

## CASE STUDY

KORAIL saves money,  
improves efficiency and  
provides better customer  
service with Tmax TPM.



**Korea Railroad Corporation (KORAIL)** is the national railway operator in South Korea. It is a public corporation, managed by the Ministry of Land, Infrastructure and Transportation and operates intercity/regional, commuter/metro and freight trains throughout the country.

South Korea is one of only four countries in the world including Japan, France and China to develop a high-speed train above 420 km/hr that runs on a conventional rail, with KORAIL's High Speed rail system KTX (Korea Train eXpress).



CUSTOMER NAME

KORAIL

INDUSTRY

Public  
Transportation



## The challenge

KORAIL needed to implement a new ticketing service and membership system that would save money, improve efficiency and provide better customer service.

The existing mainframe-based ticketing system was unable to provide holistically integrated seat management, fare calculation and customized membership services for the increased number of online users.

KORAIL's customers could purchase tickets at ticket offices, automated station terminals or over the internet. However, reservations were only possible up to one month prior to the scheduled departure date. The system was inefficient at managing real-time seat availability with an increasing volume of cancellation, reallocation and fare calculations. During regular peak periods, the number of simultaneous users would consistently top 45,000 and during seasonal high peaks this number could quadruple to more than 200,000 simultaneous users.



## The solution

The main business system was built using Tmax Transaction Process Monitor (TPM) and the online ticketing reservation service was built with TmaxSoft's Web Application Framework, JEUS and WebtoB.

A three-tier architecture was developed for the business system with Tmax TPM and JEUS ensuring that Mainframe-level reliability was achieved.

The new system significantly improved customer service by allowing ticket reservations to be made online, through the customer service center, on the automated ticket kiosk network or through associated travel agencies, and 24 hours a day, 365 days a year and up to one year in advance of the scheduled departure date. Customers could now buy tickets with cash or credit cards, as well as frequent-traveler miles, which functions as electronic cash.

KORAIL implemented a rewards-based membership program for customers and quickly implemented system-wide policy changes and promotions such as discounts, reservation wait lists and collaborations with hotel and rental car companies. Cancelled seats could be quickly resold across all sales channels to maximize the profitability of rail services and enhance the customer experience.

### CHALLENGES

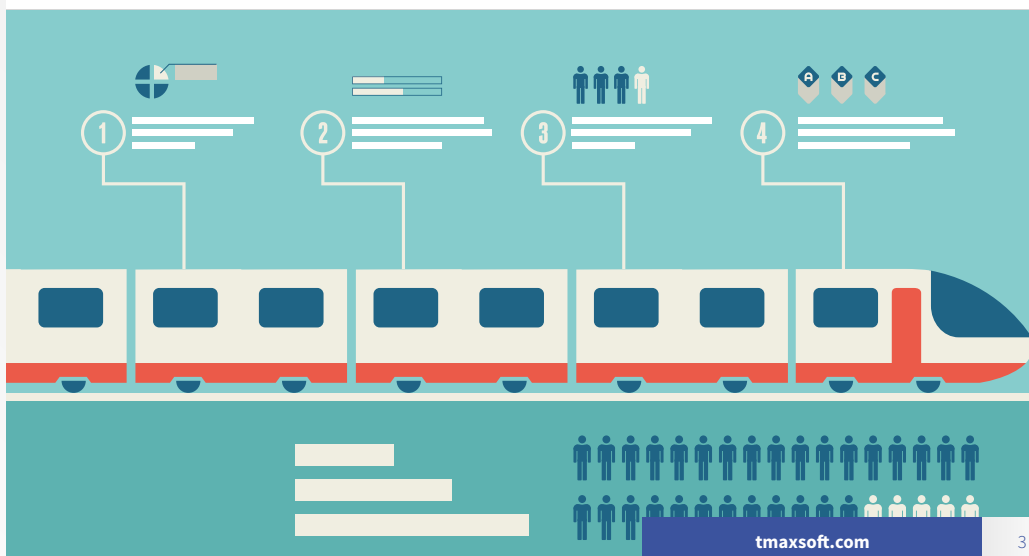
- Required an integrated management of seats (bookings/cancellations) and fare calculations
- Needed to provide a better customer experience for an increasing number of online users with consistent availability and performance
- Had an insufficient infrastructure to provide various integrated services and membership reward programs

### TMAXSOFT SOLUTION

**Tmax TPM, JEUS, WebtoB**

### RESULTS

- Mainframe-level reliability
- Sufficient resources to handle an increasing number of simultaneous users
- Three-tier architecture was developed with Tmax TPM and JEUS
- Enhanced customer experience and rewards-based membership programs



The new system significantly improved customer service and allowed KORAIL to quickly implement system-wide policy changes. Thanks to Tmax TPM, KORAIL now has the freedom to build mission critical applications.

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TmaxSoft is a global software innovator focused on data management, middleware and mainframe modernization, with solutions that offer enterprise CIOs viable alternatives to support their global IT powerhouses and drive competitive advantage. TmaxSoft has based its growth on a strong foundation of research and development, along with a sustained commitment to innovation. Today, we work with over 2,000 customers around the world.

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**Tmax TPM** is a transaction process monitoring (TPM) solution that optimizes transaction processing within distributed systems in industries that typically handle millions of daily transactions including government, financial, manufacturing and communication.

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**Tibero** is the best enterprise RDBMS for the Virtual Data Center. Our licensing model allows enterprises to fully maximize their virtualization investment by only licensing the cores associated to a given VM, resulting in drastically lower TCO.

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**OpenFrame** is a legacy rehosting solution that enables mainframe applications, resources and data to be migrated to a less expensive, high performance open system while reducing TCO, and minimizing risk of migration, all in very short timeframes.

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**JEUS** is the first Web Application Server in the world to be J2EE 1.4, JAVA EE 5 and JAVA EE 6 Certified, and can deliver improved security over traditional WAS.



**TmaxSoft was founded in 1997 and today, we have over 1,000 employees in 20 strategic centers around the world.**



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