



## Patricia Seybold Group

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# Standard Life

Creating the Infrastructure to Take  
Advantage of Changing Business  
Conditions

*By David S. Marshak  
November 2001*

*Prepared for IBM Corporation*

# Standard Life

## *Creating the Infrastructure to Take Advantage of Changing Business Conditions*

*By David S. Marshak, Patricia Seybold Group  
Prepared for IBM*

### **Executive Summary**

Standard Life of the U.K. is a 176-year-old company that is vaulting itself into the 21<sup>st</sup> century by creating an advanced e-business infrastructure that will provide significant benefits to its customers, resellers (Independent Financial Advisers—IFAs), and itself.

This began several years ago, when Standard Life decided to enhance its existing infrastructure and systems to enable new sets of applications (many of which are e-business applications) and provide lower costs (which could then be passed on to the IFAs and customers).

Standard Life then spent almost two years researching the optimal architecture and supplier for this infrastructure. The key decision was to design a hub-and-spoke, standards-based (XML and Java) approach, which would be built on IBM MQSeries, WebSphere, and VisualAge for Java.

The infrastructure is now live and solid, and is the basis for over a dozen business-critical applications that benefit both the end customers and IFAs. It is highly integrated with internal and external applications. Most notable is the seamless XML-based integration with financial portals that allow IFAs to transact business across financial providers from a single point.

Standard Life is already achieving significant results. Some are technical, such as the increased flexibility of deploying development resources that the common infrastructure has enabled. Others are more business-oriented, such as the faster time-to-market for new applications and the increasing positive perception of Standard Life as a technically-leading partner for the IFAs. Most importantly, Standard Life is now in a position to continue to evolve its business to meet the increasingly complex business environment of the 21<sup>st</sup> century.

<b>Standard Life's Solution at a Glance</b>	
<b>Core Functionality</b>	An advanced standards-based (Java, XML), hub-and-spoke e-business architecture supporting internally and externally integrated e-business applications.
<b>Software</b>	WebSphere Application Server, Advanced Edition MQSeries MQSeries Integrator VisualAge for Java DB2 Universal Database IMS CICS Lotus Domino Tivoli
<b>Servers</b>	RS/6000 S/390
<b>Services</b>	IBM Global Services providing additional development resource
<b>Benefits</b>	Faster time-to-market for new applications Lower costs for development and deployment of new applications Recognition as a technology leader for IFA partners

***Business Context: A 19<sup>th</sup> Century Company Addresses 21<sup>st</sup> Century Business Imperatives***

**Background**

Standard Life is one of the world's leading mutual financial services companies. Based in Edinburgh, Scotland, with over 175 years of service to its customers, Standard Life is now the largest mutual life assurance company in Europe with over 4 million customers and over £75 billion in assets under management at November 15, 2001. The company has been awarded a Triple A rating by two leading international rating-for-financial-strength agencies—Standard & Poor's and Moody's—and was recently voted the top company in the U.K. by the top 1,000 financial agents for the fifth year in a row.

**EXPANDING THE OFFER.** For most of its existence, Standard Life has focused on delivering a set of life, pension, and annuity products. Over the past few years, the Standard Life group has expanded its offering to new areas, including investments, banking, and health-care. In the U.K., the Standard Life group consists of

four operating companies, each of which operates independently within the Group structure:

- Standard Life Assurance Company (or Standard Life U.K.) provides the traditional life, pension, and annuity products.
- Standard Life Investments provides investment and property products for corporate and retail markets.
- Standard Life Bank offers business and personal savings accounts and a range of mortgage products.
- Standard Life Healthcare offers health insurance products.

Standard Life has a single IS division that supplies development and operational services across all the U.K. operating companies.

**SELLING THROUGH INDEPENDENT FINANCIAL ADVISORS.** Historically, a significant proportion of financial services have been purchased in the U.K. through networks of Independent Financial Advisors

(IFAs). According to Ian Muir, Standard Life Core Technology Design manager, around 90 percent of Standard Life's business is introduced by that source.

Standard Life has and maintains a strategy of strengthening the financial services relationship between the customer and the IFA—with no interest in bypassing the IFA. The company will approach a financial adviser's customer only with the express wishes of the customer and the IFA's knowledge, and it will not target IFA customers without the IFA's approval.

In fact, Standard Life seeks to differentiate itself on how well it enables IFAs to create strong value propositions for their customers and on how well it services both IFAs and end customers.

### New Challenges Lead to New Opportunities

Standard Life is facing new challenges as it enters the 21<sup>st</sup> century and nears its third century in business. The increasing speed and complexity of business, coupled with rising customer expectations (in terms of access, information, and service) challenge any business. Add to this the large impact of government regulations in parts of the U.K. financial services industry, and it is clear that action must be taken.

**REDUCE COSTS.** This has led to the first challenge—lowering costs. Certainly all businesses would like to lower costs and contribute to their bottom lines. For Standard Life, lowering costs has additional competitive and revenue implications. Lowering Standard Life's cost of doing business can enable IFAs to lower their costs and/or work with their margins to better run their own businesses. This can lead to more competitive, profitable, and loyal (to Standard Life) IFA business.

Alan Armitage, former assistant general manager of Information Systems and now Senior Vice-President, Information Technology at Standard Life Canada, explains, "The current environment within U.K. financial services will be dominated by volume players. Products are becoming more transparent, easier to get, lower

margin. What we are finding is our distribution channels are demanding an e-business strategy. We need to demonstrate that they and their customers can deal with our e-commerce to write and administer business at a high volume and lower cost. A lot of efforts are aimed towards the IFAs. This has been IFA-driven. It is fundamental—a success factor in IFAs choosing to do business with us, especially for group pension business."

Armitage goes on to state, "Our business objective is to create efficiency to enable the same high level of services and products to be delivered at lower costs. This can be done by streamlining business processes—both by making our internal processes simpler and by passing some of the processes directly to the customer and IFA—e.g., self-administration, contribution collection (direct from the employer)."

