



Case Study

Swiss Re: A Strong Focus on Business Process Flow and Workload Optimization

Executive Summary

Swiss Re, the world's second largest reinsurance company, relies heavily on information systems to conduct business. Because Swiss Re's workloads are both computationally heavy and information intensive, the company uses a lot of computing power and storage. So, needless to say, Swiss Re is very conscious of computing costs...

To reduce computing costs, Swiss Re examined outsourcing options as a means to bring down information technology (IT) costs. However, the company found that the outsourcing option had some shortcomings — particularly in the management of heterogeneous systems and potentially in the tuning of information-based process flows. Further, Swiss Re came to believe that by taking the outsourcing route it may have limited its ability to use technology for innovation.

As Swiss Re went through the outsourcing evaluation process, the company realized that an integrated, dynamic infrastructure plays a huge role in its success. A unified infrastructure enables applications and databases to work well — even across heterogeneous system boundaries. Further, the company recognized that assigning applications to the best-fit system to handle the application's workload could have a major impact on systems utilization and efficiency. The company realized that having a common and consistent management environment across heterogeneous silos would yield significant savings in operational costs.

The problem was no vendor or group of vendors offered an integrated infrastructure management environment that could manage workload assignments, virtualization and provisioning, as well as physical systems management, across heterogeneous systems silos.

The remainder of this *Case Study* describes the challenges Swiss Re faced as it sought to drive down its heterogeneous systems computing costs. We start by examining the reinsurance business — and follow with a discussion about lessons learned when Swiss Re evaluated outsourcing. Finally, we show how Swiss Re plans to greatly reduce computing costs by uniting its infrastructure and management environment, and by focusing on assigning workloads to best-fit systems.

Background

Clabby Analytics recently interviewed Swiss Re's top IT executive, Markus Schmid and Christoph Locher, head of Swiss Re's IT Sourcing organization, at IBM's zEnterprise (mainframe) announcement event held in New York City. They took some time to explain Swiss Re's IT operational cost challenge and how they see it being addressed.

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About Swiss Re and the Reinsurance Industry

To better understand Swiss Re's challenges, it is useful to understand a little about the company and the reinsurance marketplace in general.

Swiss Re (Swiss Reinsurance Company Ltd.) is the world's second-largest reinsurance company. Swiss Re describes its business activities as:

- risk analysis & modeling;
- risk structuring, transfer & pricing;
- the reevaluation of contracts (to reflect the actual loss experience);
- the management of financial assets reflecting the accumulated claims reserves and risk bearing capital; and
- the streamlining of business process flows and timely availability of information for enterprise steering and reporting.

For those not familiar with the reinsurance industry, "reinsurance" is a policy (covering a set of policies or a single large risk) purchased by insurers to offset risk. For example, an insurer may write a hundred policies with a maximum possible loss of a million dollars each (thereby exposing itself to a hundred million dollars of risk). To reduce that hundred million dollar risk, that same insurer may purchase reinsurance protection from a reinsurer who then assumes a share of the risk in exchange for a premium payment.

To determine the premium, reinsurers develop their own pricing algorithms. The better these algorithms are at modeling risk, the more profitable the business, which favors shareholders as well as the reinsurance clients.

At Swiss Re, pricing algorithms are created by mathematicians, physicians, and other subject matter experts who model risk. In some areas, like natural catastrophes, the models are quite complex (similar to weather forecasting) and require substantial computing power as well as storage due to high volume of input data.

Record management and record keeping are also vitally important. Records are used to help manage loss events, process claims and to meet compliance requirements in the 25 nations in which Swiss Re does business. In addition, records need to be maintained for years and possibly for decades — meaning that Swiss Re needs to manage and maintain vast libraries of recorded information.

In addition to using computers to run algorithms and keep extensive records, Swiss Re uses computers as tools to drive enterprise process efficiency and effectiveness. The company focuses on efficient information flow across the enterprise and on ensuring business processes run smoothly. By automating and streamlining processes, Swiss Re can lower sales, general, and administrative (SG&A) costs — and these cost savings pass directly to the company's bottom line.

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Attacking IT Operational Costs: To Outsource — or Not to Outsource...

Because of Swiss Re's heavy reliance on computers, the company is always searching for ways to reduce IT costs. As a result, two years ago the company began looking very closely at outsourcing.

As Swiss Re evaluated partners specialized in outsourcing, the company realized that internal control of computer operations was of core strategic value. Without direct control, Swiss Re determined that innovation and sustained IT cost savings might be stifled. Swiss Re was not willing to take that gamble.

