Nordea Bank

About Nordea Bank

Nordea is the largest financial services group in the Nordic and Baltic region. Nordea holds leading positions in corporate and institutional banking, as well as retail and private banking. It is also the leading provider of life and pension products in the Nordic countries. Nordea is one of few European banks with an AA-rating and is also among the ten largest full-service banks in Europe, based on market capitalization. Nordea Private Banking provides services in 12 countries and for more than 100 000 customers in the Nordic countries, the Baltic countries and throughout Europe, managing assets of approximately EUR 191 billion.

Challenge: Synchronize Servers with Mainframe

It's crucial for the IT team to deploy reliable and secure Midas banking application platform to maintain financial security and stability, provide excellent service, customized solutions and confidentiality for important financial issues for the customers.

Midas is the "Nordea consolidated Java platform" which is a broad range of areas of the bank that are covered by the applications (Netbanking, Life & Pension, Treasury, Markets, etc.) On Midas, there are more than 100 systems running - from really small and simple applications (one or a few single users, using it occasionally) to really big and complex applications (such as Private Netbanks, Corporate Netbanks, and Nordea's SOA implementation - thousands of simultaneous users all the time, with high SLA requirements).

Private Netbank Sweden has parts running on Midas Windows servers, as well as transactions and batches running on the Swedish mainframe. The system date and time on both Midas server and mainframe are synchronized against an atomic clock, so Midas and mainframe should equal each other (at least ± some seconds). However, on top of the mainframe system clock (TOD, or Time-of-Day), there is another layer called TIC TOC, or IBM Application Time Facility as it is called nowadays. TIC TOC is used to change the date and/or time for a job, transaction or batch for different reasons. For example, they need to test certain situations such as turn of a year, or end of quarter.

The most prominent use, however, is to change the date backwards since batch jobs approximately every 3rd day have errors; when these errors

occur, the batches have to be re-run the next day, and when this situation occurs, the TIC TOC date is set back one day. In the long run, this accumulates, so that certain IMS transactions are 10-12 months behind the real date.

For Private Netbank Sweden, this means that payments that are registered to be paid, for example today will not be handled in the mainframe, because that payment date is 10-12 months in the future. Many other systems/applications, such as Corporate Netbank, have the same problem. All these applications have solved it in their own way, and this is both costly since the problem is solved over and over again. It is also not the optimal solution, since the solution is often implemented very quickly. It definitely impacts the whole of Nordea IT significantly.

Time Machine Solution

After evaluating the Time Machine solution, the Project lead and the team all agreed it's the ultimate solution to overcome the ever increasing challenges to sync the "payment date" in the mainframe database as well as to ease the deployment of adding other non-Midas servers which are running on the same date and time as the mainframe.

While the Windows based banking system (Midas) executes on a date in the past, the Mainframe system, with which it interfaces, executes on current date and time. Time Machine is used to simulate this past date for functional test cases in their Windows environment for Midas and allows other environments to remain unaffected.

Time Machine has exceeded expectations in allowing Nordea to perform critical testing of a primary banking system that had previously faced tremendous challenges. IT is thrilled and agree that Time Machine plays a crucial role in time shift testing for the Midas implementation.

Olli Vanne, Senior Infrastructure Specialist, said "We have Time Machine in use in our test environment. Our test Midas environment is dependent on services running on a test IBM mainframe. The problem is that this mainframe is lagging behind in time so we need to adjust our test banking application on Midas, to run the same date, in order to fully test all functionality in the banking application. I can confirm that Time Machine has performed as expected and we are pleased with it."

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