

# Lloyd's Insurer case study

Insurance

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## Improved clarity of reporting to meet internal, external and regulatory needs

### Fast facts

#### Client profile

A successful Lloyd's insurer specialising in worldwide property and non-US liability business.

#### Challenge

- They wanted a robust data warehouse to house underwriting and financial data required.
- They needed to fulfil comprehensive requirements for internal, external and statutory reporting.
- Control of information was key so secure and auditable access was critical.
- Empower users to produce both standard and adhoc reports themselves and free up the IT department.

#### Solution

Moore Stephens was selected for its combination of experience in the insurance industry, finance knowledge and data warehouse expertise. We developed a data warehouse which extracts data from a number of source systems including: Nodex, Hedex, Reverence and Inwards with comprehensive reporting and analytics capability.

#### Benefits

- Comprehensive reporting.
- Accurate, well defined and controlled information.
- Ability to analyse data.
- Scalability.
- Flexibility.

### A growing Lloyd's insurer

The client is a successful Lloyd's insurer specialising in worldwide property and non-US liability business. They are a broker oriented business with an excellent track record in underwriting worldwide general commercial lines.

Established in 1999 as an independent Lloyd's managing agency focusing on a single line of business, it has grown its portfolio to include property, property binding authorities, transportation, fine art, general liability, professional indemnity, financial institutions and personal accident. These business segments are split between the Property Division and Liability Division which work together on package products.

In May 2008 they became a member of a group headquartered in Bermuda, an international underwriter of specialty insurance and reinsurance products in the property and casualty market. The group offers a full line of high-quality products and services designed to meet the unique coverage and claims handling needs of businesses in four segments: Excess and Surplus Lines, Commercial Specialty, International Specialty, and Reinsurance.

### Keeping pace with business growth

The insurer has grown very rapidly since it began but its reporting infrastructure has not kept pace with the business and so is not fit for purpose. There was an existing in-house management information system that was built in old technology and whilst it provided a comprehensive suite of standard reports for underwriting and claims, any reporting further on in the business cycle (RI, Reserving, Financials) involved a significant amount of manual effort, often with excel spreadsheets and there were limited controls. This was not only labour intensive, but there was no audit trail which made it extremely difficult to trace back from management reports to the source data and therefore much data had to be rekeyed.

With increased regulatory reporting requirements there was more pressure for quality detailed information and the existing reporting systems were inflexible, relying heavily on the IT department for operation.

They decided they needed to implement a data warehouse and reporting framework to provide high level reporting. The aspirations for this solution included; reduced operational and support costs, greater flexibility of reporting, and reduced reliance on manual data and manual intervention in reporting.

**Warehouse and reporting expertise in the London Insurance Market**

They commissioned an initial study into the development of a data warehouse and reporting system and the results of this study were distributed as an invitation to tender. Moore Stephens pitched against two competitors and won the project due to their credentials. These credentials include significant warehouse and reporting expertise and extensive experience in the London Insurance Market. The project is being run jointly with the in-house IT team.

**Project objectives and requirements**

The Data Warehouse would be the repository for underwriting and financial data and will be the source for management information, regulatory and group reporting.

The key objectives of the project were:

- to design and implement a data warehouse that will accept well defined and controlled data feeds from all source systems;
- to design and implement a reporting infrastructure that will present users with a toolkit for business data analysis including a suite of standard reports;
- to design and implement a mechanism for extracting data for loading into the Group data warehouse;
- to ensure that there is robust and auditable control of the information;
- to allow users to have secure and controlled access; and
- to free up the IT department from producing reports.

In addition, the production of annual accounting figures as well as traditional Lloyd’s reporting needed to be addressed.

A wide range of delivery mechanisms and formats had to be supported, including delivery of results by e-mail, dashboard, and printed or electronic reports.

