

Message Handling Automation with ebXML



Case Study:
**Automated Document Transfer between
the DBKK Health Insurance Company
and their Business Partners**

Message Handling Automation with ebXML



Background and Context

The German Health Insurance company *Deutsche Betriebskrankenkasse (DBKK)* has implemented the application *Electronic Platform for Medical Aids (EHP)*, which manages the organisation of business processes between the insurance company and their suppliers. In particular it handles the workflow for the order and delivery of medical devices and aids from medical technology companies. The process includes:

- accept prescriptions for medical aids
- research medical aid products
- deliver and receive cost estimates from contract and cooperation partners
- approve requests for medical aids
- control shipment of medical aid products
- functionalities for quality control of the business process

A major aspect of the business process is the exchange of documents between the partners. A project was initiated to upgrade the document exchange with the primary goal to move away from inefficient approaches, such as fax-transmissions, snail mail or orders by phone to a unified system for all partners based on the transfer of documents via Message Handling Service with ebXML.

Message Handling Automation with ebXML

Why ebXML - the Idea



The DBKK's goal is to continuously optimize their business processes. To that end there are ongoing initiatives such as gap analysis to show possible deficits in the areas of administration, technology, human resources and so on.

The insurance company administrates the data of more than a million insured persons. There are considerable numbers of documents exchanged between the insured and the insurer, e.g. if an insured person needs a medical aid prescription, an administration process is started which requires a series of administrative documents. This process is always the same regardless of the price tag for a given medical aid. In other words, does an insured person require a medical aid for a 1000 EUR, the cost for the administration process within the DBKK will be the same if the medical aid only costs 5 EUR. It was a gap analysis that showed room for improvement in the area of document exchange between the partners.

Result of the gap analysis

- While the EHP-Project had already succeeded in facilitating the exchange of information between the partners, there were still shortcomings in respect to the exchange of documents which resulted directly in the loss of time and money
- A software solution was required that would automate the process

The Solution

- Message Handling and ebXML fit the requirements of the DBKK ideally. The open source solution covers all requirements of the insurer and besides optimizing the business processes, also delivered a return of investment

Message Handling Automation with ebXML



Facts - Overview

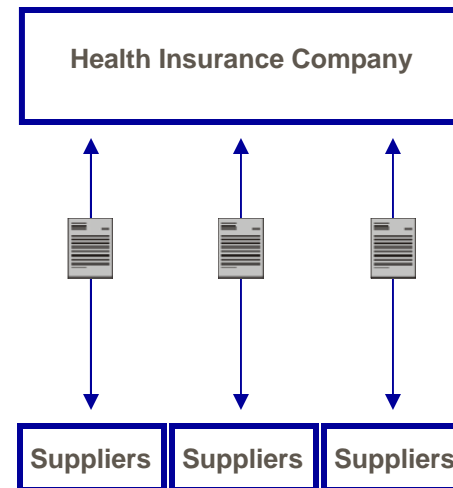
partners using the ebXML interface	nationwide the DBKK health insurance has 15 Partners who will be using the Messaging Service for the automatic transfer of ebXML documents
amount of documents produced	around 50.000 documents will be handled per year, this represents approx. 80% of all documents exchanged between the partners
different types of documents	at this stage 17 different business documents are in use, e.g. cost estimates, purchase orders, shipment receipt etc. The entire process for the transaction is covered by these templates, however there is no restriction to the number of different types of templates that can be used to produce documents
document format	PDF and XML
project implementation time	<ul style="list-style-type: none">■ total time for EHP project: 12 months■ time needed for implementation of ebXML: 6 weeks

Message Handling Automation with ebXML



Shortcomings of the previous Procedure

- Communication was completely paper based, the documents were exchanged via Fax or orders were accepted by phone, among other disadvantages this was a very labour intensive procedure.
- Since each partner used random ways to transfer and receive documents no system to protocol the transmission of documents was in place.
- Correction of errors, e.g. flawed fax transmission were time consuming, since the staff had to repeat the entire process of transmission after the error has been noticed.
- Receipt of documents could not be acknowledged automatically (Non-repudiability of document delivery).
- Document delivery with snail mail produced time delay and extensive costs.