In addition to these factors, new U.K. government regulations have capped the charge—in some areas—to 1 percent of the funds under management; the market used to bear almost dou-

ble that. For a company such as Standard Life, using technology and enabling customers to use technology is a significant part of being able to remain in the game given these constraints.

**ADDRESS A COMPLEX MARKETPLACE.** A second challenge is the increasing complexity of the financial marketplace in the U.K. This is not only a result of the indirect customer relationships that a company such as Standard Life has by working through IFAs, it is also due to the various ways that aggregators or competitors may come together to offer new combinations of services to agents or customers. Garry Morrison, former head of E-Commerce Development for Standard Life and now a Director in Standard Life U.K. Customer Service division, comments, "One of the facets of the U.K. financial industry is that, in certain areas, product providers work together. A good example would be the (industry-sponsored) portals that enable an IFA to get multiple price comparisons for a client with a single request. Aggregation could become another example—

*Standard Life seeks to differentiate itself on how well it enables IFAs to create strong value propositions for their customers and on how well it services both IFAs and end customers.*

allowing an IFA to get all of the customer's holdings in a single view. So, where it makes sense, we collaborate with other product providers, and, of course, we compete in areas such as product terms, investment performance, financial stability, service and support."

**BETTER CUSTOMER SERVICE.** The new opportunities are also significant. More and more customers can be better serviced (as well as serviced at a lower cost) online, and many now prefer doing at least some of their business that way. According to Morrison, "Standard Life sees the opportunity to differentiate itself to both brokers and end customers by providing the best online experience. Of course, this mirrors Standard Life's values of quality and service."

**NEW METHODS OF INTERACTION.** Emerging technology provides the opportunity for Standard Life to engage in more multi-channel delivery and to deliver on the promise of a single brand across multiple products and channels.

### Meeting the Challenges and Opportunities

Against this background, Standard Life has found itself needing to address key infrastructure and business issues simultaneously. These needs set off a process that would take two-and-a-half years and would lead to significant benefits to Standard Life, its IFAs, and their customers.

### *The e-business Initiative*

#### Creating a Common e-business Infrastructure

In 1998, Standard Life embarked on a strategy to create a next-generation technical infrastructure that would support its e-commerce and other major business initiatives of the 21<sup>st</sup> century.

According to Muir, the key drivers were:

- Addressing an aging existing infrastructure

- Providing cost reduction for the core businesses as the company faced increasing competitive pressures and new government regulations
- Supporting the online needs of customers, IFAs, and Standard Life, including maintaining and improving the quality of service and providing a consistent cross-channel experience
- Enabling new applications and new channels of delivery to be deployed quickly as new business needs arose
- Establishing an online brand to protect against new entries

*Standard Life has found itself needing to address key infrastructure and business issues simultaneously.*

### Selecting the Solution

From June 1998 until December 1999, Standard Life conducted extensive evaluations of candidate vendors for its core e-business infrastructure. This process included working with the candidates on architectures,

migration strategies, and pilot projects. In addition, a series of customer visits was arranged which would prove critical to the final decision.

**ARCHITECTURAL CONSIDERATIONS.** A key, although not exclusive, consideration was how the new infrastructure would fit with Standard Life's existing technical direction. Key elements included:

- Majority of application data stored on IMS or DB2
- Standardized NT on desktop
- IBM Tivoli for Systems Management
- Novell NetWare network operating system of choice
- Lotus Domino for knowledge management and e-mail
- IBM MQSeries for application-to-application connectivity
- Oracle-preferred midrange DBMS

- COBOL for mainframe business logic

**CHOICES FOR THE FUTURE.** At the same time, Standard Life was making key architectural choices upon which to build its future infrastructure. The most important factors were:

- Hub-and-spoke architecture—to put a lot of intelligence in the hub and, at the spokes, put application servers that carry out specific application services. New packaged software would communicate with the hub using messaging protocols.
- XML—to enable internal and external communications with other systems.
- Java—to provide a single application development and deployment paradigm across multiple platforms.

According to Muir, these decisions were made to address the challenges of keeping the applications independent, loosely coupled, but able to be well integrated. “We needed to maintain independence of underlying infrastructure, allowing us to change the infrastructure without rewriting the applications.”

Interestingly, these decisions, which today are being validated as almost “mainstream,” were leading edge in 1996 and were hotly debated at the time.

**SELECTING THE KEY PARTNER.** The leading candidates quickly emerged: initially, Microsoft and IBM, with Oracle entering the picture in April 1999. From mid-1998 to mid-1999, Standard Life piloted and evaluated competitive products such as Microsoft MTS and IBM Component Broker. This involved a series of technical meetings between the contenders and Standard Life IS groups.

Critical to the final decision was a set of onsite visits and teleconferences that Standard Life had with U.S.-based customers of the contenders. Muir notes, “Site visits were fundamental to our decision-making.” Standard Life needed to be confident that IT divisions in other large companies were advocating our architecture choice.

*“IBM’s commitment to Java and MQSeries made us feel safe in our choice.”*

According to Muir, the “most impressive was Chase Manhattan Bank, which has millions of messages per day flowing through its Global Technology Architecture. Chase’s architecture appeared to be the forerunner of components IBM was putting into MQSeries and MQSI.” [Note: MQSI or MQSeries Integrator is IBM’s information broker, which includes a one-to-many connectivity model plus transformation, intelligent routing, and information flow modeling across multiple disparate business systems.]

Ironically, other vendor references proved beneficial for IBM, with heavy use of MQSeries being critical to their infrastructures.

**IBM IS THE CHOICE.** In August 1999, Standard Life made its choice: the MQSeries-based hub-and-spoke approach proposed by IBM. According to Muir, a number of key factors caused Standard Life to choose IBM:

- **Existing Relationship with IBM.** “We are a typical IBM mainframe customer and the majority of our core data resides on the mainframe—combination of IMS and DB2—and we were not going to move it.”
- **Architectural Safe Bet.** “IBM’s commitment to Java and MQSeries made us feel safe in our choice. We already had significant in-house experience with MQSeries, which was favorable.”
- **Operations.** “Operationally, we were looking for platform portability—thus Java. AIX was our preferred midrange operating system.”
- **Development Environment.** “Java was a good choice for portability. VisualAge for Java was compared with other Java tools and came out tops in our developers’ review criteria, even without the additional criterion of fit with other IBM products.”
- **IBM’s Knowledge and Experience.** “IBM’s experiences with large financial companies convinced us that IBM was the safer route.”