Lessons Learned

Swiss Re learned some valuable lessons during its assessment of outsourcing options. First, the company realized that handing off IT functions to an outsourcing partner might restrict the ability to innovate. The outsourcer would have to take the initiative to help Swiss Re innovate. They would have to make resources available to enable innovation. Also they would likely charge additional fees to do work "out-of-spec." By controlling IT resources, Swiss Re could avoid these obstacles.

Swiss Re also realized how important a dynamic, integrated infrastructure is to operations. An integrated infrastructure enables applications to work cooperatively with one another — and it enables databases to more easily share data. Further, it allows processes to flow across heterogeneous systems within a given IT environment.

Swiss Re realized that if it outsourced core computing services, the company might lose the ability to control its own destiny from an innovation point of view. Swiss Re was uncomfortable with the ability of outsourcers to manage the company's heterogeneous infrastructure — an infrastructure that must encourage application interaction and data sharing across differing hardware platforms, operating environments and databases in order for seamless business process flow.

Another reason holistic outsourcing was discarded was that outsourcers could not demonstrate they could effectively manage resources across a heterogeneous computing environment. Many organizations that have heterogeneous systems manage those systems in silos. Swiss Re recognized that in order to achieve extraordinary IT operational efficiency, those silos would need to be eliminated.

After taking the holistic outsourcing option off the table, Swiss Re needed to find other ways to reduce IT operational costs. After careful analysis, Swiss Re determined that "workload optimization" (placing applications on systems architectures that can provide the best processing services for a given application at the required service levels) would play a big role in driving down operational costs. Swiss Re also determined that reorienting IT operations around a common infrastructure and management scheme would help drive down cross-platform integration and management costs.

By deploying applications on best-fit hardware, workload optimization can help Swiss Re increase systems utilization, leading to a greater return on investment in information systems. And the use of a common infrastructure and management scheme helps Swiss Re ensure programs work cooperatively together (eliminating the need for expensive

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connectors and adapters and related integration labor), and paving the way for processes to work more smoothly across heterogeneous systems barriers.

Clabby Analytics agrees wholeheartedly with Swiss Re's assessment. Workload optimization enables IT buyers to achieve maximum efficiency on their servers. And a common management environment makes it possible to manage heterogeneous servers using common and consistent tools. Further, a common, shared infrastructure enables application and database information to be shared more readily. The only problem: where could Swiss Re go to get this magical, common heterogeneous systems infrastructure-management environment?

The answer to this question is that Swiss Re can use IBM's new hybrid System z/blade environment to solve infrastructure integration and heterogeneous systems management problems. IBM's newly announced z Enterprise/zBX/Unified Resource Manager environment enables bladed servers to share a common infrastructure and common management tools with an IBM mainframe — creating an opportunity for Swiss Re to greatly reduce IT operational costs.

The Fix: IBM's New z/Blade Hybrid Environment

Early last year, Swiss Re travelled to an IBM center of competency located in Boeblingen, Germany (near Stuttgart) to discuss its heterogeneous infrastructure and management challenges. What Swiss Re learned during subsequent discussions is expected to have a profound effect on the company's approach to managing IT resources.

In Germany, Swiss Re was made aware of an IBM program (codenamed "Gryphon") that was being developed to help enterprises achieve large costs savings in IT operations by closely coupling mainframe and blade servers — and by standardizing mainframe and blade infrastructure and management. Further, this new architecture would be able to extend mainframe characteristics (such as reliability) and mainframe governance (such as a security umbrella) to tightly coupled blade servers. Finally, by closely coupling these two types of servers, significant increases in performance could be achieved.

As Swiss Re continued to explore this new zEnterprise/zBX/Unified Resource integrated infrastructure/management environment, IBM pressed forward with research aimed at exploring the possible operational savings that could be achieved using the Griffin architecture. And the potential saving proved to be absolutely phenomenal (see Figure 1 — next page — based on IBM analysis of a large financial services company).

In Figure 1, the cost savings this financial services company expects to see in server acquisition costs could be as high as 38% (the result of getting better utilization out of consolidated, integrated hardware). Further, through consolidation, this company has the potential to improve return on investment by reducing cost of ownership by up to 57% — again through more efficient use of information systems as well as through savings in power use and software costs (especially in distributed systems management/virtualization software). And network complexity can be reduced significantly (eliminating the need for numerous adapters, cables, switches — and associated labor) resulting in the potential for a 98% cost savings as compared with a traditional networked data center.

