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*Hannu Sonninen  
 Development Manager  
 Tieto-Tapiola Oy*



## Tieto-Tapiola Oy

**INDUSTRY** Services: Information Technology

**SOLUTIONS** [Enterprise Platform, Virtualization](#)

**Hardware** — Hitachi Universal Storage Platform® V (2), Hitachi Adaptable Modular Storage 2100 (2), Hitachi Adaptable Modular Storage 500 (2), Hitachi storage capacity 52 TB high end storage and 62 TB virtualized storage

**Software** — Basic Operating System, Basic Operating System V, Hitachi Dynamic Provisioning, Hitachi Tiered Storage Manager, ShadowImage® Heterogeneous Replication, Hitachi Compatible PAV software for IBM® z/OS®

**Services** — Provided by Hitachi Data Systems Global Solution Services

## Tieto-Tapiola Supports Insurance Companies' Data Management with Cost-effective, Reliable Hitachi Storage Solution

Finland-based IT Service Company Tieto-Tapiola Oy was seeking a creative and economic solution for the preproduction and testing of services in mainframe computers. The solution needed to provide faster service development and better quality of application deployment without requiring major investments. A virtualization solution based on Hitachi enterprise and modular storage answered the challenge, providing a reliable, efficient and cost-effective data processing environment.

### About Tieto-Tapiola

Tieto Tapiola Oy, an IT service company established in 1974, provides IT support to Tapiola Group, Etera and Turva, all of them major mutual insurance companies in Finland.

With over 400 IT professionals working in Espoo and Tampere, Tieto-Tapiola's turnover is 81 million euro. In 2009, it was ranked 38 in the *Tietoviikko* magazine's list of the 250 largest companies in the information and telecommunication field.

Tieto-Tapiola is focused on the finance and insurance sectors of the markets. A long-term close cooperation with its customers and the consequent strong industry

knowledge assist in finding and taking advantage of synergies.

### The Challenge: Support Preproduction and Production Cost-effectively

New features for insurance services provided by Tieto-Tapiola are constantly being developed and must be tested before they are introduced in production. Tieto-Tapiola was looking for a solution that would deliver faster service development and improved quality levels. However, they wanted to avoid making major investments, such as establishing a preproduction environment that is separate from the production environment.

### The Solution Strategy: Partition the Production Mainframe

Tieto-Tapiola chose to implement a virtual disk system that would allow both preproduction and production test environments to exist in separate partitions of the production mainframe. With this unique solution, it would be possible to use in the preproduction the exact and genuine data copied from production. By making disk-to-disk copy of data, it is possible to keep the preproduction separate from the production.

A ready technical model did not exist for the existing mainframe environment. Tieto-Tapiola evaluated various alternatives from other vendors, but they were dismissed because they did not fully meet the requirements or they were too expensive to implement. Tieto-Tapiola selected Hitachi Data Systems because they knew Hitachi had experience in similar environments.

### The Solution Development: Use Creativity and Care

Tieto-Tapiola Development Manager Hannu Sonninen, says that the needs of the preproduction environment were obvious. A completely separate environment would be too complex and it would be too far from reality; the data would not correspond to the production, the information mass would be too little, and the hardware and software configuration would not correspond to the production environment.



"Now that we regularly use these Hitachi tools to refresh the preproduction environment, we have excellent skills and know-how of the procedure. If, for one reason or another, the production environment happens to crash, we are ready to switch smoothly to a secondary site, the procedures being the same."

*Hannu Sonninen  
Development Manager  
Tieto-Tapiola Oy*

“The idea to use a sufficient amount of valid data and a completely analogous environment, just as in the actual production, was developed. We knew and felt the potential of Hitachi systems as the result of almost ten years of in-depth collaboration,” Sonninen says.

In the Hitachi storage system-based solution, Hitachi Universal Storage Platform® V quickly makes a full copy of production data. The copy, which is used for test and preproduction, is totally separated from the production environment. Untested changes will not cause disturbances in production. All new services and changes to them are tested in preproduction and are smoothly transferred to production a few times a year.

