UMG
universal
messaging
gateway

PLACING

UMG

eBOT

eBOT

The Strategic

Messaging Solution

## Introduction to Gateways

Gateways transfer data and electronic documents between normally incompatible applications or networks using the internet, either directly or via a messaging hub.

Electronic XML messaging, as used within the ACORD London Market standards, requires the use of gateways to exchange XML messages between trading partners.

The important tasks performed by gateways are:

- Message Transmission & Receipt
- Request/Response Protocols
- Security handling
- XML and SOAP messaging
- Synchronous and Asynchronous exchange
- Schema Validation
- Schematron Validation on receipt and transmission
- Message exchange Audit Logging
- Queuing/Buffering, Retry/Resend
- Data reformatting between market standard formats and your underlying administration system formats

Think of a gateway as your electronic front door.

## Are Gateways market-specific?

Gateways must handle the locally-agreed communication standards. The London Insurance Market has adopted the ACORD worldwide insurance messaging standards which have been further refined by the MRG/MRO, so gateways used in the London Insurance Market must be able to support:

- AMS - ACORD Messaging Service
- ACORD DRI - Document Repository Interface
- ACORD RLC - Reinsurance Large Commercial

It may also be important for you to be able to exchange non-ACORD insurance standards, such as iMarket and EDI if your organisation trades in multiple domains.

## How do Gateways integrate?

Software will have to be developed to link the gateway to your internal administration and/or document management systems:

- As a sender, your data will have to be presented by your systems to the gateway for onward transmission.
- As a receiver, your gateway will present the data it receives to your systems for downstream processing.

This Integration will generally be carried out with your administration software provider (or your IT department) working with the gateway software provider.

## Is there a no-integration option?

You may not want, initially, to have any form of integration between your gateway and your application or document management systems. In this case, the gateway will need to provide a Forms/Workflow interface (e.g. through a web browser) or an eMail interface which you will use to enter and receive data and documents.

## Where can you get a Gateway?

There are three main ways to acquire gateway software:

- **DIY**.  Some organisations build and support gateways themselves.  The complex technology requires specialist development skills which need to be retained for the lifetime of the system.
- **DIY plus Toolset**.  Some toolsets are available that take some of the pain out of building a gateway.  Again, this route requires specialist skills in both the technology and the toolset which have to be required in the long-term.  There will normally be a licence cost for the toolset.
- **Package Software**.  The UMG gateway software is available to fully support all ACORD standards "out of the box".

Whichever route is chosen, evolving communication, message and code-set standards will dictate that you must have good long-term support to stay compatible with the market or risk falling behind.

**UMG** universal messaging gateway

## Product Overview

The **Universal Messaging Gateway (UMG)** provides an integrated messaging solution that enables Peer-to-peer communication between you and your business partners and is designed to be the single point of entry and exit for all messaging communications.

The UMG is fully compliant with the ACORD Messaging Services XML Specifications and SOAP v1.1.

The UMG contains two distinct components: the Messaging Interface and the User Interface.

## Messaging Interface

The Messaging Interface allows for the receiving and sending of both ACORD London Market XML messages and other business driven data communications.

The UMG is a template driven, soft coded solution that enables an organisation to efficiently respond to differing future messaging standards and formats using components known as **Connectors**.

The Messaging Interface's web services API Connectors can process messages from:

- ACORD Messages (Reinsurance JV) supporting multiple concurrent versions
- Specific support for DRI
- Other XML messages (e.g. iMarket, proprietary messages)
- EDI Messages (London Market and other)
- Spreadsheets and CSV files
- eMail feeds

The UMG manages, amongst other things:

- Acknowledgement of incoming messages
- ACORD Level 1 and 2 Validation
- Full Technical Response Protocol
- Caching and mapping of the messaging data into the Messaging SQL Database
- Schematron Validation - ACORD Level 3

Additionally, the Messaging Interface has a data repository that stores all incoming and outgoing messages and any alterations made to these messages, providing a comprehensive audit trail of all messaging exchanges with your business partners.

## User Interface/Integration

Off-the-shelf and custom-built **Adaptors** are available to translate messages between external standard forms and your own internal systems formats. Full integration with your own application and document management systems can be achieved through the use of the Adaptors and/or the built-in web services API's within the UMG.

The **Forms & Workflow** Interface (see separate brochure) manages the online processing of all incoming and outgoing data, together with the ACORD level 4 business responses.

**Forms** allow business users to interact with the UMG and carry out electronic trading with other companies without the need for integration with existing systems.