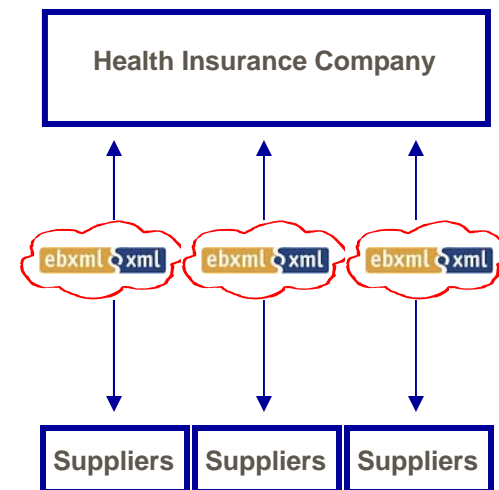
Exchange of documents per fax or snail mail

Message Handling Automation with ebXML



Business Goals for the new Procedure

- Overhaul communications infrastructure in favour of modern technology and open standards
- Replace paper based communication with a secure online messaging service
- Automate business processes to allow for faster processing and less manual handling
- Standardize communications between the partners to allow for automated message validation (e.g. receipt of documents) and monitoring, (e.g. error handling)
- Efficient and transparent processes through the use of one system for all partners
- Reduce costs and provide better results at the same time



Documents are encrypted and exchanged per eMail or HTTPS-Internet Protocol

Message Handling Automation with ebXML



Strategy for the new Infrastructure

- Solution based on open standards, core open standard is ebXML Messaging (OASIS Standard, ISO 15000-2)
- Secure messaging (encryption) for sensitive information
- Scalable and expandable application for fast adjustments to new requirements
- Messaging to support advanced functionality in areas like routing, monitoring, message identification and correlation
- Independence through open standards, no dependency from proprietary vendors
- Easy implementation of interfaces (clients) for the various business partners (suppliers)
- Interoperability, easy inclusion of new partners into the network

Message Handling Automation with ebXML



Components for the new Infrastructure



EHP Application

integrates the orchestration of processes between the health insurance company and their suppliers

EHP User Interface

Graphical User Interface for the users of the EHP application

Open Source Job Scheduler

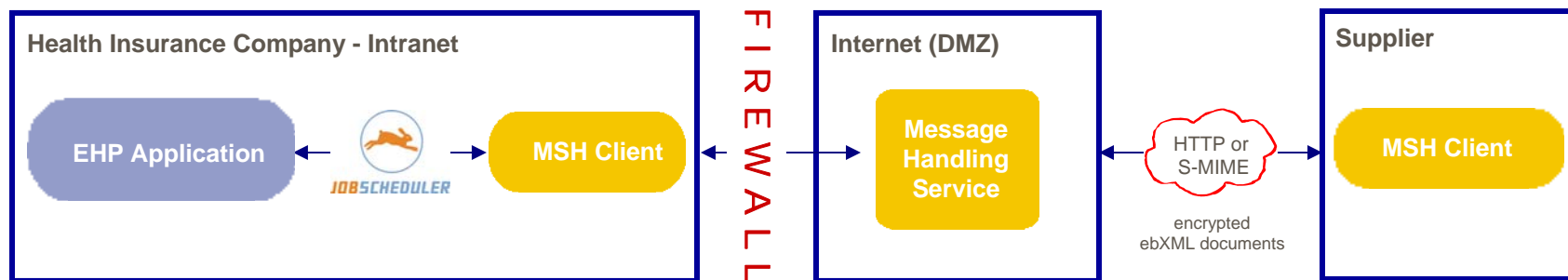
automates workflow processes, e.g. time and event controlled execution of programs

MSH Service & Client

Message Handling Service of the health insurance company and MSH client connect suppliers and health insurance

