Agenda

- A Non-technical perspective of Infrastructure and Architecture
  - Gateways, Hubs & Trading Platforms
    ‣ What, Why, How & Who?
    ‣ When can we take the technology for granted?
  - What does ACORD Offer?
  - What is the future direction?

- MRO Update

- ACORD Update
A Non-technical perspective of Infrastructure and Architecture

Gateways, Hubs & Trading Platforms
What, Why, How & Who?
When can we take the technology for granted?
What does ACORD Offer?
What is the future direction?
Infrastructure & Architecture

- **Grand words**
  - What do we mean?
  - What does it mean to brokers and underwriters?
- Aren’t we in the plumbing business?
Freedom of Choice

- **London Market**
  - 160 Brokers
  - 45 Lloyd’s Managing Agents
  - 40 IUA Companies
  - Other service providers

- **They all communicate with each other**
  - At different times
  - For different purposes

- **Technology ranges from**
  - Low cost entry
  - **fully integrated sophisticated enterprise systems**
Multiple technologies for exchanging data electronically

A number of different routes are possible for an electronic transaction

- Direct messaging
- Trading platform
- Messaging hub
- Email
- Electronic Form

Email between trading partners with or without external provider support
Multiple trading partner connections

Insurers may be faced with different forms of input from different brokers (or even the same broker ... and vice versa).

Supporting face to face interaction as required
Multiple messaging architectures can co-exist

The market is likely to evolve into an environment of mixed peer-to-peer and multi-hub messaging rather than a single central infrastructure.
For electronic processing how do I know …

- security: if anyone else has read my information?
- directory: that the address is correct?
- signature: who has agreed the transaction?
- tamper proof: that the document has not been tampered with?
- delivery receipt: that the document I sent has been received by the intended recipient?
- interchange agreement: that there a verifiable record of the transaction?
- audit: that the address is correct?
- authentication: the information is understood correctly or not corrupted? (who is liable?)
- directory: where the document came from?
Message specification independent of route

Because a standard message is used, the same message can be used by all parties regardless of the route the message takes.
Internal reform determines benefits

The degree to which a firm benefits from electronic processing reform will depend on the degree to which they address change and reform in their own organisation.
Gateways, Hubs & Trading Platforms

- Gateways

Abergavenny - Gateway to Wales
Definition
A software product that acts as a front door to the organisation, allowing business messages and documents to be sent and received by the company, using ACORD Web Services.

Primary Function
Data and document exchange.
Sending and receiving ACORD standard placing messages.
Shredding incoming XML messages
Maintenance of partner connectivity, and ACORD upgrades.

Additional Services
Audit log of messages.
Simple relational database and document repository.
Error management functionality.
Business statistics.
**Definition**

A web-based application offering users the ability to route messages between trading partners.

**Primary Function**

Outsourced connectivity configuration.
Secure delivery of ACORD RLC and DRI messages.
Maintenance of partner connectivity, and ACORD upgrades.

**Additional Services**

Message validation.
Control features to manage partners gateway downtime.
Electronic links to market repositories.
Trading Platform

Definition
A web-based application offering users secure access to a trading environment which provides workflow and data management functionality via the internet.

Primary Function
Secure on-line trading.

Additional Services
Structured ACORD-compliant message exchange.
Electronic links to market repositories.
Electronic links to market services.
Gateway, Message Hub and Trading Platform

The Players
Examples from LMA Landscape Analysis

- **Gateway Examples**
  - Atos (WritePlace), IBM (Insurer Messaging Network), Perspective Technologies (onMessage), Trace Isys (TMMS), TriSystems InfoBahn (Universal Messaging Gateway), WebConnectivity (EnabledB2B, EnabledR2R)

- **Messaging Hub Examples**
  - Atos (WritePlace), Catex, IBM (Insurer Messaging Network), Kewill, SSP (Nexus), The Insurance Workplace.