**PRODUCT SELECTION.** Three key products were selected as the platform for Standard Life's e-business initiatives. The products and the reasons for selection are:

*IBM WebSphere Application Server, Advanced Edition V.3.0* (for Web Server and Application Server)

- Support for Java components (EJBs)
- Multi-platform
- Major investment by IBM
- Built on open standards
- Uses industry-leading Web server

*IBM MQSeries Integrator V.1.1* (for Hub)

- Based on MQSeries
- Provided routing and translation rules
- Proven scalability/performance

*IBM VisualAge for Java V.3.0* (for off-mainframe development)

- Industry-strength programming language
- Preferred by Standard Life developers
- Portability (NT in test, AIX in production)
- Good development environment

According to Armitage, "a key factor was that IBM could demonstrate that they were committed to this product set. There have been occasions in the past where we have chosen products that had a limited user base, and the supplier had a limited research and development budget for the product. This clearly wasn't the case for MQSeries and WebSphere."

### **Coming to Grips with e-business across Multiple Businesses**

At the same time that the infrastructure evaluations were being made, a separate unit, under the direction of Morrison, was formed to come to grips with all of the various e-business initiatives across all of the operating companies. According to Morrison, this unit, which is "not a technical group but rather a business application group," has three main objectives:

- To make sure that standards were consistent in areas such as security and registration

- To create a vision of how people will use technology in the future and feed our ideas back into the business
- To raise internal and external awareness of what Standard Life is doing in e-business

Morrison stresses, "Each of the operating companies has its own e-business strategy. This is because the customers of each are at different points in their needs and desires for interacting with Standard Life."

For example, although the customers of Standard Life Bank are quite comfortable buying products and services online, the traditional Standard Life pension customer does not want to transact online. Most of these customers want face-to-face advice for transactions, while, at the same time, being able to go online to get account information and service.

Thus, each operational unit is charged with prioritizing development by each of their markets and consumer behavior. The key question for each is, "What do customers expect to be able to do?"

Morrison emphasizes, "The ability to rapidly develop and reuse applications across the businesses increases our ability to react to changes in consumer behavior and expectations."

### **The Standard Life Architecture**

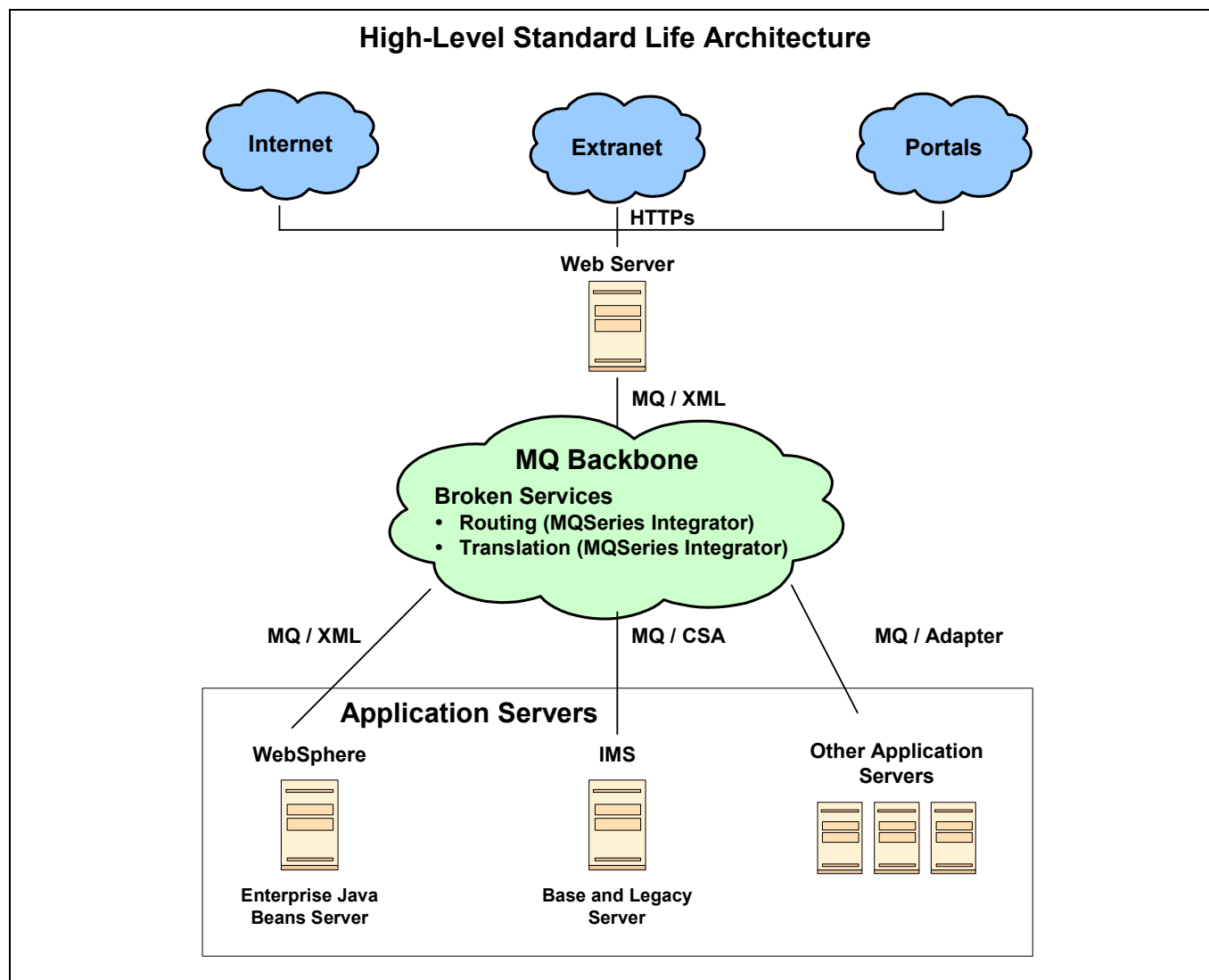
Matching Standard Life's vision for the future, the three key elements of the company's new architecture are:

- Hub and spoke
- XML
- Java

#### **Hub and Spoke**

Standard Life's hub-and-spoke architecture is designed to put the intelligence in the hub while enabling new applications to quickly come online and be easily integrated at the spokes. (See Illustration 1.) The hub is actually an MQSeries network that routes and transforms information as needed with MQSeries Integrator V.2.0.1.