Message Handling Automation with ebXML

New Architecture



Incoming Messages and Documents

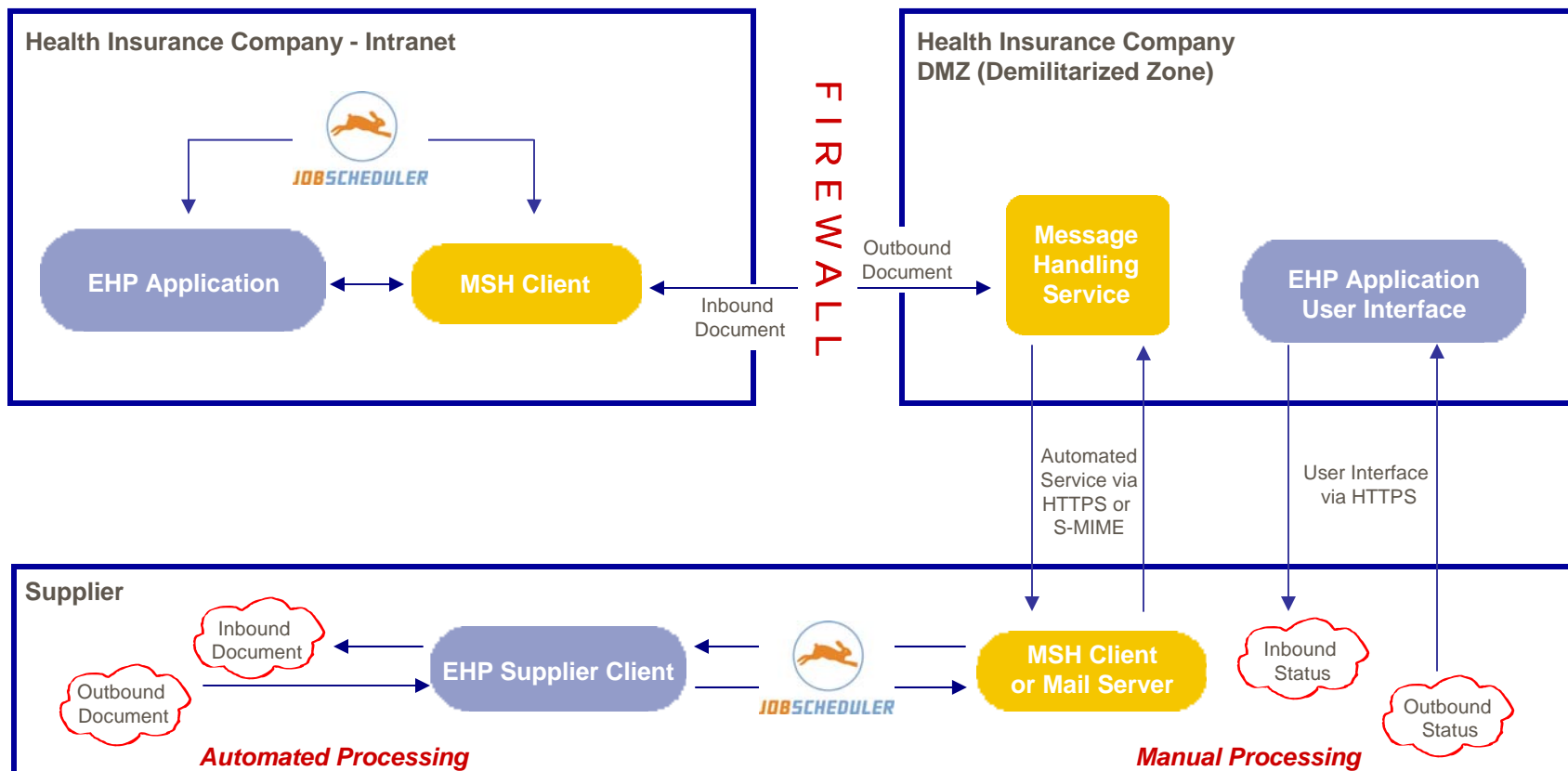
- Job Scheduler checks Message Handling Service in regular adjustable intervals for incoming messages (polling)
- Encrypted communication via HTTPS or eMail (S-MIME)
- Automatic supply of documents on the server system of the partners
- Automatic start of programs to proceed with processing of the documents
- Supply of messages in the XML-Format

Outgoing Messages and Documents

- Automatic acceptance of documents by polling of directories
- Automatic delivery of documents to the Message Handling Service
- Encrypted communication via HTTPS or eMail (S-MIME)
- Automatic start of programs to proceed with client-side processing of the documents
- Protocol of document delivery and job history