- **Trading Platform Examples**
  - Ri3K, eReinsure
# Vendors Landscape Analysis

**Examples of the technology choices**

## Internal infrastructure

<table>
<thead>
<tr>
<th>Broker Core System</th>
<th>U/W Core System</th>
<th>Document Management</th>
<th>Workflow</th>
<th>Gateway</th>
<th>Electronic Forms</th>
<th>Trading Platform</th>
<th>Messaging Hub</th>
<th>Market Repositories</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acturis</td>
<td>CGI GIOS</td>
<td>Alphabet Group TIW</td>
<td>Capita Total Documents Swordfish</td>
<td>Alphabet Group TIW</td>
<td>ATOS Origin</td>
<td>eReinsure</td>
<td>ATOS Origin WritePlace</td>
<td>ISO Market Wordings Database</td>
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<tr>
<td>Open GI Momentum</td>
<td>Eurobase Synergy</td>
<td>Capita Total Documents Swordfish</td>
<td>Knowledge Center</td>
<td>ATOS Origin</td>
<td>IBM eForms</td>
<td>RI3K</td>
<td>IBM Insurer Messaging Network</td>
<td>Xchanging IMR</td>
</tr>
<tr>
<td>Sequel (SBS)</td>
<td>Intech</td>
<td>Documentum</td>
<td>Microsoft Sharepoint</td>
<td>IBM Insurer Messaging Network</td>
<td>QKnow</td>
<td>Kewill</td>
<td></td>
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</tr>
<tr>
<td>Total Objects Global XP</td>
<td>ROOM Subscribe</td>
<td>Filenet</td>
<td>QKnow</td>
<td>Perspective onMessage</td>
<td>WCL Easy Placement</td>
<td></td>
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<tr>
<td>Total Systems Ultima</td>
<td>Sequel (SBS)</td>
<td>Knowledge Centre</td>
<td>SourceCode K2</td>
<td>Trace Isys TMMS</td>
<td>TriSystems UMG</td>
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</tr>
<tr>
<td>Trace Isys TWINS</td>
<td>Total Objects IMS</td>
<td>Microsoft Sharepoint</td>
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<td>TriSystems UMG</td>
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</tr>
<tr>
<td>Xchanging Brokasure</td>
<td>Xchanging Genius</td>
<td>OpenText Hummingbird</td>
<td></td>
<td>WCL EnabledB2B</td>
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<td></td>
</tr>
</tbody>
</table>

## Shared infrastructure

<table>
<thead>
<tr>
<th>ACORD standard RLC/DRI messages</th>
<th>Gateway</th>
<th>Electronic Forms</th>
<th>Trading Platform</th>
<th>Messaging Hub</th>
<th>Market Repositories</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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<td></td>
</tr>
</tbody>
</table>

Resource: Electronic Placing Landscape v1.3
When can we take the technology for granted?

- Why not now?
<table>
<thead>
<tr>
<th>Layer</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Physical Layer</td>
</tr>
<tr>
<td>2</td>
<td>Data Link (MAC) Layer</td>
</tr>
<tr>
<td>3</td>
<td>Network Layer</td>
</tr>
<tr>
<td>4</td>
<td>Transport Layer</td>
</tr>
<tr>
<td>5</td>
<td>Session Layer</td>
</tr>
<tr>
<td>6</td>
<td>Presentation Layer</td>
</tr>
<tr>
<td>7</td>
<td>Application Layer</td>
</tr>
</tbody>
</table>

- **Physical Layer**: Electrical signals and cabling.
- **Data Link (MAC) Layer**: Transmits packets from node to node based on station address.
- **Network Layer**: Routes data to different LANs and WANs based on network address.
- **Transport Layer**: Ensures delivery of entire file or message.
- **Session Layer**: Starts, stops session. Maintains order.
- **Presentation Layer**: Encryption, data conversion: ASCII to EBCDIC, BCD to binary, etc.
- **Application Layer**: Type of communication: E-mail, file transfer, client/server.
### ACORD Messaging Service AMS

