

Capacity Planning at a Czech Bank

Case Study

Client Info at a Glance

Company: Financial Institution

Location: Czech Republic



Organization Description: In the Czech Republic this bank serves more than 3 million clients and employs over 8 000 workers. The bank operates a very extensive IT infrastructure which requires round-the-clock accessibility checks and computing capacity planning.

Business Value of TeamQuest: The TeamQuest capacity planning solution has given the bank full control over the operations of its electronic banking systems, stabilizing performance and allowing the bank to model expected peaks and ensure sufficient resources.

Starting point

At the beginning of the project, the bank expressed interest in extending the implementation of performance monitoring and capacity planning solutions to include their electronic banking systems as a way to boost stability and minimise performance and capacity issues. The solution was needed to eliminate risks related to electronic banking system upgrades, and, more importantly, they needed to predict the behaviour of systems during planned and unplanned changes, particularly during spikes in usage during the Christmas and New Year's holiday seasons.

Solution

Using a third-party consultation and technology company to manage the project, the bank began implementing a solution for capacity management. Preparations for the capacity management concept and implementation of best practices in the field were completed, and TeamQuest was selected to be their capacity management software vendor. TeamQuest software was implemented on more than 60 servers which cover the financial institution's electronic banking for the Czech Republic and Slovakia. The whole solution was successfully completed in approximately 10 months.

“The unique properties of the complete solution give the opportunity to approach capacity management and planning in a totally comprehensive manner and to the highest possible degree.”

TeamQuest software was integrated into the bank's current operational monitoring and comprehensively addresses the needs of the whole capacity management cycle, from real-time monitoring to performance management analysis and reporting, to the notifications and alerting system. The bank also uses TeamQuest software to experiment with what-if scenarios in support of implementing optimisation measures and changes to the whole electronic banking infrastructure.

One of the most important tasks required of the TeamQuest solution is to provide information for precisely planning IT capacity while ensuring stable operations are maintained.

Thanks to the TeamQuest solution, the bank is able to operate its servers in a no-breakdown mode while planning and optimising servers so that they are not oversized, yet have sufficient capacity reserve.

The bank uses TeamQuest software to monitor and report efficiency and IT infrastructure load (servers, data storage etc.). They use it to get a very fast look at historical loads, to obtain clear information on relationships, and to analyse performance data from multiple dimensions. They also use the program to really understand the character of the load and all factors and relationships which affect it from various viewing angles. The load measured can be seen in graphs for separate applications, users, cost centres, projects, etc.

The financial institution uses both pre-defined and ad hoc reports that not only serve the IT specialists responsible for electronic banking operations, but also business managers. Reports are created according to precise requests – such as in connection with an unplanned incident.

Other advantages from which the bank benefits are the ability to integrate operating metrics, establish threshold values, and notify the operator for quick action when they are exceeded. Examples

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might be exceeding the set memory capacity, processor use, network operations, increased load on storage systems, etc. On the basis of an alert, notification processes (e.g. by e-mail) or scripts can begin.

A key part of the solution is TeamQuest's modeling software, which allows the bank's IT staff to experiment with various what-if scenarios. It gives answers to questions such as "what happens if we add memory to the server - or take two servers away from the server farm - when the number of users multiplies?" TeamQuest prepares a mathematical model which accurately represents the behaviour of the systems being followed under current conditions and prepares a model which precisely describes the behaviour of the systems under new conditions given by the particular what-if scenario.

Benefits of the TeamQuest solution for the financial institution:

- Identifying bottlenecks in the electronic banking infrastructure
- Modeling, creating what-if scenarios, capacity planning
- Predicting potential problems in electronic banking operations
- Understanding capacity dependencies and behaviour in the electronic banking infrastructure
- Identifying the reasons behind any problems which occur
- Preparing reports for management and business
- Optimal planning of regular maintenance in periods of minimal operations, thus making workforce savings, minimising risks and undertaking maintenance without ceasing system operations

Main benefits

The TeamQuest capacity planning solution has given the bank full control over the operations of its electronic banking systems. They have the security of stable performance, the capability to understand the behaviour of the whole system, and the capability to intercept any system anomaly, understand its causes, and obtain information on the availability of all system components.

A huge benefit for the financial institution is the ability to model numerous scenarios. One of the realised scenario models was the pre-Christmas shopping season, when performance peaks are expected in the use of electronic banking. The bank needed to know that its group of servers was able to cover this huge volume of requests from customers. The aim of the modelling was to determine whether the current infrastructure could withstand the load from the expected number of users. The bank also wanted to know the maximum number of users for which the current electronic banking infrastructure could operate safely and stably. If the model outputs were to show that the infrastructure is not of sufficient size for the expected load, the modeller tool would be used to enable a specific infrastructure configuration to be proposed in line with the expected requirements.

The outputs of this modelling and their high accuracy were subsequently successfully confirmed under actual operations.

“The solution has resulted in infrastructure cost savings... there is no longer a need to oversize.”

“TeamQuest has helped us not only extend and optimise operational monitoring, but in particular has also allowed us to plan precise capacities and models of situations when increased electronic banking system loads are expected, such as at Christmas and New Year. This has also significantly contributed to the increased availability and stability of the system as a whole. We were pleasantly surprised by the smooth running and intuitive user-friendly environment of the TeamQuest solution analytical tools, facilitating the identification of the actual causes of loads and understanding relations across the whole infrastructure,” says the electronic banking operations team leader for the organization.

The solution has resulted in infrastructure cost savings for the bank, since there is no longer a need to oversize. It also allows them to plan maintenance during optimal employee loads, cutting personnel costs. Eliminating breakdowns and optimising planned shutdowns were other major benefits with a direct positive impact on bank business.

The implemented solution provides the bank with the opportunity to find the weak points in their infrastructure, propose relevant procedures, optimise the infrastructure and develop it in an effective way in line with dynamic and ever-changing business requirements. The unique properties of the complete solution give the opportunity to approach capacity management and planning in a totally comprehensive manner and to the highest possible degree. For these reasons, the bank is interested in extending this solution to infrastructure beyond the electronic banking infrastructure. Within electronic banking, further development is also planned, particularly in extending outputs for business users and automation.

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