The architecture enables the ability to plug in any Java application server as long as MQSeries API or a bridge



*Illustration 1. A high-level view of the Standard Life hub-and-spoke architecture. Key elements include Java, XML, and MQSeries Integrator.*

to other protocols (such as Microsoft's Message Queuing or Oracle's Advanced Queuing) is supported. This means the application server choice is not restricted to a specific vendor, a level of flexibility that Standard Life deems a distinct advantage. At the same time, even though the new architecture allows a wide choice of application servers, Standard Life has decided on IBM WebSphere for the majority of core applications.

The hub-and-spoke architecture provides several advantages, such as providing a central point for application and system management statistics, message warehous-

ing, and simple workflow. The key benefit is enabling Standard Life to create new applications or modify current applications without large-scale regression testing.

According to Muir, "The hub becomes an integral part of our applications. The hub needs to be as well managed as our other core applications, such as DB2 and IMS." Muir firmly believes that, as developers start considering what goes on in the hub as part of their applications, there will be tremendous benefits. "It will become something we exhibit core competence in."



## XML

XML plays two major roles in the Standard Life application topology. First, it is the prime method for communications between Standard Life's internal applications. As Muir puts it, "All messages flying through the hub are XML until they are transformed for the mainframe." All new services under the new architecture interface via XML.

Perhaps even more important is the role of XML in external integration. There are several financial marketplaces within which Standard Life is a key player, and these are being integrated via XML. Muir specifically points to the U.K. standards body ORIGO (equivalent of ACORD) for life and pensions, investment bonds, etc., which is funded by the U.K. life and pensions industry. ORIGO has as one of its goals to promote the use of e-business within the life and pensions industry in the U.K. It is the custodian and facilitator for the XML standards for any marketplace model. Muir notes, "We are constantly addressing new business processes, and this is continuing to evolve across product lines, customer service functions, and in keeping with XML directions. The evolution of XML and supporting technology, e.g., Web Services, is a challenge in itself. To ensure we stay on top of this, Standard Life continues to work closely with ORIGO and has also established an XML Forum within the IS division."

*According to Ian Muir,  
"IBM's commitment to Java was  
an important decision factor."*

## Java

From the beginning of the initiative, Standard Life knew that Java would play a significant role in its evolving architecture. Java actually plays several key roles. It is the choice for application server because of its portability and the number of product suppliers that support Java. To leverage existing internal skills, Enterprise Java Beans (EJB) is the preferred programming model, and Java is a preferred programming language. Muir comments, "We are committed to Java because:

"1) Platform portability is a requirement for us. We use NT in unit and integration testing. System testing, maintenance, and production environments are AIX. We do not use Java on S/390 but it is good to know that this

option is available to us should we want to use that platform.

"2) Our experience with Java to date has been good for the most part. Consumer pressure is also forcing all application vendors to be truly J2EE compliant, and I am pleased this is happening. This would be much more difficult if there were no competing products. Although not an issue for us at present, it is good to know we could run our code on other Java Web application servers.

"3) We were early Java adopters and had a good skills base.

"4) EJB is one of many technologies we use on application servers. We have avoided heavy volumes of EJBs to date in our applications, although they are present in nearly all of them. The Java framework we have developed in house avoids the majority of our development programmers needing to know about EJBs. The framework provides an abstraction that means programmers are tasked with writing business logic and transformation of XML logic."

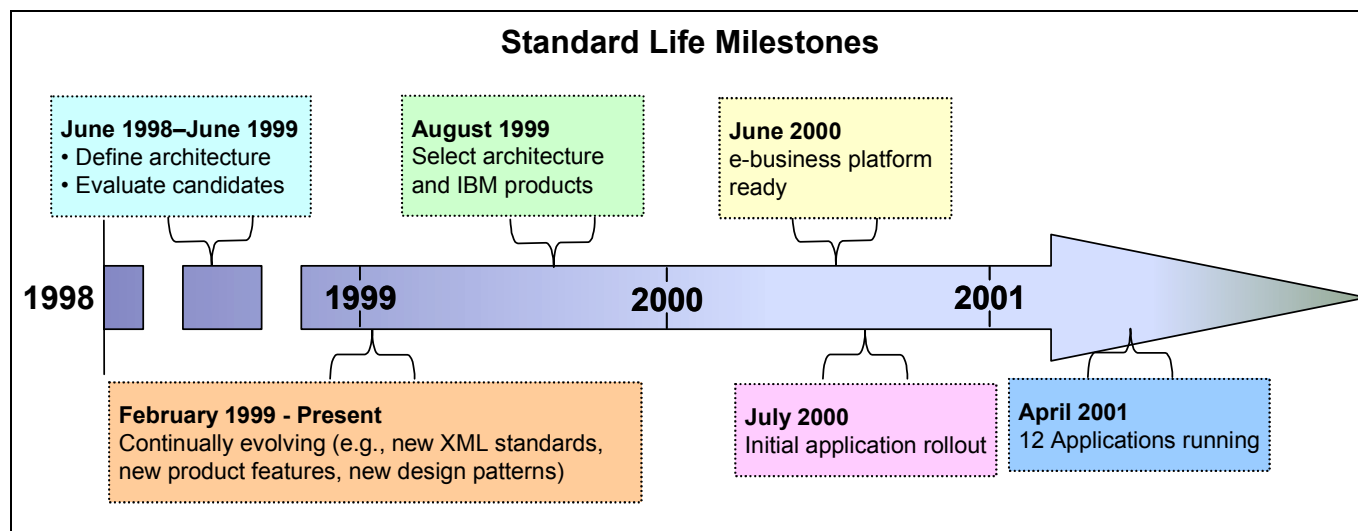
According to Muir, "IBM's commitment to Java was an important decision factor."

