Tmax *Mainframe*
Rehosting Solution

OpenFrame ™

TmaxSoft

Mainframe Rehosting Solution **OpenFrame**

Five Reasons to Modernize Your Legacy System

1. High costs of maintaining and supporting mainframe operations
2. Limited number of hardware and software vendors
3. High cost of integration with new applications
4. Lack of flexibility in adopting new technologies
5. Shrinking pool of skilled mainframe developers

One Easy Way to Do It: Mainframe Re-Hosting with TmaxSoft OpenFrame®

- Rapid Implementation and Time to Positive ROI
- Reduced Implementation Risk
- Performance and Scalability Comparable to Mainframe
- Rock Solid Reliability
- Most Complete Re-Hosting Solution Available
- SOA-based Infrastructure for Future Modernization

TmaxSoft OpenFrame

OpenFrame is TmaxSoft's advanced re-hosting solution designed for the world's largest financial, banking, telecommunications, and other enterprises that entail high-volume transactions. OpenFrame is the only complete solution in the industry, providing comprehensive online and batch environments on open systems. It can be used to migrate the applications, resources, and data from a mainframe system to a less expensive and more flexible open system, without modification of the original business logic. Rehosting with OpenFrame enables you to access the benefits of the open system, while preserving the integrity of your legacy applications and data.

OpenFrame does not merely allow mainframe applications to run within open systems. It also ensures high levels of processing speed, capacity, and reliability equal to or greater than the legacy mainframe system it replaced. OpenFrame delivers this performance through a powerful, enterprise-level platform that has been implemented in some of the most demanding technical and business environments over the last decade.

Benefits of TmaxSoft OpenFrame

Rapid Implementation and Time to Positive ROI

While some migration solutions require years to complete and even longer to break even, a typical large-scale re-hosting project with TmaxSoft OpenFrame takes several months to complete and 12-24 months to deliver positive ROI. OpenFrame achieves this best-in-class implementation and return because it is the most comprehensive solution in the industry. It allows companies to "lift and drop" their existing COBOL and PL/I applications written for CICS and IMS-DC, JCL programs and RACF security policies into open-system environment with minimal or no modifications.

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Minimized Total Cost of Ownership

A single vendor has long dominated the mainframe market, resulting in high hardware prices and ongoing steep licensing fees. An equally limited number of third-party software developers further increase expenses. OpenFrame's flexibility and expandability significantly reduce your system's total cost of ownership (TCO); in fact, savings of 50% or more are not uncommon. OpenFrame also standardizes system processes and facilitates easy integration of new applications and technologies, thus enhancing system development and management productivity.

Reduced Implementation Risk

Traditional migration involves rewriting mainframe applications comprised of millions of lines of code written in legacy languages over decades. In contrast, OpenFrame allows you to "lift and drop" your existing mainframe applications, resources, and data into an open-systems environment, thus preserving millions of dollars of investment. Existing JCL programs can run without any modification, and COBOL and PL/I applications can execute with only minimal modifications. Your human resources are safeguarded as well: engineers can maintain and extend re-hosted applications without additional training, in the languages they already know.

Performance and Scalability Comparable to Mainframe

OpenFrame achieves the performance of mainframe through our unique, proprietary transaction monitor known as TmaxSoft Tmax™. Unlike other solutions that simply provide CICS-compatible APIs on top of Unix/Linux transaction monitors, Tmax was specifically built to provide mainframe-class speed in an open systems environment. As a result, OpenFrame is highly scalable-to 7,500 MIPS and beyond-and has delivered equal or greater performance in 100% of TmaxSoft's client implementations to date. (See our case study on Samsung Life Insurance for more real-world results!)

Rock Solid Reliability

When running large-volume, business-critical applications, reliability is of utmost importance because disruptions can cost millions of dollars. OpenFrame delivers the utmost in reliability through the Tmax™, high performance transaction monitor. Tmax provides level clustering, fail-over, load balancing, and non-blocking I/O features, and has been deployed since 1998. Since then, it has gained the trust of more than 300 customers in thousands of mission-critical installations in financial services, banking, telecommunications, and other enterprise industries.

