applications, providing a single consistent access interface

WHY INTEGRATION IS IMPORTANT

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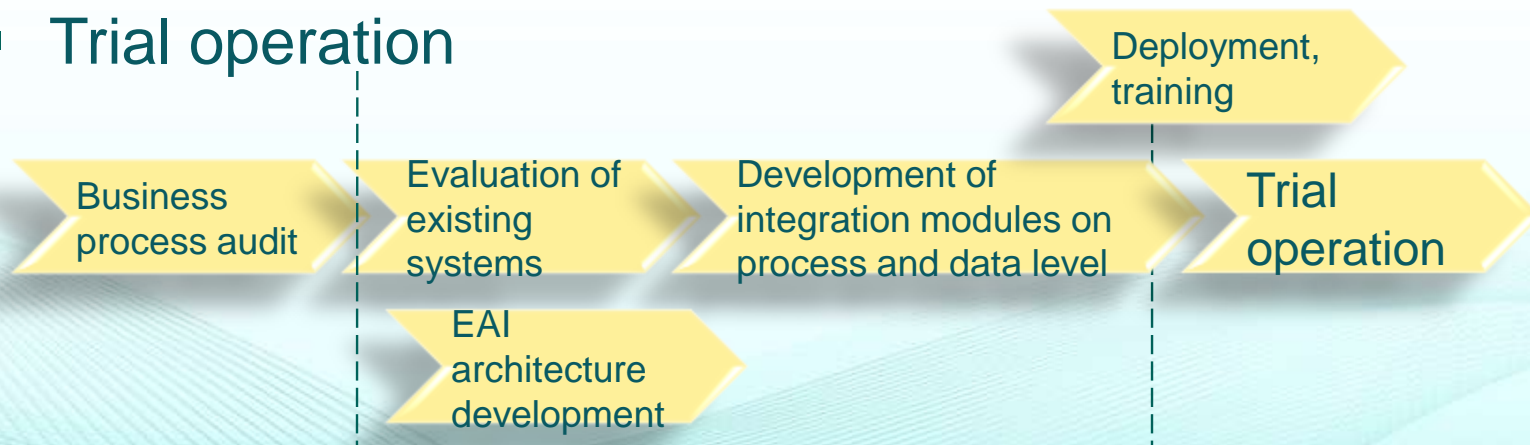| Causes	Consequences
Constant grow of IT infrastructure	Enterprises have deployed a number of applications that support critical business functions.
Implemented applications often use different platforms, databases and information exchange protocols.	The differences lead to inefficient communication between them.
Using of several applications for critical information processing and storage	Important data gets lost on the way from one application to another.
Duplication of data in different databases	Additional processing efforts and data inaccuracy.
Usage data from various applications	Complexity of building corporate reports Ineffective strategic and operational decision-making
Growing number of point-to-point connectors used to ensure communication between any two company's applications	Difficulty of integration logic that requires much administration effort.

WHEN YOU NEED INTEGRATION

- Different branches of your company use different document management systems. This hinders efficient document workflow between the branches.

- Strategic and operational decision making in your company requires quick access to data from different applications.

- You have got numerous applications that use the similar data.

- You need to automate a business process that involves data and functionalities of different applications.

- You company has recently experienced an Merges & Acquisitions process.

DIGITAL DESIGN SERVICES AND EXPERTISE

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- **A full range of EAI services using IBM WebSphere or Microsoft BizTalk integration middleware:**

  - Business Process Audit (BPA) and EAI strategy consulting

  - EAI architecture development

  - Implementation of enterprise-wide integration solutions

  - Integration of legacy applications

  - Enterprise information integration (EII)

  - SOA based EAI

  - Single interface for access to data residing in different applications

- **Point-to-point integration**

  - Point-to-point integration solutions to enable communication between any two of applications via tailor-made connectors that convert data from the format of one application into the format of another.