## *Building e-business Applications*

### Getting Ready

The Standard Life IS division quickly began to create a set of standards and common practices that would enable the best use of the new infrastructure and turn it into a business-services architecture. They initially established two teams within the core technical group: one to address the enterprise Java infrastructure and the second to address the messaging infrastructure. These teams created standards for WebSphere and MQSeries Integrator, respectively.

Each team was charged with establishing a framework of reusable components that would hide the complexity from the development teams (generally eight or nine developers). It was then left for each of the project teams to use this code base and build the applications.



*Illustration 2. The e-business environment at Standard Life has progressed to a specific set of stages.*

There were many iterations of continuous improvement. Enhancements were created by the development teams, and these would be put in later releases of the framework.

According to Muir, “More recently, we established a set of Internet Development Standards that are used across the U.K. operating companies for all Internet applications we develop. These consist of reusable assets that provide common features for look and feel, error handling, navigation, controls, fonts, etc.” Muir calls this “a great success by a number of measures” that include:

- Acceptance of the standards across all U.K. operating companies
- Direction provided to business and IS staff alike in prototyping new applications
- Reusable software provided to development teams in form of style sheets, JavaScript, and Java framework

Standard Life also invested significantly in training developers to use the new framework. Spending to-date on training across the IT division on the new skills (Java, MQSI, WebSphere) has been significant. According to Muir, “We put together a whole training program for developers with IBM training services, who worked closely with our own IS training team to put these together, which was an enormous challenge.”

Muir goes on, “Over the first two years, we also used IBM Global Services to supplement the skills of these teams and create on-the-job skills transfer, the idea being that, over time, the necessity for IBM resources would decline, and we would become self-sufficient. This has proved to be a very successful approach; our training approach is now on a business-as-usual footing, being sourced through our preferred suppliers”

At this point, Standard Life is using IBM VisualAge for Java V.3.0 for all off-mainframe development and has over 140 VisualAge for Java developers.

### Working in Parallel

Once the architecture was in place (see Illustration 2 for timeline), Standard Life had the option to build a single showcase application. However, Muir explains, “We made the decision not to use a single proof of concept. All new e-commerce projects were required to use this architecture. At any point in time, we had 10 e-commerce projects running in parallel using the new architecture and framework. This continues to be the case, and we are constantly looking at ways to further evolve the applications we have and build new ones that complement our business plans.”

The initial projects were aimed at several key areas:

- Making it easier for end customers to interact with Standard Life
- Supporting the IFA's business processes
- Integrating with IFA financial portals and marketplaces

**MAKING IT EASIER FOR END CUSTOMERS TO INTERACT WITH STANDARD LIFE.** Standard Life has rolled out several applications aimed at improving its quality of service to both individual and corporate customers. These applications include:

- Information application for pension products
- Processing of electronic enrollment of company pensions
- Insight, an application for individual customers that includes online servicing, buying, and selling of mutual funds
- Online mortgage applications (up to verbal agreement)
- Customer Internet Access

**SUPPORTING THE IFA'S BUSINESS PROCESSES.** With its focus on improving the productivity and profitability of its IFA's, Standard Life has implemented the following online applications:

- Commission services
- Quotations
- Client and policy servicing
- Group Scheme servicing
- e-Joiners, for group new business

This is all done via a secure IFA extranet. (See Illustration 3.)

**INTEGRATING WITH IFA FINANCIAL PORTALS AND MARKETPLACES.** Using the new architecture,

Standard Life has implemented support for a number of new IFA portals and marketplaces such as Misys, AssureWeb and IFA Engine, as well as an existing IFA portal, The Exchange, which already supplied industry quotation services via private dial-up network is moving its services on to the Internet (see Illustrations 4 and 5).

With this integration, an IFA, while talking to his customer, can go to a single site and request quotes from multiple financial institutions. The quotes come back directly from the providers, such as Standard Life, in real time, to be discussed with the customer. From the advisor's point of view, the branded experience is that of the portal, while the products are clearly branded as Standard Life. From the customer point of view, the agent is able to provide a unique service as well as a broad choice of financial products.

While the IFA portals provide direct integration with Standard Life for some functions, it is not yet as rich as the IFA extranet. According to Muir, "The initial focus has been to provide quotation services and product information to the IFA portals that assist IFAs in making the correct product selection for their customers. For certain products, IFAs can also submit new business requests as XML messages to Standard Life. This will be extended to other Standard Life U.K. products in the coming months."

He goes on, "IFAs typically want access to a range of services from product providers from one place, i.e. their own desktop client management software or an IFA portal site. However, there are additional services that are offered to the IFA through the Standard Life IFA extranet site, such as Client and Policy Servicing, Commission, financial calculators, and new business for Group products. At present the IFA portals can link to the Standard Life IFA extranet to use these extra services and over time some of these services, such as client and policy servicing are likely to appear in the IFA portal Web sites, using industry standard XML messages. However, Standard Life can still differentiate itself by developing extra value added services for the IFA on its own IFA extranet."

## Standard Life IFA Extranet

choose a zone | contact us | plug-ins | help |

### Welcome to the if@zone

This site pulls together information from a number of zones such as Standard Life Bank, Life and Pension, Standard Life Healthcare and Standard Life Investments. If you require any further information on a particular product, service, stationery or tool, then click on the relevant icon below OR select "Choose a zone" from the top menu to visit that specific zone.