Flexible Environment for Managing and Extending Re-hosted Applications

TmaxSoft's SysMaster provides a centralized environment for monitoring system processes, transactions and other components within OpenFrame systems, enabling IT administrators to analyze and resolve performance issues. TmaxSoft's OpenStudio is a graphical Integrated Development Environment (IDE) that can be used for maintaining and extending re-hosted applications as well as developing new applications within the OpenFrame environment.

Kick-Start to Legacy Modernization

Mainframe re-hosting can be starting point for other legacy modernization initiatives. To that end, TmaxSoft provides a suite of products that interoperate with OpenFrame and enable you to extend re-hosted applications to Web services or services built on SOA concepts. Our ESB engine ProBus constitutes the core of a SOA implementation, and our ProFrame SOA-oriented application framework is optimized for the financial services and banking industries. Your legacy systems can co-exist with modern SOA based applications and seamlessly communicate with each other over a variety of protocols via our integrated channel communication product, AnyLink.

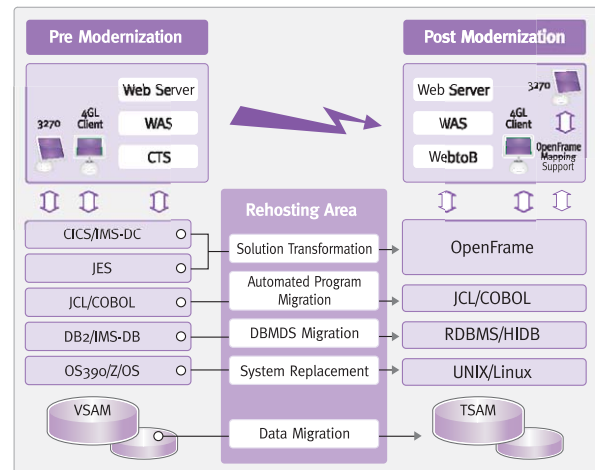## CASE STUDY: Samsung Life Insurance Moves Forward with TmaxSoft OpenFrame

The risk involved with modernizing large scale, legacy mainframe systems can seem daunting, especially when these systems form the backbone of a company's mission-critical IT infrastructure. Samsung Life Insurance, South Korea's largest insurance provider, faced a monumental task when it began the design of its next generation systems. With the help of TmaxSoft OpenFrame™, re-hosting solution, however, Samsung successfully completed what is the largest mainframe re-hosting project ever.

The project was launched in August 2005 and the new system was put into production in July 2006 - an amazingly short time for such an undertaking. The legacy system was 7,500 MIPS in capacity and contained the company's core business applications, including loan, contract, and payment systems: in total, more than 30,000 programs and 40 million lines of code.

The re-hosted system is expected to bring an estimated short-term cost savings of more than $30 million over the next four years, and the estimated annual savings is expected to reach $10 million after 2010.

Benefits to system performance have been impressive as well. Online response time has improved an average of one second, batch completion time has been reduced, and application error rates are significantly lower. In the event of a system failure, database recovery can be completed 75% faster, and overall system security has also improved with the implementation of a standard Public Key Infrastructure (PKI) system.

OpenFrame® Components

TmaxSoft OpenFrame/Online
- Replaces CICS and IMS by providing the same online capabilities and identical APIs.
- Provides a powerful transaction management through TmaxSoft Tmax™, assuring overall performance, scalability and reliability of the system.
- Redesigned transaction monitor provides native support for CICS and IMS capabilities, differentiating from CICS "emulators" and enabling superior performance and flexibility.
- Incorporates dynamic load balancing, distributed clustering and robust fail-over capabilities
- Provides a variety of gateways and adapters to enable a wide range of flexible external connections.

OpenFrame/Batch
- Replaces mainframe Batch environment
- Enables JCL/Batch applications to be used in the open environment without changes to the original code.
- Incorporates a JES manager that handles the task of running and managing jobs and corresponding resources
- Provides a variety of tools and automated processes to handle the actual migration of batch applications.