**Workflow** provides customisable business processes for your users based on the type of incoming or outgoing message, allowing for multiple business processes between your organisation and your differing business partners.

It is also possible to achieve 2-way integration between the UMG and your internal systems using a variety of CSV (flat-file) import/export mechanisms and/or eMail on request.

## Other Key Product Features

- Soft coded, password controlled user roles
- Checkpoints at all key stages requiring sign-off to ensure that actions are carried out by approved personnel
- Configurable eMail notifications to support personnel, users and management
- Message relay capability (Hub)
- A full audit trail for regulatory control & compliance
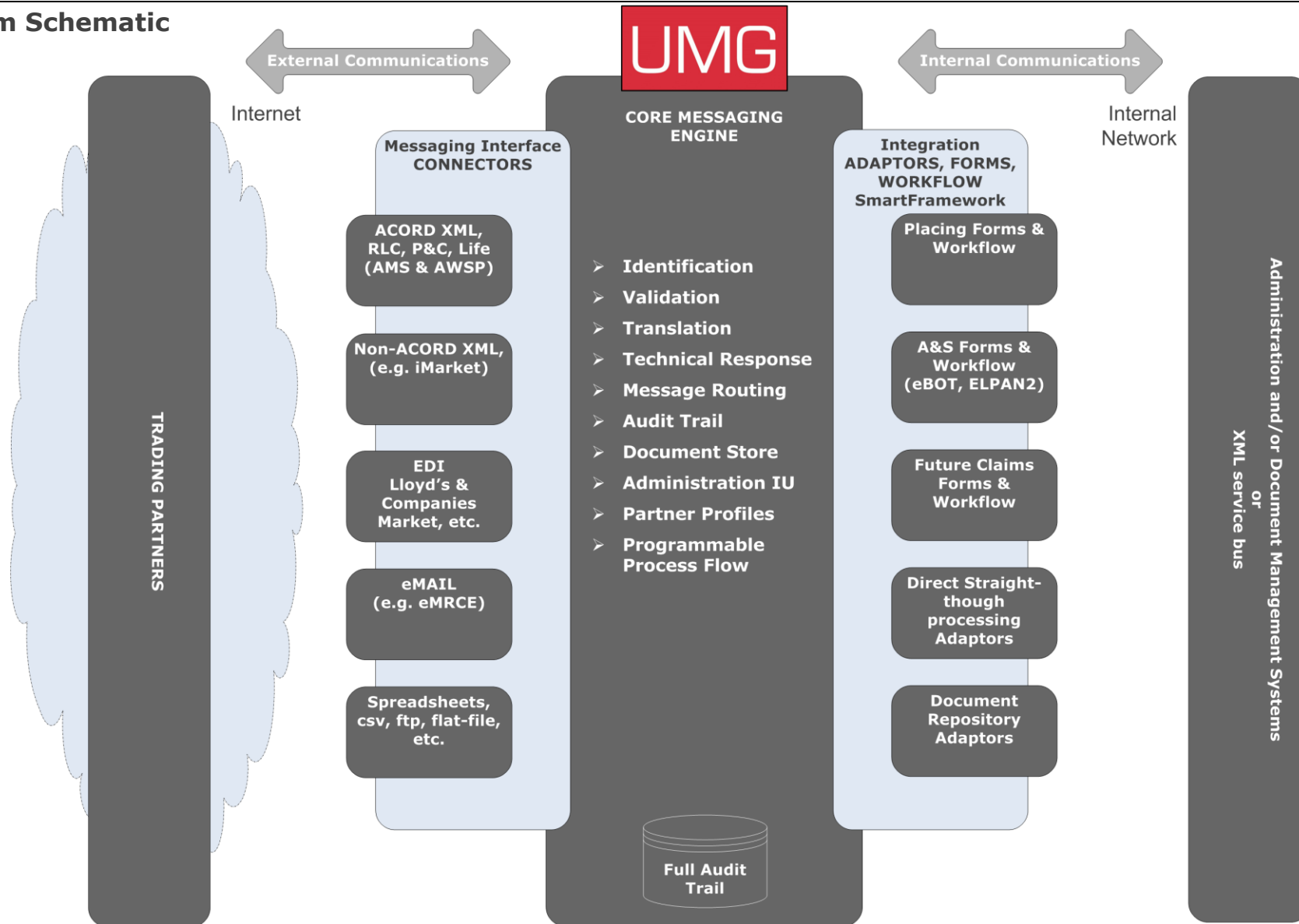- Web based user interface

## Technology

The UMG is built utilising the Microsoft .NET 2.0 framework and SQL 2005 technologies. It is physically installed within your IT environment (typically within a DMZ).