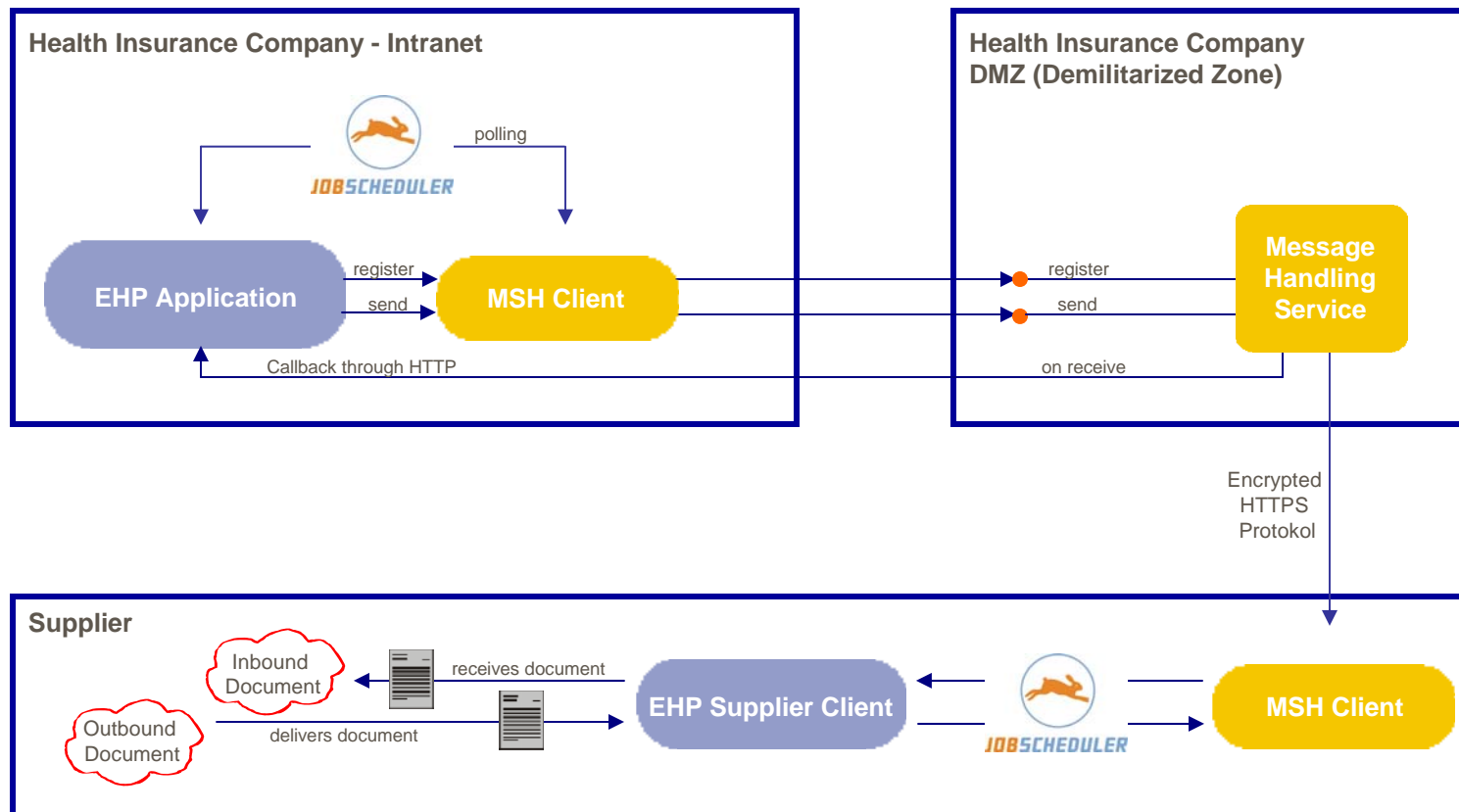
Message Handling Automation with ebXML

New Architecture - Detail



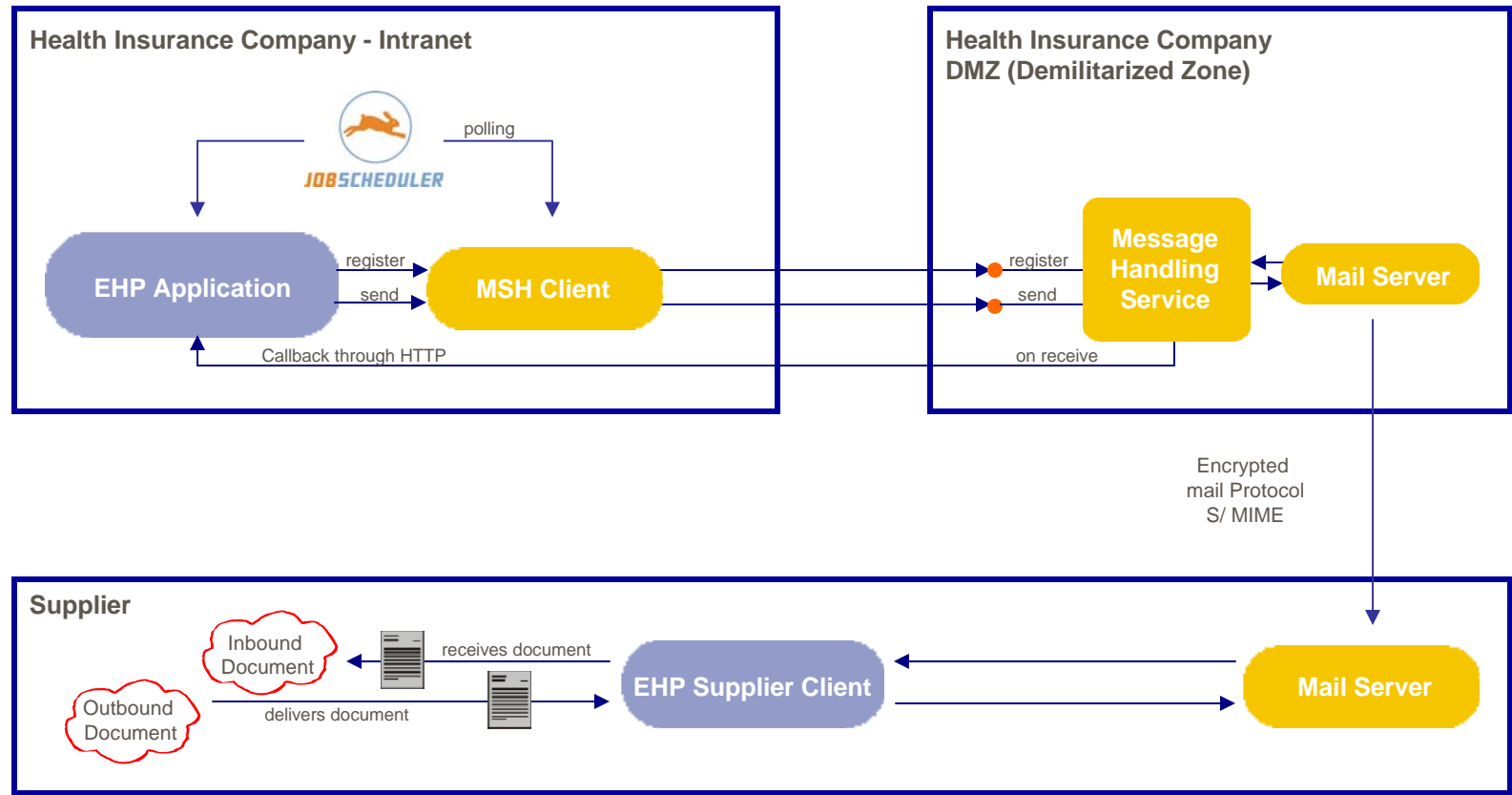
Message Handling Automation with ebXML

Message Handling with HTTPS



Message Handling Automation with ebXML

Message Handling by eMail



Message Handling Automation with ebXML



Benefits of the new Procedure

User Interface

- Manual recall of status information via the EHP user interface
- Manual upload of documents
- Manual entry of status into the EHP user interface

Messaging Service

- Automatic acceptance and delivery of ebXML documents through the medical suppliers
- Automatic acceptance and delivery of ebXML documents through the health insurance company
- Automatic acceptance of status messages from both partners
- Secure exchange of documents and messages (reliable messaging)
- Exchange of messages with the XML-Format (ebXML)
- Encrypted transfer of messages via HTTPS or S/MIME
- Interface for the exchange of messages via HTTPS or eMail
- Open Source components: MySQL 5.1, Hermes 1,0 (Message Handling Service), Open Source Job Scheduler 1.3

Message Handling Automation with ebXML



Visit our site

<http://www.sos-berlin.com>