*An XML message – from top to bottom*

<table>
<thead>
<tr>
<th>Standard</th>
<th>Description</th>
<th>Organisation</th>
</tr>
</thead>
<tbody>
<tr>
<td>HTTP 1.1</td>
<td>Transport protocol</td>
<td>IETF (RFC2616)</td>
</tr>
<tr>
<td>SSL/TLS (HTTPS)</td>
<td>Connection security (encryption)</td>
<td>IETF (RFC2246)</td>
</tr>
<tr>
<td>X.509</td>
<td>Security certificate format</td>
<td>IETF (RFC3280)</td>
</tr>
<tr>
<td>MIME</td>
<td>Message format – what’s in the message and where</td>
<td>IETF (RFC2045)</td>
</tr>
</tbody>
</table>

#### Transport

- **SOAP 1.1**: How to create a SOAP message
- **SwA**: Using SOAP and MIME together
- **WS-I Basic 1.0**: How to implement a web-service
- **WSS 1.0**: Message security (signing)

#### SOAP

- **AMS**: ACORD messaging
- **AMS Security Profiles 1.0**: Guide to relevant parts of WSS

#### Messaging

- **DRI or RLC (also available for PCS or L&A)**: Payload

#### Business

**ACORD**
What does ACORD Offer?
Membership

- **ACORD is a member run organisation**
  - a not-for-profit, global insurance standards organisation

- **Members define the standards**
  - With advice and guidance from ACORD staff

- **ACORD has nearly 500 worldwide members**
ACORD aims to improve inter-working with related technology, insurance and other industry standards.

ACORD uses the World Wide Web Consortium (W3C) as the basis for its own standards which cover three domains of insurance;

- **Property, Casualty and Surety (PCS, i.e. personal lines and small commercial)**
  - Predominantly USA based – mixture of forms, EDI and now moving into XML
- **Reinsurance and Large Commercial (RLC)**
  - Evolved from EDI operational in London Europe and North America since the late 1980’s now XML
- **Life Annuity and Health (L&A)**
  - Predominantly USA based – mixture of forms and XML
ACORD RLC Business Messages

- Placement
- Claims Movement
- Technical Account
- Financial Account
- Bordereau
- Acknowledgement
- DRI
Testing Certification Facility (TCF)
Without TCF

YOU

• Connectivity
• Security
• Standards compliance

BUSINESS PARTNER
Test first with TCF…

• Connectivity
• Security
• Standards compliance

And get trouble-free implementation with partners…
ACORD TCF – The Facts

- Over 1,800 messages sent since August this year

- ACORD Message Service
  - Fully implemented
  - Completed ~20 Certifications

- Document Repository Interface
  - Fully implemented, based on ACORD Guides
  - Completed ~18 Certifications

- Reinsurance / Large Commercial Placing
  - Fully implemented, based on ACORD Guides
  - Completed ~5 Certifications
Certification

- Transport
- Business Message
- Implementation Project Phases
  - Schema Slice
- Information
  - Structured Data in stream
  - Structured Data as attachments
  - Other attachments
- Process
  - Function
  - Process Flows
  - Sequence
AMS Certification Granularity?

<table>
<thead>
<tr>
<th>Mode of Operation</th>
<th>Role</th>
<th>Port</th>
<th>Mandatory Service</th>
<th>Optional Services</th>
</tr>
</thead>
<tbody>
<tr>
<td>Asynchronous Asymmetric</td>
<td>Client</td>
<td>Inbox</td>
<td>Post</td>
<td>ListIn</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Status In</td>
</tr>
<tr>
<td></td>
<td>Server</td>
<td>Outbox</td>
<td>Retrieve</td>
<td>ListOut</td>
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<td>StatusOut</td>
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<td>Retrieve</td>
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<td></td>
<td>Status In</td>
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<tr>
<td>Symmetric Asynchronous</td>
<td>Client</td>
<td>Inbox</td>
<td>Post</td>
<td>ListIn</td>
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</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Status In</td>
</tr>
<tr>
<td>Synchronous</td>
<td>Client</td>
<td>Call</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Server</td>
<td>Call</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Connectivity Test</td>
<td>Client</td>
<td>Ping</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Server</td>
<td>Ping</td>
<td></td>
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</tr>
</tbody>
</table>
### Placing Message Certification Granularity?