## UMG OnLine

The UMG is also available through the **UMG OnLine** hosted service (see separate brochure) for zero-footprint use.

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**System Schematic**

**UMG**

**External Communications**

Internet

**CORE MESSAGING ENGINE**

**Internal Communications**

Internal Network

TRADING PARTNERS

**Messaging Interface CONNECTORS**

- **ACORD XML, RLC, P&C, Life (AMS & AWSP)**
- **Non-ACORD XML, (e.g. iMarket)**
- **EDI Lloyd's & Companies Market, etc.**
- **eMAIL (e.g. eMRCE)**
- **Spreadsheets, csv, ftp, flat-file, etc.**

- ➤ **Identification**
- ➤ **Validation**
- ➤ **Translation**
- ➤ **Technical Response**
- ➤ **Message Routing**
- ➤ **Audit Trail**
- ➤ **Document Store**
- ➤ **Administration IU**
- ➤ **Partner Profiles**
- ➤ **Programmable Process Flow**

**Full Audit Trail**

**Integration ADAPTORS, FORMS, WORKFLOW SmartFramework**

- **Placing Forms & Workflow**
- **A&S Forms & Workflow (eBOT, ELPAN2)**
- **Future Claims Forms & Workflow**
- **Direct Straight-though processing Adaptors**
- **Document Repository Adaptors**

Administration and/or Document Management Systems or XML service bus

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## Key UMG Features

The UMG provides a number of key features, many of which are unique to the UMG, ensuring that it remains a simple yet highly flexible tool.

## User Interface

The UMG's web-browser user interface provides a variety of configuration and message management functions.

The UMG's Audit Trail is accessed through the user interface and allows users to track any incoming or outgoing message and view all of the message's components and attachments simply and efficiently.

For any given message there may be many related messages in an exchange - the original request, its validation response, the business response and its validation response. Adding to this any number of possible message transformations creates a potentially complex history. The UMG's user interface enables any message's history to be called up with a single click and, from there, each message is displayed and analysed on-screen. Tracking down problems has never been easier.

## Message and Queue Management

Error queues, inbound and outbound message logs, retry queues and resend functions are just some of the message and queue management facilities available.

## Partner Profiles

The UMG provides fully soft-programmable Partner Profiles which allow users to setup and manage relationships with their trading partners.

In cases where a group company has multiple UMGs (UMG Enterprise), or where an association of trading partners have purchased multiple UMGs, the UMG can reference a common Partner Profiles database (a market directory) to reduce the maintenance overhead.

## Programmable Process Flow

This unique feature of the UMG provides an XML-controlled flow to determine what happens to each message sent or received by the UMG according to the Partner Profile. Separate Process Flows may be defined for each message type, message direction (sent or received), Sender (or sending system) and Receiver (or receiving system).

Completely different customised processes may then be called upon by each different Process Flow to give full control over messages as they travel through the UMG.

**For example**, a custom XSLT transformation might be employed for a particular message type received by a trading partner to transform it into a different format, or convert a code-set on it, or simply correct a known error prior to handing it over to the underlying administration system via an Adaptor.

Some built-in Process Flows are provided with the UMG straight out of the box to cater, for example, for known differences in the way some ACORD messages and exchanges are handled by different parts of the market.

**For example**, some trading partners send attached documents in-line with a message (such as a Placing Request) but others embed links instead (to allow the documents to be retrieved separately).

A built-in UMG Process Flow automatically retrieves the linked documents and embeds them in-line in messages received before handing it over to the Adaptor or Forms/Workflow module, thus ensuring that only one single downstream process or working practice need be employed, irrespective of the method employed by the trading partner.

## Reports

The UMG provides a variety of built-in reports which can be supplemented by bespoke reports on request.

## Electronic Front Door

The UMG can converse with any number of messaging standards and any number of versions of standards in parallel. It is the most flexible and powerful messaging gateway available and can accurately be described as the *Electronic Front Door* to your organisation.

## Technical Architecture

The UMG is a component-based solution which can be installed entirely on a single physical or virtual server, or distributed across a number of servers for load balancing.

The interfaces between the various components are provided almost entirely as web services, making it straightforward to integrate components of the UMG, or the UMG as a whole, with a client's own applications.