- **Other**

  - Support of different protocols, exchange formats and business processes

  - Logging of Exchange process and review of logs

  - Exchange errors processing

EAI PROCESS PHASES

Work decomposition

- Business process audit
- Evaluation of existing systems
- EAI architecture development
- Development of integration modules on process and data level
- Trial operation

Business process audit → Evaluation of existing systems → EAI architecture development → Development of integration modules on process and data level → Deployment, training → Trial operation

PROJECT EXAMPLES

International Customers

- Sweden Leading Home Products Retailer - Image management system

- Tetra Pak – integrated Master data management (MDM) system

- «Svetogorsk» (International Paper) - Decision support system based on analytical data warehouse

Domestic Customers

- "Siberian Services Company" Single Master Data Management system

- Russian railways – data exchange system between organisations based on Microsoft BizTalk Server 2004 and Covast EDI Accelerator

CUSTOMER CASES

IKEA - IMAGE MANAGEMENT SYSTEM

- **About company** - International home products retailer that sells low-price products, including furniture, accessories, bathrooms and kitchens at retail stores around the world.

- **Problem**

- Need to provide images for clients for use on the Web, in printed media or as guideline images within internal systems

- Need to establish maintenance of the system

- **Project Description**

- system implements a set of workflows to secure business processes of the provision of graphical materials for use on the web, in printed media or as guideline images and is capable of communicating with other systems

- **Benefits**

- High security level, access to full information, support of various users roles, ability to plan manually or automatically, compatibility with other applications used in company

- **Technologies** - Oracle 10.2.0.1 for AIX5, MS Internet Information Services 6.0, Apple Safari 2.0-3.0, MS Internet Explorer 6.0-7.0, Mozilla Firefox 2.0

TETRA PAK – INTEGRATED MASTER DATA MANAGEMENT (MDM) SYSTEM

About company: one of the largest suppliers of processing and packaging solutions for food

- **Problem –** difficulties of data consolidation, no possibility to adopt unified business practices for corporate customers.

- **Project synopsis -** Providing a mechanism to maintain business data, distribute the data among local Tetra Pak companies, and synchronize the data with other platforms and systems.

- **Integrated systems -** Scala, SAP/R3

- **Benefits:**
    - Consistent and accurate data
    - Access both to global and country-specific data
    - Improved services and increased customer satisfaction

«SVETOGORSK» (INTERNATIONAL PAPER) - DECISION SUPPORT SYSTEM BASED ON ANALYTICAL DATA WAREHOUSE

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- **About company** - Svetogorsk Pulp mill is a part of International Paper, one of the world's largest pulp and paper production companies.

- **Problem** - due to lack of unified reporting system Customer service was not able to provide quick responses to customers' requests.

- **Project synopsis** – Single data warehouse was required for full multiple-factor analysis of manufacturing, logistics and sale activities. Before the project began information about operations was stored in different databases. The accounting was made in SCALA, PRODIS and Transport Tracking systems.

- Development of the analytical data warehouse based on MS SQL Server and multidimensional database based on MS Analysis Services. Information from Scala, Prodis, and Transport Tracking was converted and transferred into the data warehouse.

- Web-enabling of client service e-reporting. Data for reports was integrated from different sources with the help of SQL Server by using heterogeneous database inquiries - queries to databases of different formats and/or located on the different servers.