**STANDARD LIFE BANK®**

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- Investment Views
- Investment Bulletins

#### Latest News

**Direct Marketing Offer**

Standard Life is pleased to announce the launch of a new direct marketing initiative - The Marketing Campaign Calendar.

Find...

[more](#)

**e-joiners**

In July Standard Life launched e-joiners.

This service allows you to electronically join individuals to SRPOne, SPLE, Group...

[more](#)

**New look for Commission service**

The Commission service within On-line Services has been redesigned. This is to make it easier for users to find their way about...

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#### Terms of Business

Since our current IFA Terms of Business were introduced in 1997 our respective businesses and the financial services industry in general have evolved considerably. Additionally, as you will be aware, with effect from 1 December 2001 the Financial Services Authority ("FSA") will officially become the single regulator for the financial services industry in the United Kingdom.

We believe the timing is now right to revise our Terms of Business. The new Terms will take effect from 1 December 2001.

It is important to emphasise that the substance of our Terms has not been greatly altered. The result, we hope, is a clearer and more complete record of how we can conduct business with each other.

[Click here to view and print the Terms of Business](#)

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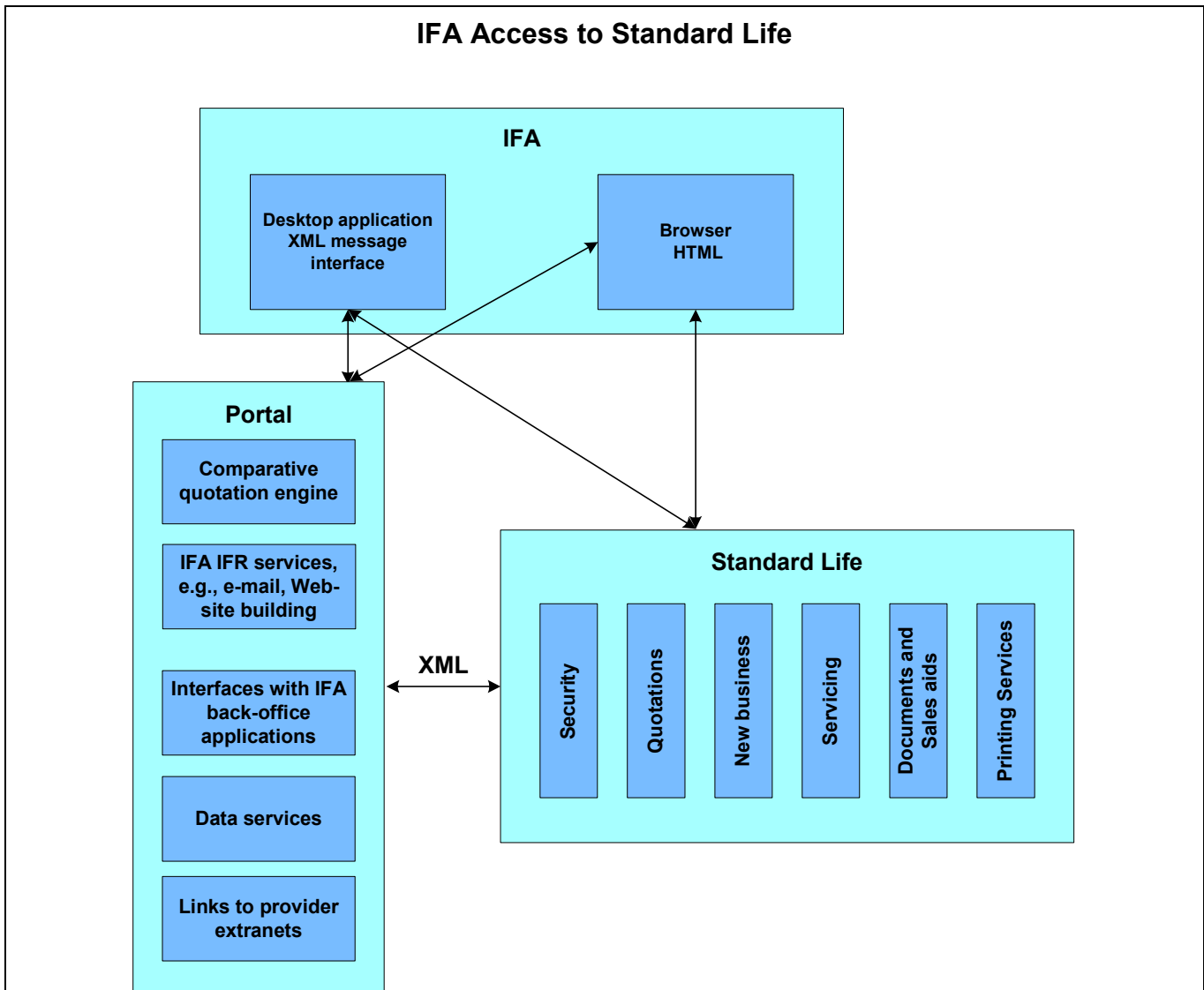
Illustration 3. Standard Life's extranet provides IFAs with access to tools, products, pricing, and real-time services.

### Results: Getting a Bang for the Buck

Standard Life has established a single corporate architecture on a stable operational environment that supports new and emerging business opportunities. Today there are over a dozen critical applications running on an e-business platform that others might consider a future vision. These applications significantly impact how Standard Life does business and how it is viewed by its customers and IFAs.

Armitage points out the significance of this. "Within the IFA community, there are more emerging portals and aggregators. The new infrastructure allows us to deploy applications to these new channels without fundamentally rewriting them. The speed to market will be very quick for new channels, aggregators, and media."

Internally, the new approach has been accepted by all the operating companies, and it has distinctly and positively impacted the central IT culture.



*Illustration 4. Independent financial advisers can access Standard Life services directly via the Standard Life extranet and via industry portals. The XML integration provides a seamless experience in both cases.*

In terms of reaching specific goals, Standard Life's initial results have been quite promising in both the IT and business arenas.

