

Customer Case

Increasing data growth poses no problem for RET due to datacenter optimisation



RET has selected Telindus-ISIT for maintenance of NetApp, BakBone and HP. The next step is expansion of the storage environment and an upgrade of the network environment. RET can now store five times as much data and has achieved optimal availability through use of a NetApp MetroCluster. In addition, the network has been upgraded to 10 Gb/s.

The Network &
Storage Company



together with



RET has transitioned to a centralised storage environment including a failover. To achieve this, changes had to be made to the network. One requirement was that the supporting party can provide support for both NetApp and BakBone or HP. Based on these wishes and requirements, RET chose Telindus-ISIT. RET was also asked by the city-region government to begin implementation of an exploitation management system (EMS). This system provides insight into all deviations from the planned service, information essential to enable RET to continue its successful business management. To implement such a project, the ICT infrastructure must be good, and therefore RET decided to expand the storage environment to a NetApp MetroCluster and upgrade the network to 10 Gb/s. The rollout of the EMS project is expected to result in several terabytes of additional data. In addition to expanding the storage environment and modifying the network, RET is also conducting a large scale consolidation that will result in power savings of several thousand euros per year.

Optimal Infrastructure

Reinder van Raalte, senior technical system development staff member at RET explains:

“In the past we were dependent on various parties for support of NetApp, BakBone and HP. In practice this just didn’t work. We therefore began looking for a party that could offer support for the storage and network environment as a whole. When we selected Telindus-ISIT for maintenance we also began investigating the possibilities for expansion of the storage environment and upgrades to the network. There were several large new projects on the drawing board, but they required an optimal infrastructure. This could only be realised through changes and expansion. Our existing ICT infrastructure was already several years old, and it was high time to perform an upgrade. In recent years our data has grown tremendously, at a rate of around four terabytes per year. This is due, in part, to the national pilot for the Public Transport Chip Card and our new exploitation management system (EMS) project.



RET is the public transport company that serves Rotterdam and the surrounding municipalities and therefore has a regional function. After nearly eighty years, in 2007 RET once again became an independent organisation; it is no longer a municipal service. RET has six larger locations in Rotterdam as well as numerous smaller locations throughout the region. These locations include depots, workshops and drivers’ lounges, for example. Every day RET carries more than 600,000 passengers with the assistance of around 3,000 employees. In addition to 34 bus lines, RET also operates tram lines, metro lines and now even a ferry.

This system electronically monitors the actual number of driven kilometres, and we are ultimately assessed based on these figures. The EMS also provides dynamic traveller information so travellers can consult a digital screen to see whether a bus or tram is running on schedule. This is currently in operation at the metro stations.”

NetApp MetroCluster

There were a number of important advantageous aspects to the ICT infrastructure RET already had in place, which expedited expansion of the storage environment. René de Lely, head of technical management at RET: “We already had two datacenters located about ten kilometres apart. We therefore opted for a MetroCluster for the purposes of future expansion; we are already using it for all our storage. This ensures optimal failover with our existing systems and has allowed us to provide the employees with an availability of 99.7%. We have a large number of employees who make use of the applications stored on our systems. For example, we have around a thousand support personnel who work in the offices and garages. There are also an ever growing number of systems to provide information to the drivers, such as special information points and kiosks. Drivers also have to be able to do more and more from home, like viewing their work rosters and checking their days off. Both datacenters are now used for daily operations, which results in higher availability. In the event of a large-scale failure, the user won’t notice a thing.”

Michel Scholte, system manager at RET, adds: “All our locations are interconnected via a fibre optic network that runs through our metro tunnels. In collaboration with Telindus-ISIT we have optimised this network for 10 Gb/s, because the demand for network capacity continues to multiply. Between the two datacenters we now even have two 10 Gb/s links for the purpose of redundancy. In the past we had a routed datacenter, which made it impossible to link our two datacenters together. Through a conceptual change in the backbone, the two datacenters are now interconnected. Furthermore, with assistance from Telindus-ISIT we have also changed and expanded our

Reinder van Raalte, senior technical system development staff member at RET:

“Our drastically improved infrastructure will not only support our current projects but future ones as well.”



backup environment considerably. We upgraded the tape robot, and we have linked Fibre Channel switches to the MetroCluster. The backup used to run over the network, but that is no longer necessary.”

Power savings through virtualization

RET has also begun a large scale consolidation. The datacenter used to house more than a hundred servers. Reinder van Raalte: “Within four weeks we had already virtualized fourteen of the eighty machines and within half a year we expect to have virtualized the entire server park.

This will ultimately save us several thousand euros per year on energy costs.”

Within the framework of the EMS project, Telindus-ISIT has also established network connections to all the vehicles. Reinder van Raalte: “This entire process is fairly unique. Using Cisco technology the vehicles automatically establish contact with the servers. This is how the management reports for the vehicles are compiled. Security for the wireless components has now also been implemented, so the vehicles can be automatically authenticated and identified.”

In addition to the EMS project there are several other projects in the pipeline that can now be implemented as a result of the expansion of the storage environment. Reinder van Raalte: “We will soon be expected to participate in a regional project

intended to expand the implementation of dynamic traveller information. In addition, we also want to start archiving the e-mail and implementing a virtual desktop infrastructure. Our intention is to continue improving the quality within the organisation through proactive management. We are a 24/7 organisation and our ICT department does everything itself, even covering on-call shifts. Internally it has become even more important that systems have an ever higher availability. With the arrival of the MetroCluster, the expansion of the storage environment and the modifications to the network, we can guarantee this high availability. Ultimately we were able to implement our radical change of infrastructure within four months, and with the current updates we expect to be able to easily support the projects that are currently underway and those set to begin soon. We can now store five times as much data as before.”

“This ensures optimal failover with our existing systems and has allowed us to provide the employees with an availability of 99.7%.”

Requirements

- One party that maintains the entire storage environment
- Upgrade of the network environment
- Expansion of storage capacity
- Optimal availability

Solution

- Telindus-ISIT
- NetApp MetroCluster
- Cisco technology

The Network & Storage Company

About Telindus-ISIT

Telindus-ISIT, part of the Belgacom Group, is specialised in the field of convergence of voice, data, video, storage and security. The organisation distinguishes itself by providing objective advice and a high level of innovation. As 'The Network & Storage Company' it is one of the few market players to deliver fully integrated end-to-end network and storage solutions to both companies and governmental (and semi-governmental) organisations. Telindus-ISIT also offers various managed services, from the management and monitoring of network and storage environments to complete outsourcing of all network-related activities, such as managed storage and managed WAN optimisation. Finally, Telindus-ISIT's Education Services department offers a wide range of ICT training courses, primarily including vendor-specific certification programmes pertaining to networks, storage and office applications.

More information about Telindus-ISIT:

Krommewetering 7, 3543 AP Utrecht, the Netherlands
T +31 (0)30 247 77 11, info@telindus-isit.nl



together with