«SVETOGORSK» (INTERNATIONAL PAPER) - DECISION SUPPORT SYSTEM BASED ON ANALYTICAL DATA WAREHOUSE

Technologies
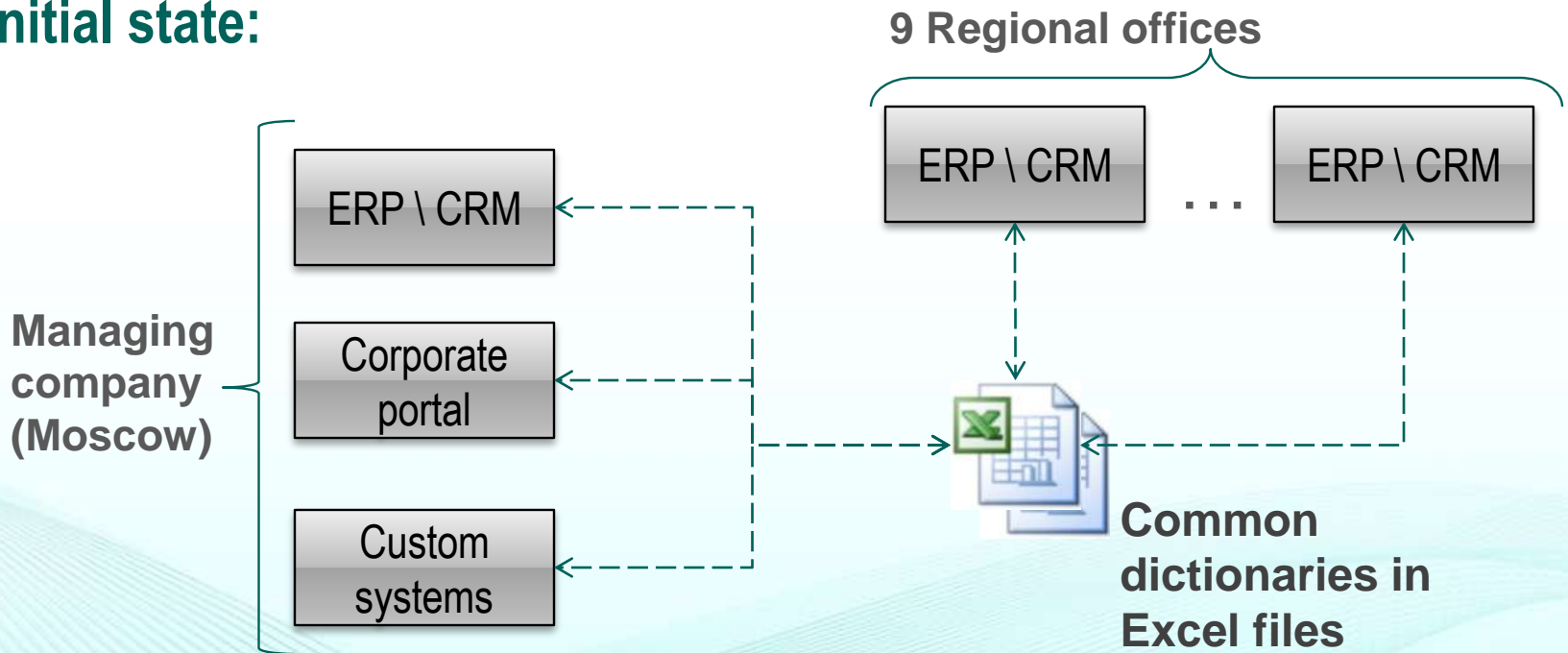
- SCALA, PRODIS, MS SQL Server, MS Analysis Services

Benefits

- Consolidation of information from various reporting systems in analytical data warehouse allows business users to analyze manufacturing, logistics and sales activities of the company and build reports of any complexity.

- Customer service can now receive full information about orders, delivery and warehouse in real-time mode and effectively track «problem» orders. This significantly increased clients' loyalty.