### IT Results

IT is seeing major savings in resource planning and allocation. The common infrastructure has enabled the development of a consistency of skills across all development teams. This has led to greater flexibility—teams can move between lines of business as conditions dic-

tate. This has also led to shared learning and continuous improvement.

Actual time-savings numbers are not yet available. Morrison notes, "We are definitely seeing improved speed to market—directly attributable to the new architecture and the way we are designing the applications." To which Muir adds, "We have not had results of measuring. When we started using this architecture and building the applications, it was the first time for the majority of people. There is a definite feeling that we

## An IFA's View of AssureWeb

The screenshot shows the AssureWeb Quotes website. The navigation menu on the left includes links for Home, Reception, News, Mail, Trading, and Library. The main content area is titled "AssureWeb Quotes" and contains the following text:

Over the last year we have seen the popularity of our quotations services increase considerably, with usage of our comparative term and critical illness increase by 62%! Using our services, you can now obtain quotations on over 100 products from 21 providers.

As part of our ongoing commitment to our users, we are currently working on three new comparison services: Bonds, Annuities and Pensions and will bring you news of launch dates and service features over the coming months.

Enter the service of your choice by clicking on the links below. We advise that you read through the user guide before starting your quotation.

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Most of our downloads are provided as ZIP files and you will need WinZip to uncompress them.

Many of the documents in the AssureWeb Trading Platform are PDF files and require you to have Adobe Acrobat Reader installed.

Illustration 5. The integration of companies such as Standard Life allows portals such as AssureWeb to offer the IFA the ability to receive quotes from multiple financial providers in a single action.

are getting better and more consistent at building the applications along with the recognition that there are far more factors to consider and build for—particularly quality of service requirements—when delivering applications to your customers as well as your staff.”

Armitage also points to the “major improvement in our systems management capabilities, including performance monitoring, knowing what is running where, and scalability.”

On the cultural side, Muir points to the effects on the development teams themselves, observing “greater confidence within the teams.” Armitage echoes, “My staff enjoy using the VisualAge for Java tools. They enjoy writing to a standard design where they can focus on

logic rather than system components. They can focus on the business areas.”

He adds, “Productivity in terms of the use of the products, development tools, and standard approach has been very good; there has been evidence of improvement.”

Armitage notes that this is far from being completed. “Reusability at the moment has been limited. For a number of years, we’ve had a mainframe structure from which we’ve developed reusable services, objects, and components. We are still in development on the new architecture, so we are still building these. Over the coming months, we will be evaluating what and whether we want to reuse in our applications.”

## Business Results

Standard Life is very pleased at how the e-business initiative is impacting its business. According to Muir, “Online transactions are growing steadily, particularly for the applications offered to individual customers of Standard Life U.K., Standard Life Investments, and Standard Life Bank.”

“Cost reduction in the pensions business arena, in particular, is driven by the need to operate efficiently in the 1 percent world. In order to do that, we have simplified many of our products, which, in turn, helps us simplify our processes and allows us to utilize e-commerce to provide straight-through processing and self-service facilities. In IT terms, we have made significant investment to establish an infrastructure that can meet known business requirements and grow as required rather than needing to be replaced (and all that would ensue) as new requirements emerge.”

In addition, Muir points out the value of being perceived as an e-business leader by both the IFA and end-customer communities. “Our capabilities are viewed as a differentiator in distribution channels’ decisions on doing business with us. Commitment to XML standards is also a key factor. And, when we pitch corporate business, our capabilities are also an important decision factor.” He concludes, “IT now materially and directly affects our brand.” At the same time, he notes, “To sell more business we need to show we have the e-business capability. But it doesn’t necessarily mean it will be used. In the IFA market, use of e-business offerings is still at a lower volume than we would like to see, given our investment. Initiatives are underway within Standard Life and the industry to further promote the use of online applications Working with IFA portals and companies that provide software to IFAs will be key in growing the usage figures.”

## Challenges

In order to achieve these results, Standard Life had to overcome several difficult challenges. These include:

- Obtaining commitment to a new and, at the time, leading-edge hub-and-spoke architecture

- Achieving consistency of design across parallel developments
- Keeping up with evolution of standards such as XML

In addition, Standard Life has faced the challenges inherent in any initiative as large and strategic as this one. Muir cautions, “It’s not all sweetness and light, and there is a “hard work” reality to this. The operations staff, particularly, had to cope in a demanding environment where the maturity of the software for systems management features and training was left wanting in some areas.”

Many of the challenges faced by the operational staff resulted from the very newness of the environment being deployed. Muir continues, “We (operations) were in a fairly constant state of catch-up. Applications were being developed by the development teams, and knowledge was being gained far in advance of the operations teams who were trying to build the infrastructure and systems management processes.

In addition, certain product development capabilities far outstripped their operational capabilities. The Java environment is a good example of this where a mature development function existed with less mature systems management function. In an attempt to redress this we created a Technical Services Middleware team within the IS Operations structure. This has been successful, and we can now say that we have a greater base of knowledge across the MQSeries and WebSphere family technologies, and have key processes in place.”

According to Muir, one of the major lessons is, “Do not underestimate or neglect the investment in developing management processes for this technology.”

However, Muir notes, “The *Catch 22* situation is you either go for it and take some pain (learning curve, etc) and aim to get the business rewards, or you wait and see how your business is affected. We have gone for the former, and our financial strength let us make this decision.”

Despite these trials, Muir is upbeat, “The operational skills set around the IBM products is now firmly established, and we are well placed looking ahead. And the

*“The operational skills set around the IBM products is now firmly established, and we are well placed looking ahead.”*

net result has been a sound infrastructure, motivated staff, standards in development and operations, and good understanding of how we move forward.”

### ***Future Directions***

Standard Life has ambitious plans for rolling out new applications on top of its e-business infrastructure. In recent days, the company has launched e-joiners (automated joining of group policy members—including straight-through processing) and has re-launched the updated Standard Life Bank Savings and Mortgage applications.