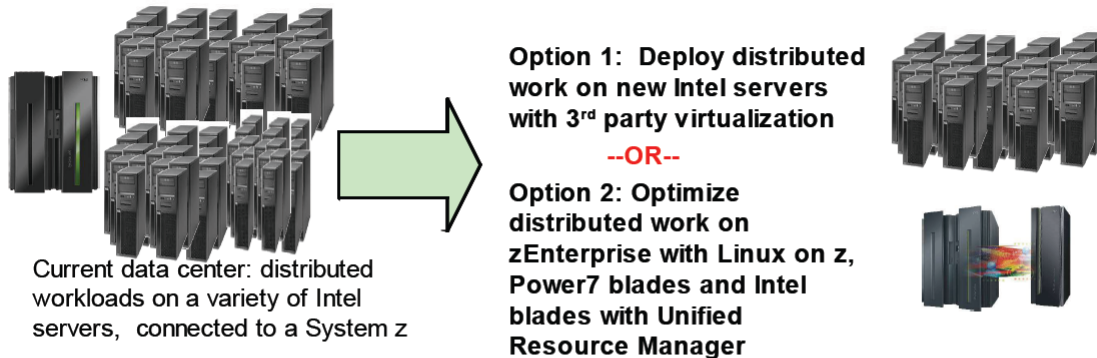
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IBM believes that it can replicate these kinds of cost savings across multiple industries. And if this proves true, Swiss Re will have found the solution that it has been looking for: a way to improve IT operational efficiency while very significantly lowering IT operational costs.

Figure 1: Potential Operational Cost Savings Resulting from zEnterprise/zBX Deployment

The IBM zEnterprise System

Lowering the cost of *distributed* workloads through optimal platform selection



Simplify, automate, and improve service quality by consolidating on zEnterprise and....

Lower cost of acquisition by up to 38%* compared to new Intel blades (option 1)

Reduce cost of ownership by up to 57%* compared to current distributed data center

Reduce network complexity (adapters, cables, switches) by up to 98%* compared to current distributed data center

- Based on IBM analysis of a large Financial Services company Datacenter. See details on ibm.com/systems/zenterprise/
 - Deployment configurations based on IBM studies and will vary based on workload characteristics. Price calculations based on publicly available US list prices, prices will vary by country.
- 7 © 2010 IBM Corporation

Summary Observations

Swiss Re identified a problem that thousands of enterprises face today: how to reduce IT costs by improving overall IT efficiency. The company initially proceeded down the holistic outsourcing route — looking to offload IT expenses to an outsourcer who could provide IT services at a lower cost than could be provided internally. But Swiss Re became convinced that no outsourcer could manage IT better than Swiss Re itself — and the company chose to keep information services in house.

By keeping control of IT services, Swiss Re has been able to maintain a close link between IT and innovation — and the company has been able to tune and streamline business process flows. However the nagging problem regarding how to significantly drive down IT costs remained. Swiss Re's outsourcer evaluation helped the company identify which problems needed to be fixed (very specifically: heterogeneous systems management and infrastructure integration) — but no vendor could offer a cohesive solution to fix these problems.

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IBM's new integrated zEnterprise/zBX/Unified Resource Manager environment can provide IT managers with means to greatly reduce operational costs using mainframe tools and mainframe governance to control, integrate and manage attached blade servers. And by using this approach, IT managers can expect to save approximately 52% in management costs — while increasing performance for some applications by five- or ten-fold. *Clabby Analytics* has written an in-depth critique of the new IBM zEnterprise and the associated z/Enterprise/zBX environment — it is available for readers interested in learning more at http://www.clabbyanalytics.com/uploads/System_z_Opinion_FinalFinalFinal.pdf (note: it is free).

Important Lessons Learned From Swiss Re

The lessons to be learned from Swiss Re are that:

- Workload optimization plays a huge role in driving down IT costs by enabling information systems to be used most efficiently. At Swiss Re, the IT organization has no particular bias in favor of distributing computing architecture or centralized architecture. Instead, the company focuses on workload characteristics and service level requirements — not on the political disputes between distributed computing and mainframe believers. If a workload is data intensive and requires a high degree of reliability, availability, and security — it is a candidate for the company's mainframe environment. If a workload can execute many threads independently — and can take advantage of low cost memory — it will likely be placed on an x86 server. If an application is floating point intensive, it will likely be placed on a midrange Unix server.
- Infrastructure is not, as many IT shops believe, a commodity. A finely-tuned infrastructure can enable heterogeneous systems to communicate with one another and to share data more easily — thus helping to streamline business process flow. Optimized business process flows lead to improved organizational efficiency — efficiency that passes directly to the enterprise bottom line in terms of profitability.

Today, Swiss Re's IT organization focuses heavily on ensuring that applications and databases are deployed on the optimal systems architectures that can best support the processing needs of their applications and databases — while meeting related service level requirements. And, this organization also strongly focuses on heterogeneous infrastructure integration in order to enable different systems to communicate and share data seamlessly with one another — ultimately resulting in optimized business process flows.

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