**Successful operational BI implementation – a phased approach**

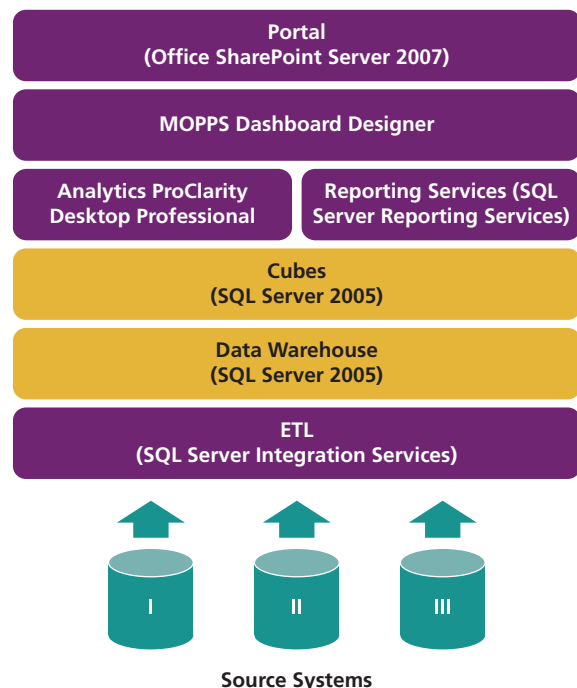
In order for a project of this size to be more manageable and deliver more value, deployment needs to be undertaken in phases.

Initially, Moore Stephens carried out analysis and high level design of the project, producing a detailed functional requirement document and a project plan. The project was then split into three phases, so that outputs from the warehouse could be delivered and adopted by users as early as possible.

Critical to the success of the project was putting together a joint delivery team comprising Moore Stephens and in-house staff. Significant internal resource was particularly needed during phase I, from both the finance department and other areas of the business.

The phases are split into:

- The analysis phase.
- Phase I – Gross Reporting. The Warehouse is developed and is populated with gross risk and claims information. Feeds into the warehouse come from Workbench, Inward Risk and N-Dex (claims) systems;
- Phase II – Re-Insurance, Reserving. The warehouse is populated with Net information from Outward Risk and Elgar. Net reporting including triangles;
- Phase III – Finance & Aggregations. The warehouse will be fully populated and the static reporting suite completed. Finance information from Sun Accounts and / or Oracle and ResQPro will feed in to the warehouse. Statutory and management reporting will also be developed.



### Market leading technology

Microsoft SQL Server is the strategic database platform of choice for the client and all aspects of the data warehouse will be implemented on this market leading technology. It is the platform used by all their applications and therefore there were advantages in maintaining the warehouse on a common platform with the source systems.

The intelligent solution uses a number of Microsoft technologies and therefore was the perfect fit with their existing systems.

All data is extracted from the relevant source systems and in the first instance, loaded into a staging area. This staging area is on a Microsoft SQL Server 2005 platform and contains all source databases in an identical state as the source systems. The databases store the data, which is extracted and processed through the data warehouse. Following successful validation of the data it will be imported into the warehouse. The philosophy underpinning the warehouse design is to load as much information as possible. It is at this stage, preceding the load, that any data cleansing might be implemented; however any changing of data can impact the ultimate ability to reconcile the data.

Microsoft SQL Server Integration Services (SSIS) is used to consolidate all the data and the data warehouse is the repository for the data used in all reports, KPIs and cubes. Due to the complex and disparate nature of the data, an operational data store layer is being used within the warehouse architecture. This provides enhanced audit trails and further flexibility for reporting and maintenance of the data.

The data will be stored in a series of data silos appropriate to the type of data being stored. These silos will contain month controlled snapshots of data entities and, as far as practicable, transactions or movements on financial columns. For example, it is anticipated that the inwards risk model would have a policy record table, with all attributes of the policy including decoded values and the latest EPI value; one or more policy split tables to support allocation across different code sets; and a transaction table which would have financial movements for each change in financial value on the risk.

SQL Server Analysis Services provides the OLAP data cubes for multidimensional analysis. The cubes sit on top of the data warehouse and provide views of the data.

The warehouse smoothly integrates with Microsoft SharePoint for the delivery of data through intranet, extranet or internet portals.

The control infrastructure will utilise Microsoft SSIS for the management and manipulation of data from the source systems, through the staging area and into the warehouse. The in-house IT team were already skilled in the Microsoft database platform and technologies such as SSIS and Transact-SQL.