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OpenFrame/TSAM
- Replaces mainframe VSAM datasets

OpenFrame/HiDB
- Replaces IMS-DB by providing emulation capabilities along with all the benefits and functions of a hierarchical database
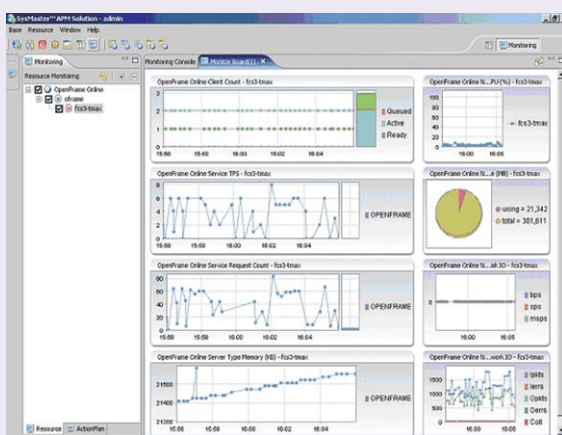- Supports HISAM, HIDAM, GSAM, etc.
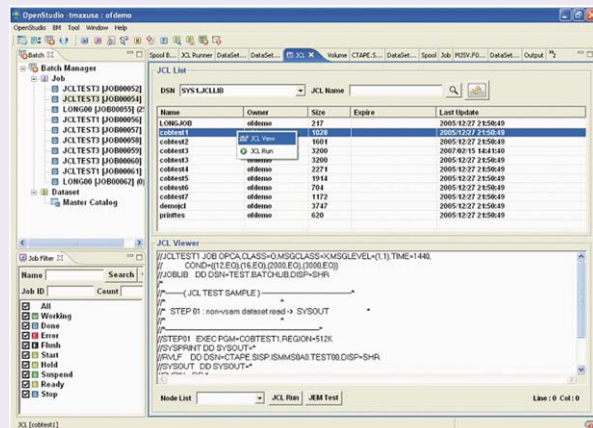
OpenFrame Mapping Support
- Replaces BMS/MFS by providing emulation capabilities
- Provides an interface for using 3270 terminal emulators

OpenFrame/TACF
- Replaces IBM/RACF security
- Allows administrators to select between TACF or OS-provided security

Development with OpenStudio

OpenStudio is a graphical Integrated Development Environment (IDE) used for developing, deploying and managing applications and services within the OpenFrame environment. With OpenStudio, developers can efficiently extend and/or maintain re-hosted JCL, COBOL and PL/I applications. The IDE isolates administrators from the underlying UNIX/Linux operating system and allows them to easily manage the run-time OpenFrame system via an intuitive graphical interface.

Management with SysMaster

SysMaster is an application performance management tool that provides centralized end-to-end monitoring of various IT systems used throughout the enterprise. SysMaster provides monitoring of applications running on OpenFrame™, while supporting features such as automated alert, system resource usage view and notification of user defined incidents. SysMaster enables IT administrators to trace every event that occurs within an integrated IT environment to analyze the cause of performance degradation and to resolve system problems.

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OpenFrame™

About TmaxSoft

Founded in 1997, TmaxSoft has built a reputation as a leading provider of world-class enterprise products and services designed to meet the global standards for processing large volume transactions.

Since then, TmaxSoft's product line has grown to include a mainframe re-hosting solution, a portfolio of SOA-enabling products, and vertical industry solutions in finance, banking, and telecommunications. TmaxSoft has successfully completed over 1,200 projects at more than 1,000 customer sites throughout the world.

PRODUCT LINEUP

Re-hosting

OpenFrame : Mainframe Rehosting

SOA Enabling

ProFrame · Application Framework

AnyLink · Multi-Channel Integration

ProBus · ESB Engine

ProFactory · Product Creation and Management

Middleware

Tmax · TP-Monitor

JEUS · J2EE Web Application Server

WebtoB · Web Server

Start Your Legacy Modernization Process Today: Contact Us

To learn how TmaxSoft and OpenFrame can help your business, please contact us to discuss your specific environment and operational needs. We will walk you through an initial consultation and determine the next best steps for modernizing your legacy system.

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