According to Muir, the next set of priorities include:

- New version of Customer Internet Access application with slicker registration process.
- Adding more Standard Life products to existing applications.
- Mutual funds online trading.
- More internal applications being built on the new architecture for new business processing and customer service.
- Migrating existing client/server applications to the new architecture.
- Support for multiple device types. For example, Internet Development Standards will be extended to have support for XHTML-compatible browsers.
- More straight-through processing applications for new business across the U.K. companies.
- Increased investment in hardware and software to ensure scalability, performance, and resilience.

Standard Life is also looking at more automated solutions for e-mail management and is investigating use of new channels such as wireless Web and interactive TV. Standard Life Investments already offers information on fund prices to its customers via WAP phones. The IS Division has also run a WAP pilot for transactional services and proven the technology, but the business does not see the customer demand emerging for this in the U.K. in the near future. However, Morrison points out, “If market sentiment changes in the U.K., we can deliver very quickly to the new platform.” The company

has higher hopes for interactive TV making an impact in the U.K.

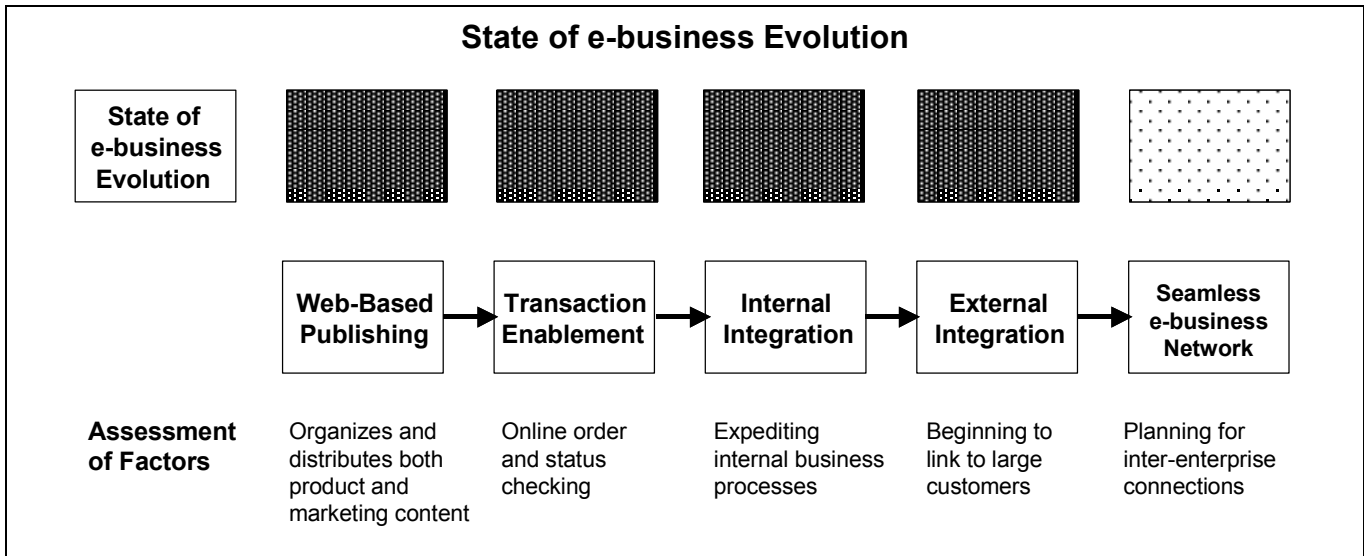
On the technical side, Standard Life’s IS Division will continue to focus on making sure that more and more people are using the infrastructure and standards and continue to make XML the internal and external standard across the board. Standard Life is also upgrading its middleware and application-server technology to latest release levels. The most challenging of these tasks is the upgrade to the WebSphere Application Server environment. Standard Life will move from WebSphere V.3.0.2 in production to WebSphere V.4.0 in 1Q02 (bypassing V.3.5.4.), which, according to Muir, “will result in all existing applications needing to be migrated as they deploy their new releases. This requires careful planning, as we will have multiple WebSphere environments to manage. IBM will support us in this effort.”

Standard Life is also going out and promoting the use of technology amongst IFAs, both to help the IFAs become more successful and to increase the value of its online applications,

### ***Conclusion: It Is All about Customers***

Standard Life’s e-business initiative has deep technical underpinnings and a strong business case for cost savings. However, ultimately this is about serving customers in the best way possible. As Garry Morrison comments, “Customer experience is very much our objective here. Certainly it is important that we save money in our current regulatory environment. But, even more, this is about offering the best customer experience as a differentiator—providing service across a range of interactions. Cost savings is a difficult check to cash—it will take some time to recoup the investment. Our belief over the past 176 years has always been, if you continually look after your customers in the long run, you can be extremely profitable. High-quality service to customers will keep them staying with you and investing more in you. And that’s been our experience—this is not just philosophy.”





*Illustration 6. Standard Life has reached the fourth stage of e-business evolution by being directly integrated to external agencies (IFAs) via financial industry portals.*

**Evolving the Technical Infrastructure**

Standard Life runs its WebSphere Application Servers on the AIX operating system running on RS/6000 SP2 wide nodes. Separate nodes are run for the Web server, EJB server, and MSQI server. Key technical features include:

- Communication between http server and EJB server is either RMI or via MQSeries/MQSI hub.
- Bespoke Java/MQ Listener component developed in Standard Life to allow message interface to EJBs (read message, then RMI, wait, then put message). This will be replaced by IBM supplied code when support for Message Driven Beans appears in WebSphere Application Server Advanced Edition.

- Limited use of EJBs. The only top-level object is stateful EJB. The rest are in memory objects. Performance and capacity issues result if too many are used.
- All messages are XML (bespoke standards—infrastructure XML containing application XML) between Web server and off-mainframe application servers.
- Interface to mainframe, referred to internally as Core Systems Access (CSA) is bespoke message standard that provides an object level interface over MQSeries to IMS and CICS transactions.
- Significant transformation: e.g., XML→XML→CSA and back again.

Illustration 6 summarizes the state of e-business evolution at Standard Life.

11-01

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