<table>
<thead>
<tr>
<th>Process Step</th>
<th>Process Flow</th>
<th>Variations By Class of Business to be determined e.g. as defined in the Global Placing Document (GPD):</th>
</tr>
</thead>
<tbody>
<tr>
<td>Request for line / binder</td>
<td>Broker to carrier</td>
<td>• COMMERCIAL PROPERTY</td>
</tr>
<tr>
<td>Request additional information</td>
<td>Carrier to broker</td>
<td>• PROFESSIONAL LIABILITIES (PI, D&amp;O, etc)</td>
</tr>
<tr>
<td>Supply additional information</td>
<td>Broker to carrier</td>
<td>• MARINE</td>
</tr>
<tr>
<td>Withdraw Line</td>
<td>Carrier to broker</td>
<td>• AVIATION</td>
</tr>
<tr>
<td>Placement Cancelled NTU</td>
<td>Broker to carrier</td>
<td>• SPECIE, FINE ART, JEWELLERS BLOCK, etc</td>
</tr>
<tr>
<td>Indicative line</td>
<td>Carrier to broker</td>
<td>• FACULTATIVE REINSURANCE</td>
</tr>
<tr>
<td>Conditional line</td>
<td>Carrier to broker</td>
<td>• TREATY REINSURANCE</td>
</tr>
<tr>
<td>Acceptance of Conditions</td>
<td>Broker to carrier</td>
<td></td>
</tr>
<tr>
<td>Decline Conditions</td>
<td>Carrier to broker</td>
<td></td>
</tr>
<tr>
<td>Request to negotiate line</td>
<td>Broker to carrier</td>
<td></td>
</tr>
<tr>
<td>Unconditional line</td>
<td>Carrier to broker</td>
<td></td>
</tr>
<tr>
<td>Acceptance of line</td>
<td>Broker to carrier</td>
<td></td>
</tr>
<tr>
<td>Decline line</td>
<td>Broker to carrier</td>
<td></td>
</tr>
<tr>
<td>Sign Down</td>
<td>Broker to carrier</td>
<td></td>
</tr>
<tr>
<td>Issue contractual documentation</td>
<td>Broker to carrier</td>
<td></td>
</tr>
<tr>
<td>Placing closed</td>
<td>Broker to carrier</td>
<td></td>
</tr>
<tr>
<td>Acknowledgement</td>
<td>Carrier to broker</td>
<td></td>
</tr>
<tr>
<td>Acknowledgement</td>
<td>Broker to carrier</td>
<td></td>
</tr>
</tbody>
</table>
What is the future direction?
Business flows
Illustration of domains against business flows

- Reinsurance and Large Commercial Domain
- International
- Property, Casualty, Surety Domain
- Life & Annuity Domain

Tailored to local domestic market

Enterprise transformation Using Standards Framework core components

Agent/local broker

Wholesale

Reinsurance

Domestic Carrier

Reinsurer

Specialist Carrier

Agent/local broker

Reinsurance

Specialist Carrier

Specialist Carrier

Specialist Carrier

Client

Reinsurance and Large Commercial Domain

International

Wholesale

Broker

29th November 2006

Work In Progress

29th November 2006

SLIDE 36
A Non-technical perspective of Infrastructure and Architecture

Gateways, Hubs & Trading Platforms
What, Why, How & Who?
When can we take the technology for granted?
What does ACORD Offer?
What is the future direction?
Conclusion

- **Gateways Hubs Trading Platforms**
  - Essential components for a healthy market
  - Enabling mechanisms
    - Conforming to standards
    - Taken for granted

- **Plumbing that works**
  - Certification with bite

- **Enable Freedom of choice**
  - Within defined business process context

- **Attack the real business issues**
Market Reform Update
Rob Campbell, MRO
ACORD Update
Roy Laker ACORD