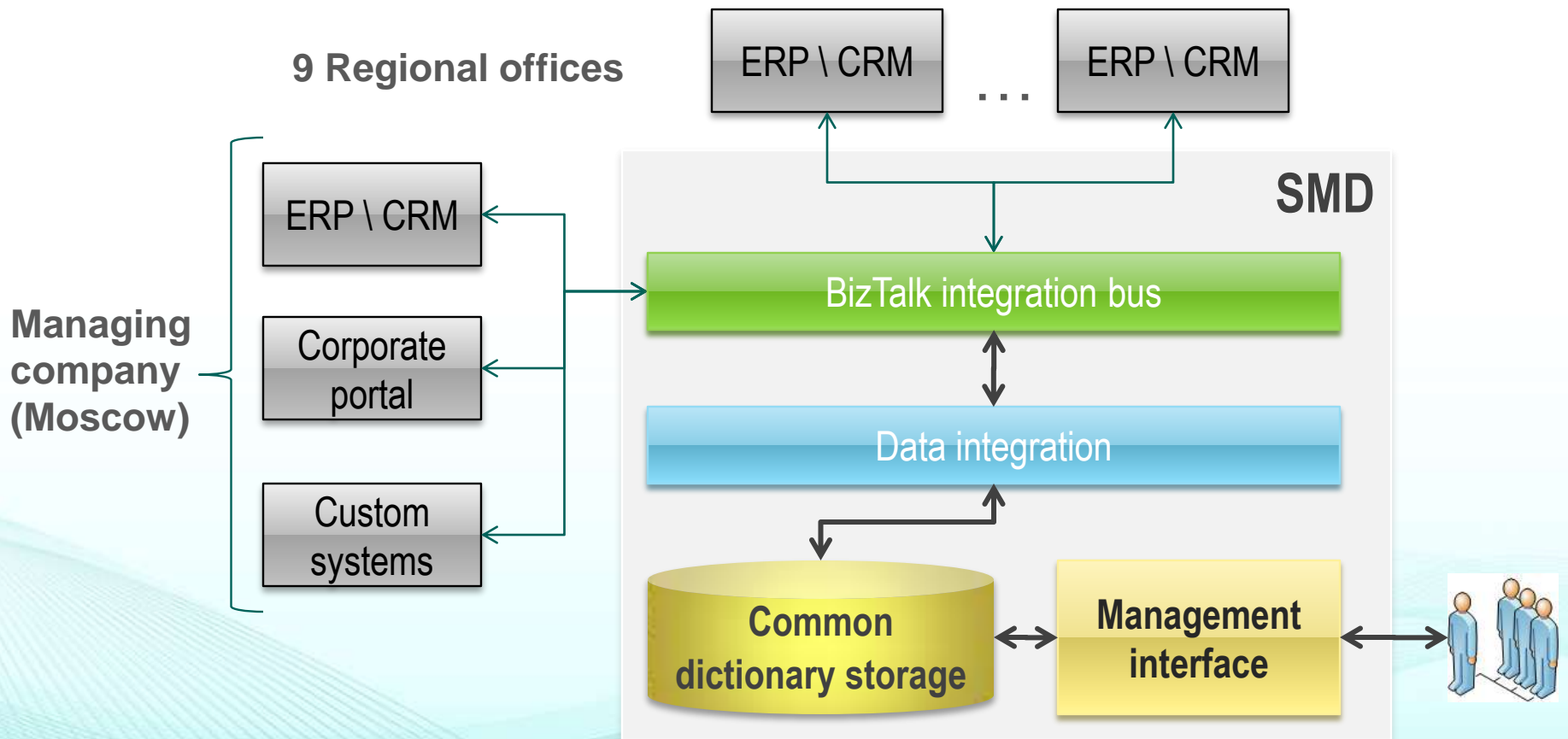# «SIBERIAN SERVICES COMPANY» SINGLE MASTER DATA MANAGEMENT SYSTEM

About company: a major drilling contractor providing services to leading Russian and foreign Oil & Gas companies

Initial state:

9 Regional offices

ERP \ CRM . . . ERP \ CRM

Managing company (Moscow)

ERP \ CRM

Corporate portal

Custom systems

Common dictionaries in Excel files

«SIBERIAN SERVICES COMPANY» SINGLE MASTER DATA MANAGEMENT SYSTEM

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Solution:

9 Regional offices

ERP \ CRM   . . .   ERP \ CRM

Managing company (Moscow)

ERP \ CRM

Corporate portal

Custom systems

SMD

BizTalk integration bus

Data integration

Common dictionary storage

Management interface

«SIBERIAN SERVICES COMPANY» SINGLE MASTER DATA MANAGEMENT SYSTEM

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Experienced problems:

- **Data duplication**: the same information stored in different systems was processed in different ways

- **Time losses**: time-consuming operations of synchronization of data in different systems