To ensure the data warehouse has been successfully developed, reconciliations will be run, alongside re-running existing detailed reports.

The platform will support the future introduction of key strategic technologies and the incorporation of more data sources, to broaden the ability of the warehouse to meet the group's reporting requirements. Systems such as Excel, Access etc can be used against the data.

### Real time reporting

Data loads on a daily basis, providing an accurate and up-to-date view of the business.

Reports are run against individual data silos in a variety of ways. By enquiry directly against the loaded tables or views on the tables, against combinations of data from different silos, against typically presented views and against pre-processed result sets, according to the range of data and complexity of manipulation required by the report in question. The result tables are designed specifically for ease of reporting.

Exception reporting occurs on a daily basis and is instrumental for improving data quality.

A key requirement for all users was that the concept of closed months was implemented in the warehouse. It is essential that data cannot change within a month once that month has been closed.

### Delivering timely solutions

Working to tight deadlines is a common occurrence when working on business critical solutions and Moore Stephens Consulting always steps up to the challenge. Working with the in-house team, the initial analysis and planning stage took approx one month to complete. Followed by Phase 1 which took around five months to develop, test and implement.

Phases II and III, and therefore the fully populated warehouse was implemented in a further four to five months. Bringing the total time spent on a complex project to just under twelve months.

## Features of the Data Warehouse

Key features of the data warehouse are:

- **Comprehensive** – holds data at a granular level;
- **Accurate** – all data in the warehouse will have been thoroughly validated in a staging area;
- **Controlled** – any changes to the warehouse can only be made in an audited contra/replace operation;
- **Structured** to provide well-documented and easy to understand views of the data to facilitate data analysis;
- Provide a suite of standard reports to satisfy known reporting requirements;
- Easily extensible for additional data feeds, and data extracts;
- Provide analytics; and
- Single source for data.

## Business value

The efficient delivery of information to key individuals within the business provides savings in both time and resources. Added to which the enhanced reporting capability facilitates compliance with the ever increasing regulatory requirements.

Further business value achieved by implementing the data warehouse is:

- **Automation** – the incorporation of manually sourced data into the warehouse will reduce the reliance on manually produced reports, reduce the effort in reworking reports and ensure consistency of data across reports. The dependency on key personnel in operating the warehouse and producing reports will be reduced;
- **Flexibility** – the same set of data can be viewed in different ways and at different levels by different groups of users cutting the need to rely on individuals to produce reports. The result is that individuals can become more self sufficient and empower themselves to produce their own reports on a proven, consistent and clearly defined set of data;
- **Auditability** – provide long term transparency between source and target data by recording audit logs about activities performed, the time taken, the person responsible for invoking the process and whether the process was successful or not;
- **Reconciliation** – the use of reconciliation processes as an integral part of the data load will enable problems to be spotted quickly and help to build a degree of trust in the data within the warehouse;

- **Comprehensive and Atomic Data Storage** – data will be stored at the lowest level that it is possible to capture. This provides maximum flexibility both in terms of meeting future reporting requirements and for drill down and ‘slicing and dicing’ within the downstream reporting and analysis processes;
- **Scalability** – the data warehouse will ensure data availability and reliability. A well designed warehouse will ensure efficient response to simultaneous reporting requests.

## About Moore Stephens Consulting

Moore Stephens are data management specialists with an unmatched depth of knowledge of the general insurance sector. We speak and understand insurance; and so we are uniquely positioned to respond to all the issues affecting your business. If you believe – as we trust you do – that data is a critical asset for your business, we can help you unlock its full potential. Our track record speaks for itself. We have consistently delivered market leading solutions, enhancing our clients’ business performance and empowering them to make better informed decisions about their future direction.

As you’d expect, our own people are highly qualified and technically second to none. They use proven technology and business intelligence systems to interpret your data, but also apply their unique creative skills to build the powerful and distinctive applications you need. And, as part of Moore Stephens, we can draw on the insight and experience of over 1,500 partners and staff in the UK, and an international network across 98 countries with over 20,000 people, including specialists in all major business functions.



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