

# Connectiv-IT Deployed CECID's Hermes H2O for European Telecommunications Industry

## Abstract

Connectiv-IT demonstrated that open source-based reliable messaging is possible in a business-to-business context by deploying CECID's Hermes H2O as one of the messaging gateway in a full supply chain integration project between two European leading mobile phone companies.

## Context and goals of the project

Connectiv-IT has successfully deployed a full business-to-business (B2B) Connect-TELCO solution to streamline supply chain integration for the telecommunications industry in Europe. The project involved a world leader mobile phone company and its subcontractor – a French original design mobile phone manufacturer.

Because the mobile phone industry is moving very fast, companies involved in such business must be able to stay as close as possible to the market needs (in terms of both design and technology) and also anticipate changes in order to quickly match new challenges. In this context, an efficient and collaborative supply chain management is a key success factor.

The B2B collaboration between those two European major players involves:

- Exchanging all "Order to Cash" and "Procure to Pay" processes messages (orders including change and confirmation; despatch advices including labelling and invoices) based on RosettaNet™ Format (GS1 B2B standard for IT and Telco industry); and
- Remote monitoring of production, shipping and inventory of factories located in France and China.

To achieve these goals, the French mobile phone manufacturer invited Connectiv-IT to design, develop and implement a highly reliable B2B system that enables:

- Guaranteed, secured and trusted message exchange;
- Real-time synchronization of electronic documents with ERP systems (SAP);
- Provision of a business and technical view of the exchanges to the users; and
- Connecting partners according to a very aggressive project planning and budget.

As a result, Connectiv-IT proposed a full B2B solution, Connect-TELCO, on-boarding CECID's open-sourced software – Hermes H2O for its reliable messaging exchange.

From a business perspective, B2B exchanges in this Telco context must match two tight constraints:

1. Documents may have legal content requiring security and confidentiality procedures such as authentication, encryption and electronic signature.
2. Some documents are also closely linked to the physical flows of materials or finished goods and have a high business impact. For example, delivery trucks may stay blocked at the warehouse if the despatch advice message has not been properly received and processed by one of the partners. This may generate expensive costs due to over delays on deliveries.

## Actions taken

With deep knowledge of RosettaNet™ standards (PIPs® and messages) and B2B reliable protocols (AS/2, ebMS2, RNIF), Connectiv-IT was in charge of the full design and technical implementation of the solution for the mobile phone manufacturer.

Tasks included:

- Comprehensive analysis of the client operational context, including its ERP system, to design consistent process and document mappings linking internal business processes with RosettaNet™ standards requirements;
- Setup, development, deployment and maintenance of the technical solution; and
- Assistance to project management.

## Results and next steps

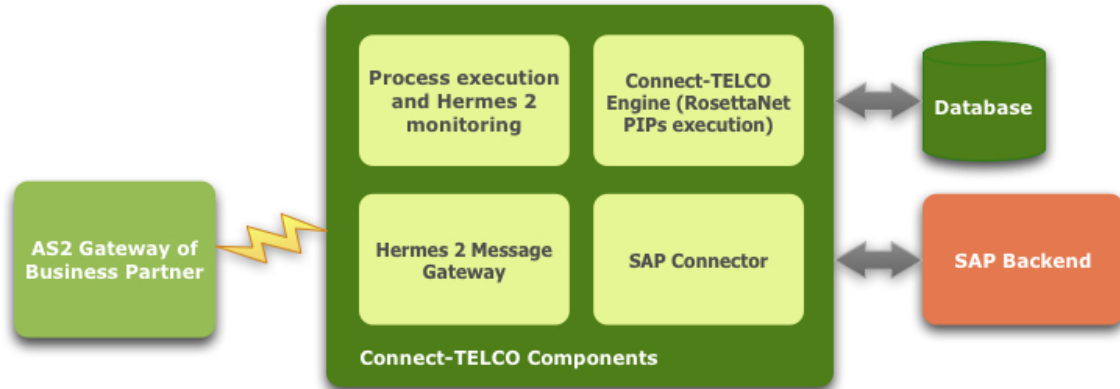
The mobile phone manufacturer benefits today from a reliable messaging system together with a global B2B platform fully integrated with ERP. CECID's Hermes H2O, proposed by Connectiv-IT for technical independence and cost control reasons, and endorsed by client users being in favour of open-source opportunities for such application, has demonstrated being a highly relevant solution in terms of cost of ownership, performance and reliability to fulfil requirements.