- **Data inaccuracy**: duplicated and incongruous records make the reliable statistics impossible
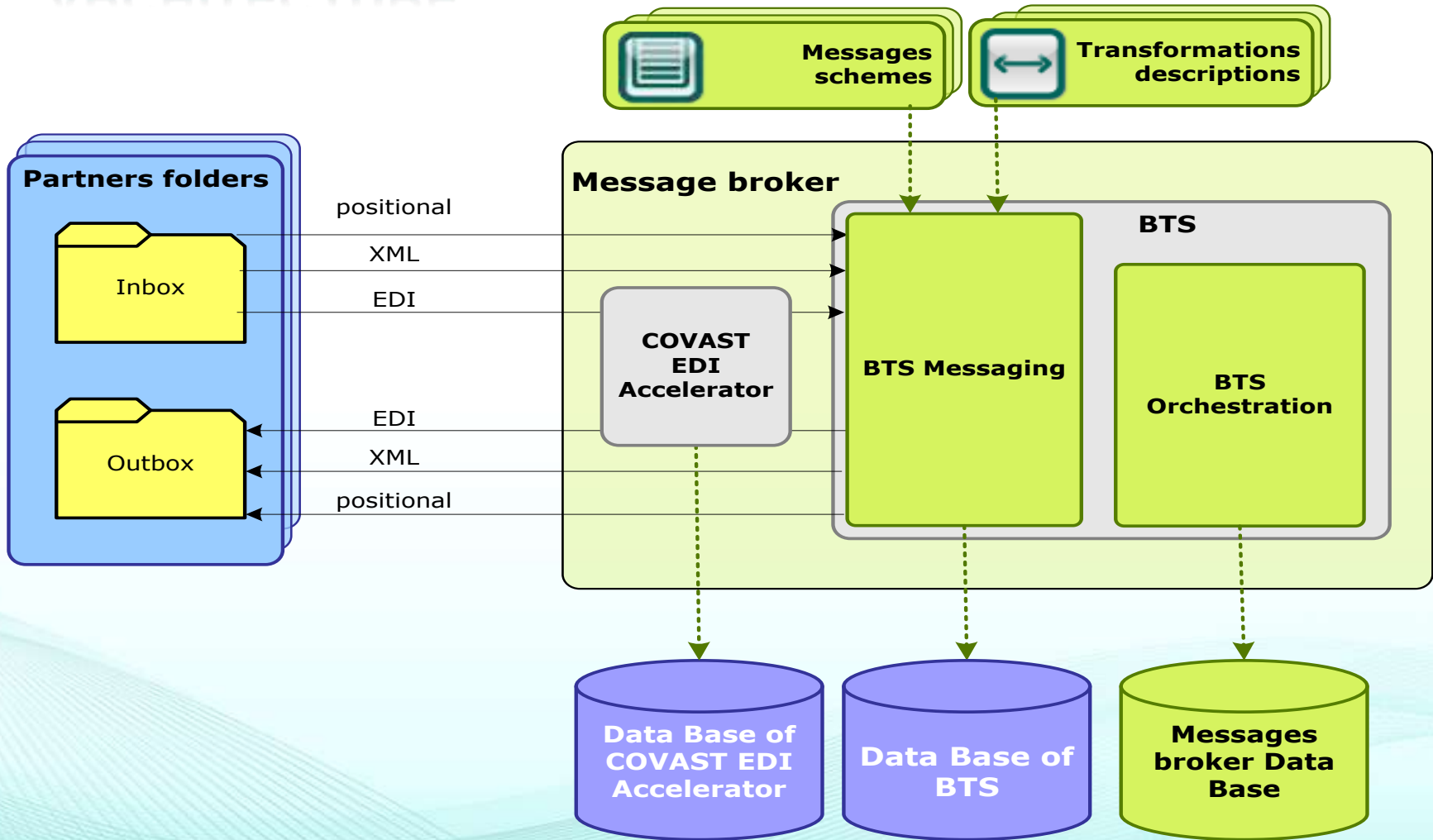
Advantages of the new solution:

- **Usability**: common interface for all dictionaries

- **Time and cost saving**: all modifications to the data are now should only be done once – to the common storage

- **Data integrity**: reports can be built based upon the unified dictionaries.

RUSSIAN RAILWAYS – DATA EXCHANGE SYSTEM BETWEEN ORGANISATIONS

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- **About company** - one of the biggest railway companies in the world operating freight and passenger transport and providing infrastructure services.

- **Project description**

- Parties:
  - Russian Railways – Mainframe-based system
  - Transportation services provider – EDI Server
  - Customs offices – EDI Server