Tapiola Group mainframe application primary data volume is approximately 12 terabytes (TB), of which approximately 7TB of database information is transferred to preproduction. This is a large enough amount to reveal pitfalls in new applications and makes it possible to create a sufficient load to match a real situation.

Preproduction data is placed on low cost drives on external Hitachi Adaptable Modular Storage, which provides the lower storage tiers. The response times do not need to be at the same level as in the actual production. The service level of preproduction and development environment has been good enough. Most importantly, the solution saves costs.

The test environment disks are inexpensive SATA drives, whose use in the mainframe is possible with the Hitachi virtualization. This means costs are reasonable, which Tieto-Tapiola requires in all its activities.

One challenge to the environment came with the mainframe computer using the same name for disk areas in production and preproduction. However, with the Hitachi storage systems, production and preproduction data can be logically differentiated from each other, even if the header information of disk volumes in the copy and original are the same.

### Bonus: Constant Practice Teaches Tieto-Tapiola to Handle Failure Situations

Sonninen praises the experience gained by this regular procedure. “The establishment and initialization of a preproduction environment is equivalent to a situation where a complete power failure would have happened in the production,” he explains. “This kind of experience cannot be obtained from any training, or from any manual. Now that we regularly carry out these measures, we have excellent skills and know-how if, for one reason or another, the production environment would crash.”

He continues, “Sometimes the preproduction initialization happens like in movies, just with the pressing of a button. Sometimes it takes five minutes, and there are times when it takes half a day. The investigation and repair of these errors directly improves the quality of the production environment,” Sonninen says.

The preproduction environment has met all targets that have been set for it. Anything that now works in the test environment certainly works in the production environment as well. The experiences are so positive that the use of preproduction is constantly being expanded.

The implementations of new services and new service features are made three or four times a year. New and tested services are transferred to the production during the weekend. Sonninen assures that this approach saves a considerable amount of time and money. In addition, investigation and repair of any errors that manage reach production can be made in preproduction, and they can be corrected before they affect anyone’s work.

### Transfer to New Headquarters

Tieto-Tapiola experienced a hectic time during 2009 and 2010. The new headquarters building was completed in Espoo and in February 2010 the IT production moved to new premises. This move was planned for over a year with vendors. Hitachi was able to help in smooth transfer of the storage by combining the installation of new storage system to the transfer of the services between buildings. Although there was some apprehension at the company about the move, neither the move nor the technology upgrade associated with it has caused any surprises.

### Disk Space Management for a New Era

Another area tackled by the Hitachi solution was the management of Tieto-Tapiola’s ever-growing disk space. Hitachi Dynamic Provisioning software allows IT to eliminate empty and unused disk space from the systems. The goal is to provide a cheaper and more flexible disk service to users.

Additional disk space is frequently allocated as a precaution. Dynamic Provisioning uses disk space only for the data that is really used and in doing so saved up to 40% of space. The aim is also to start calculating the disk space based on actual usage. This will give better alignment between application needs and associated costs.

All data to be saved will be classified and various data categories will be kept in different types of disk. Hitachi Tiered Storage Manager software ensures that seldom-used data do not need to be located in expensive disks of the high-end Universal Storage Platform V. Instead, the software directs the approximately 80 percent of saved data, which are passive, rarely used data, to lower tier residing on a less expensive Hitachi Adaptable Modular Storage system.

The overall disk space management is ongoing, as such a process does not take place overnight. It is more a matter of site management, where training and consulting take turns during the project. One of the chief benefits of this process is that it has stopped the reckless expansion of disk systems.

Costs and budgets are fully and openly discussed inside Tieto-Tapiola, which makes a clear difference in long-term operations. Tieto-Tapiola has long participated in Finncompass research projects, which measure the best practices of the field. The aim of Tieto-Tapiola is to continually belong to the “best practice” category, and it has also succeeded in this purpose. Tieto-Tapiola’s mission is to ensure that it provides the best cost-effectiveness, without compromising the reliability of data processing environments and the efficiency of services.

The active collaboration between Tieto-Tapiola and Hitachi Data Systems has lasted for 20 years. Nowadays, this collaboration is focused on disk systems and on their cost-effective utilization.

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