## Hardware/Software prerequisites

- Any hardware platform that supports the Microsoft Windows 2003 Server
- Microsoft Windows 2003 Server 32bit or 64bit editions (Service Pack 1 recommended)
- RAM - 2Gb minimum is recommended (see Sizing)
- Disk - At least 50Gb of free disk space is recommended (see Sizing)
- Microsoft SQL Server 2005, any version including SQL Server Express, Service Pack 1 minimum (Service Pack 2 recommended)
- Microsoft Internet Information Server (IIS) version 6.0 required
- Browser access to the UMG administration screens requires Internet Explorer v6 or more recent, and the latest MS-XML packages

## Sizing

**RAM** – 2Gb is sufficient for the majority of insurance market scenarios but concurrent processing of multiple large messages (i.e. in excess of 100Mb each) through a single instance of the UMG may mandate extra RAM.

**Disk** - A base installation of the UMG including all available components will require in the region of 2Gb of hard disk space. Storage requirements for data will vary according to the size and quantity of the messages exchanged. Overall storage requirements can be approximated using the formula: *((Message size in bytes * 2) + 2,000 bytes ) * Number of messages.*

## Security

Security at the messaging level is implemented within the application in compliance with the ACORD recommendations. For message exchange with other parties, the server must be accessible over HTTP and/or HTTPS (ports 80 and/or 443). If eMail notification of certain events is required, then the UMG application will need to be allowed access to an SMTP or POP3 mail server that can relay eMails from the UMG.

Access to the browser user interface is password-controlled, each user being assigned one or more roles with varying levels of authority. Beyond this, it is recommended that access to the administration screens (implemented as an IIS website separate to the web services endpoint) be restricted as tightly as possible by the client's server administrators.

## Backups and Archiving

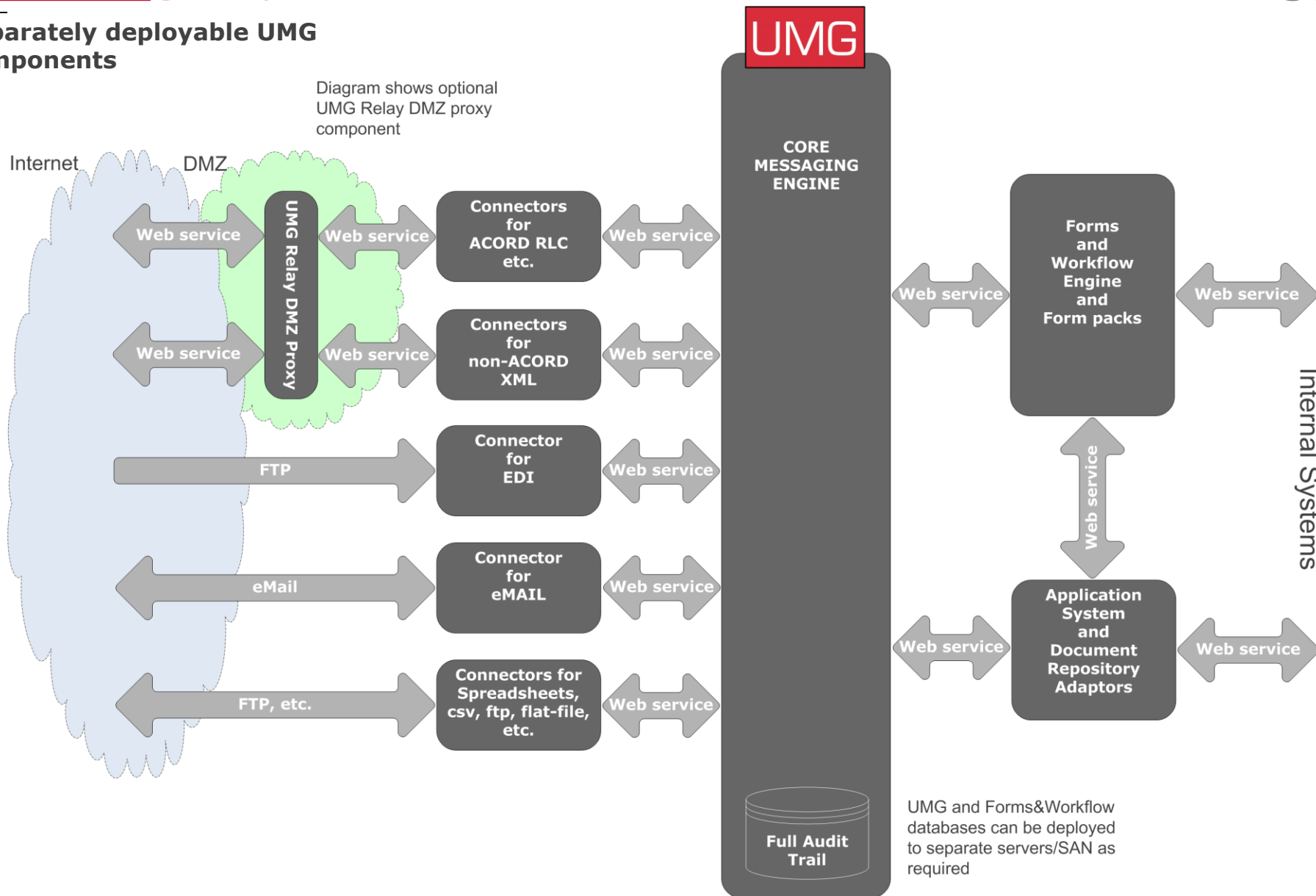The UMG stores two different types of data:

- XML, EDI, CSV files on disk. Messages exchanged are logged in their raw format as files in a configurable folder structure.
- Relational database – key information from all message transactions, together with audit trail entries and configuration data, are held across three SQL Server databases.

Backups should be carried out when the UMG is not operational by a) a scheduled SQL Server backup using the internal SQL Server services and b) a file system backup of the UMG configuration and non-SQL data.

Periodic archiving to move files to a different location and remove records in the SQL Server databases is typically undertaken by the client's system administrators. TriSystems are more than happy to assist if required.

# UMG universal messaging gateway

# The Strategic Messaging Solution

**Separately deployable UMG components**

Diagram shows optional UMG Relay DMZ proxy component

UMG

**CORE MESSAGING ENGINE**

Internet

DMZ

UMG Relay DMZ Proxy

Web service

Web service

**Connectors for ACORD RLC etc.**

Web service

Web service

Web service

**Connectors for non-ACORD XML**

Web service

FTP

**Connector for EDI**

Web service

eMail

**Connector for eMAIL**

Web service

FTP, etc.

**Connectors for Spreadsheets, csv, ftp, flat-file, etc.**

Web service

**Forms and Workflow Engine and Form packs**

Web service

Web service

Web service

**Application System and Document Repository Adaptors**

Web service

Web service

Internal Systems

**Full Audit Trail**

UMG and Forms&Workflow databases can be deployed to separate servers/SAN as required

**UMG** universal messaging gateway

## UMG Variants

The UMG can be purchased and implemented in one of three configurations to provide organisations with a highly flexible communications infrastructure which can be extended as their messaging requirements grow and diversify.  See separate UMG OnLine brochure for our hosting service options.

## UMG *Lite*

The Lite version of the UMG provides the full ACORD AMS specification together with selected elements of the DRI, RLC and A&S specifications while allowing limited back-end integration with the customer's underlying application systems.

UMG Lite can be configured to communicate with selected business partners, application service providers or trading platforms either on a peer-to-peer basis or via a messaging hub.

UMG Lite can be implemented on a client site or hosted by TriSystems on the client's behalf.

**Typical user**
Small to medium Underwriting, Broking or service organisation needing to achieve a cost-effective level of integration with their underlying application systems whilst maintaining the flexibility to grow and diversify without disruption to their communications gateway.

**UMG** universal messaging gateway

Lite. The tactical entry into strategic messaging.

## UMG *Full*

The Full version of the UMG provides the full ACORD AMS specification, DRI, RLC and A&S, accommodating all inbound and outbound connectors while allowing full back-end integration with the customer's underlying application systems.

Residing on a web server within the client's own IT infrastructure, the Full UMG can be configured to communicate with any business partner, application service provider or trading platform either on a peer-to-peer basis or via a messaging hub.

**Typical user**
Underwriting, Broking or Service organisation wishing to maintain full control of their communication channels with a wide range of London, UK and international trading partners.

Operating a potentially diverse number of communication standards, methods and protocols in parallel.

Needing to achieve maximum data integration with their underlying application systems.

## UMG *Enterprise*

The most flexible version of the UMG, Enterprise, allows for Hub and Satellite implementations across multiple company locations.

Each Satellite UMG is configured to communicate with local applications, document management and workflow systems.  These satellites then communicate with the UMG Hub which, in turn, is configured to communicate with any business partner, application service provider or trading platform either on a peer-to-peer basis or via a market messaging hub.

This creates a single point of entry and exit for all communications across the group.

**Typical user**
Larger, possibly multi domiciled, companies or groups who require a single external communications interface but internally require interaction to a large number of distributed applications and DM systems.

Operating a potentially diverse number of communication standards, methods and protocols in parallel.

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