- Activities (processing algorithms)
  - Export
  - Import

- Used documents:
  - Railway bill
  - Customs permission for transportation

- **Technologies** – BizTalk Server, Covast EDI Accelerator

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Messages schemes

Transformations descriptions

Partners folders

Inbox

Outbox

positional

XML

EDI

EDI

XML

positional

Message broker

BTS

COVAST EDI Accelerator

BTS Messaging

BTS Orchestration

Data Base of COVAST EDI Accelerator
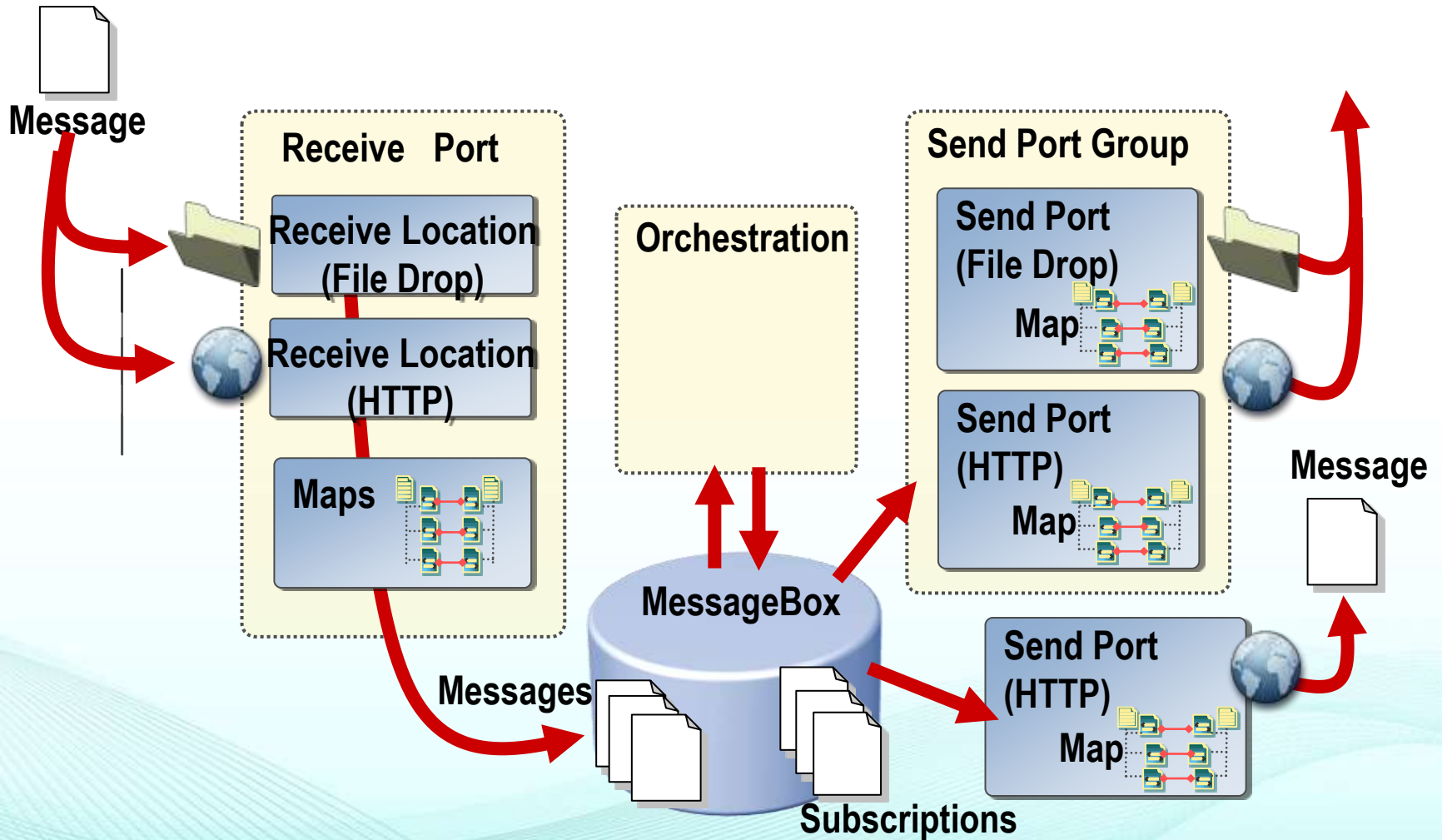
Data Base of BTS

Messages broker Data Base

BENEFITS OF COOPERATION WITH DIGITAL DESIGN IN EAI AND PROCESS INTEGRATION

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- More than 15 year experience on system integration market

- Established integration methodology

- Profound technical background and broad platform knowledge required for successful integration projects

- Track record of delivered EAI projects
  - Introduces clear integration logic;
  - Allows incorporating new applications at a later stage;
  - Saves administration efforts;
  - Improves cross-application information exchange;
  - Improves the way business data is leveraged across the enterprise;
  - Streamlines business processes.

ADDITIONAL MATERIALS

BIZ TALK SERVER

Scheme of work

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