eMessaging

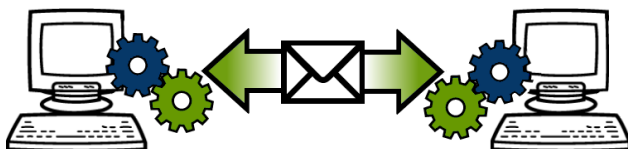## How to reliably transfer data in a common format between applications

EDI and XML

Early electronic communication between trading partners relied on EDI, a proprietary messaging format that could address the exchange of structured business documents such as purchase orders, invoices or payments.

The recently developed XML standard will probably replace EDI as the syntax of choice for B2B transactions, but this will be a gradual transition that will see hybrid solutions extending the reach of electronic trading.
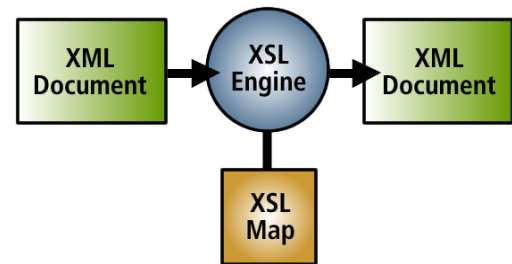
Technology

B2B messaging involves the exchange of structured data between applications, be it between two or more organizations, or within the same company. Genuine offers messaging services that cover the transformation, transport, security, reliability and presentation of the data transmitted over any network.

Also included in the Messaging offer is the configuration of industry standard adaptors that interface with ERP systems and legacy applications. The development of custom adaptors not readily available by the manufacturer is offered through our Enterprise Application Integration (EAI) service. By combining B2B messaging and EAI proficiency, Genuine can offer integration services that move beyond the company boundary.

Transformation

The most common requirement when moving data from one application to another is the transformation of the data in a different format. The eXtensible Stylesheet Language Transformation (XSLT) specification has been adopted for this specific purpose.

XSL provides a transformation mechanism that effectively maps certain elements from a source specification to elements in a destination specification. Mappings are extremely flexible, and they allow organizations to keep in sync when a trading partner unexpectedly changes its document format.

Transport

For many years, Electronic Data Interchange has relied on expensive Value Added Networks (VANs) for reliable exchange of messages. Since the advent of XML however, the internet and thus TCP/IP has become the carrier of choice for electronic messages.
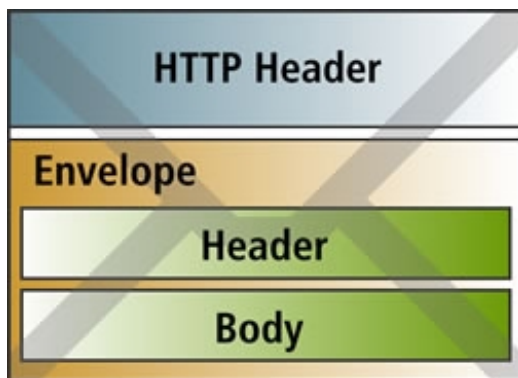
To send the messages over the Internet, a concept of frameworks was developed to route the message to its destination. BizTalk and ebXML, both built on SOAP, are amongst the most important frameworks supported by Genuine.

Framework

A framework can be thought of as a virtual envelope, describing the exact placement and meaning of different tags, such as source and destination information of an XML message.

By using industry-standard frameworks, organizations know exactly how to wrap their data into an envelope that can then be successfully read by any other organization using the same framework.

The framework that lies at the basis of nearly all current XML based messaging mechanisms is the Simple Object Access Protocol. SOAP is a lightweight protocol, build on HTTP and XML. The following illustration shows a SOAP envelope.

The principle is straightforward: an HTTP message is used as carrier, and the actual data is put into an XML payload body. The fact that HTTP is used as carrier has the added advantage that the message will not be blocked by most firewalls.
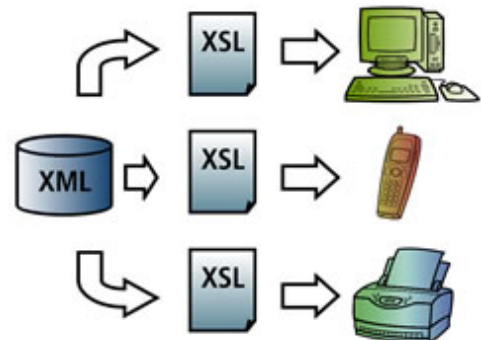
Reliable Communication

To assure security of electronic messages, Genuine uses digital signatures to authenticate the message content, and certificates to encrypt the communication stream.

The one-time-only delivery mechanism, crucial for message integrity is a built-in feature of Integration tools such as BizTalk and WebMethods. To further enhance the messaging reliability, we support multiple message queuing technologies such as Microsoft's Message Queuing (MSMQ) or IBM's MQ Series.

Presentation

XML separates the underlying data from its presentation and is suitable for providing information to a diverse range of client types as shown in the following illustration.

Starting with the same source information, the fore mentioned XSLT language takes care of transforming the XML data into HTML, WAP or any other format as needed.

Genuine understands that a company's pool of knowledge is one of its most significant assets, and leveraging this asset depends on unlocking that knowledge and making it widely available throughout the organization. XML and XSL are ideally suited for this task.

The Universal connector

Genuine uses XML as a universal connector, replacing the proprietary solutions that have predominated to-date.

XML is a flexible and powerful method for data representation. It supports a wide range of different data types, and the same data can be transformed in different ways for presentation to varied client devices.

Transforming XML is of even greater significance for data communication, and the XSLT specification, in conjunction with XML documents, is a key technology for converting data from one format to another. This capability is the cornerstone of a much more flexible way of exchanging data with business partners and customers.