The main components of Connect-TELCO consist of:

- A Business Process Management tool used as a central sequencer for all components;
- A message store and processor (XSL transformation, data aggregation) developed by Connectiv-IT Team fully interoperable through Web Services;
- A Business Process monitoring tool;
- Hermes H2O as the reliable messaging system (AS2 and ebMS2); and
- An ERP connector to interoperate with SAP systems.

The Hermes H2O integration was facilitated by the use of Web Services and the open source community support from the CECID Team. To promote e-commerce infrastructure and advancement for large and small companies, CECID has been sharing its R&D results via open source and fostering the development of the open source community.

The high level architecture of the Connect-TELCO is depicted below:



Regarding traffic, about 1,000 business documents are sent and received through Hermes H2O each day. The end-to-end response time for a business transaction (from Purchase Order sends in by the consignor in Europe to Order Response sends back by the consignee located in China) is in less than 60 seconds.

The reliable messaging system facing Hermes H2O is a well-known commercial IT provider, so both teams from Connectiv-IT and CECID are proud that the Connect-TELCO has achieved a same level of services with Hermes H2O.

Connectiv-IT also on-boards Hermes H2O as the reliable messaging system for another of its solution: Connect-GDS, a PIM (Product Information Manager) involving complex XML messages exchanges choreographies over AS2, certified by GS1 France (<http://www.gs1.fr>).

**Few words about Connectiv-IT** – <http://www.connectiv-it.com>

Connectiv-IT is an independent consulting company, specialized in leading Collaborative Supply Chain projects for large companies (such as Aéroports de Paris, Arkema, Pernod-Ricard, Safran, Thales...), in France and at an international level. Our Objectives are to offer a custom-made expertise to guarantee and facilitate the successful completion of Collaborative Supply Chain projects within strictly established scope, deadlines and costs; and servicing business requirements needs adapting the best technological solutions to automate, enhance and secure the exchange of information between the participants in the Supply Chain.

**Few words about Center for E-Commerce Infrastructure Development (CECID)**  
– <http://www.cecid.hku.hk>

Founded in January 2002, Center for E-Commerce Infrastructure Development (CECID) at The University of Hong Kong conducts e-commerce research and development with the vision of helping enterprises increase their competitiveness in the global economy. With projects primarily funded by the HKSAR Government's Innovation and Technology Commission, CECID also takes on the mission to transfer knowledge and technology to the community. Its acclaimed e-commerce technologies, Hermes and B2B Connector, are widely adopted both locally and globally.

**Few words about Hermes H2O** – <http://www.cecid.hku.hk/hermes.php>

Developed by CECID, Hermes H2O is a messaging gateway designed to support the sending and receiving of information transmitted in open standards (e.g. ebMS, AS2). It provides a reliable and secure information exchange gateway that could be integrated into other application via the provided web services interface. As Hermes H2O is an open-source software, users can use it for free and customize it to cater for their specific needs. Latest version of the H2O software and its source code can be downloaded from

[http://community.cecid.hku.hk/index.php/product/download/download\\_h2o/](http://community.cecid.hku.hk/index.php/product/download/download_h2o/).

**Few words about RosettaNet™** – <http://www.rosettanet.org>

RosettaNet™ is a standard for global supply chain providing “Partner Interface Processes®” (PIPs®), message guidelines and schemas based on XML. RosettaNet™ has been chosen for the exchanges between the partners using AS2 transport protocol. RosettaNet™ is currently used by major Telco Companies such as BT, Cisco, Deutsche Telekom, Sony Ericsson Mobile Communications, Motorola, Nokia, Siemens, AT&T, Nextel, TeliaSonera, Vodafone, etc.