

# Xerox Green Desktop Initiative

## Is ecological technology financially viable for business? Xerox says “Yes!”

*Going ‘green’ isn’t easy, especially if you want to balance efficiency and performance. You have to look beyond the obvious and “what’s always been done”, explains Wiel van de Pasch, Technical Services Manager of Xerox. When business evolutions made a data centre redesign at Venray necessary, this forward-thinking company found new ways to use the facility’s potential, to both save – and ultimately provide – power from the facility.*



*Wiel van de Pasch, Technical Services Manager, Xerox, first presented this Case Story at the BELTUG Member Forum on 5 October 2010*

## CHALLENGES

### **When existing solutions only answer part of the problem...**

Business and technical changes meant Xerox could reduce the space for its Venray data centre from 264 m<sup>2</sup> to 50 m<sup>2</sup> – a sizeable difference. But while overall energy consumption decreased, fewer racks meant energy consumption per rack increased and relatively more heat was produced in a much smaller space. A new cooling solution was needed. Free air technology offered part of the solution: removing the hot air from the room, mixing it with external air and then returning it to the room. Smart technology optimised energy consumption based on the external air temperature: if the outside air was 15° or less, no additional cooling would be needed at all. But while this solution reduced energy consumption, the company knew that even more energy could be saved.

At the same time, Xerox began working to add an additional functionality to the data centre: providing energy to desktops by converting raw energy at the data centre and then sending it via POE along with the data. While the basic technology exists, Xerox wants to take it farther: to power not only the IPT phones, but the thin client itself, and the desktop monitor. Not yet a simple proposition!

*"The technology currently exists to make green initiatives financially viable, but complete solutions are not yet available commercially. The challenge is fitting together what exists and creating what you need."*

*Wiel van de Pasch, Technical Services Manager, Xerox*



Xerox is a global leader in business process and document management, and counts 133,000 employees worldwide. Its site in Venray, The Netherlands, is part of the Xerox Eastern Hemisphere Supply Chain, which also includes sites in the UK and Ireland. About 750 employees work at the Venray site.

In the 1990s, Venray's 250 m<sup>2</sup> data centre housed all the IT systems for the site: on-site manufacturing, logistics, business, etc. Centralisation merged the ERP into a single system housed in the UK data centre. Only critical floorshop applications and those that had to be on-site were kept at Venray. Xerox' sale of manufacturing to Flextronics further reduced the space requirements for the data centre.

To provide high availability of the critical applications a second server room was equipped at a remote location.

## SOLUTIONS

### Innovating to create viable solutions

In the existing situation hot air from the equipment was mixed with the cold air in the room. Therefore a relatively low air inlet temperature was required. Recently a chimney system was implemented which ejects hot air immediately through chimneys attached to the racks, so it never even enters the room. "Now, at up to 25° outside temperature, we don't have to cool the input air at all. We save over 20% in energy consumption: an 11 kW reduction in cooling!"

Another challenge was to get a full desktop working on POE. 'Standard' POE switches couldn't be used, so Panduit's DPOE power injectors were used instead. These provide more power and manageability per output. All of the individual components for the desktop already exist on the market: a standard IPT phone, a POE powered thin client and a low power 22" LCD monitor. Combined, they consume less than the available 32 watts of power, but bringing them together into one working desktop wasn't easy. A specific device had to be created to take the power from the POE line and feed it into all these devices. The data path from the switch via the phone to the thin client also had to stay intact. "It took some creative thinking but we now have an operational prototype of this 'Green Desktop'".

## LESSONS LEARNT

### To be green, think outside the box

The overall lesson for Wiel is clear: 'green' is economically viable. "Our new cooling system was more expensive, but the savings paid for the investment: our ROI for the additional investment is only 2 years, and the total pay-back for the entire system is less than 10 years."

While the POE project is ongoing, Wiel comments that the individual technology components are available, but a commercial solution isn't. "The challenge is fitting together what exists and creating what you need." In both cases, thinking beyond what is available on the 'store shelf' has brought new opportunities to a company that is willing and eager to innovate.