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Implementing an Automatic Switch-off Policy for the Renal Unit Computers

By: NHS Lanarkshire

Positive outcome(s) of project:

The primary benefit of this initiative is that we save needless waste of money but also allow more timely installation of software installs that require system reboot such as antivirus software.

Savings per year:

£724 (Estimated)

CO2 savings per year:

5486 kg CO2e (Estimated)

Description:

Problem – several members of staff routinely left their PCs switched on continuously. This is clearly a waste of electricity but also prevents regular IT updates e.g. anti-viral software.

Although automatic switch off software is available e.g. "nightwatchman" this has a financial cost and as yet there are no definite plans by the Trust IM&T department to introduce these types of software solution.

We decided to get our renal unit IT administrator to write a script that would be pushed out onto all the PCs within the renal unit. The script is only a few lines of code, which was then installed onto each PC remotely, together with a scheduled job for each PC. The whole process took under 60 minutes to set up. In the process, two new plans were created. The first plan was that all Renal PCs/laptops, with the exception of the nurse's station PC and Duty Room PC were shutdown at 10PM each night, if left on.

The second plan was the creation of a new power option scheme called Renal, which operates throughout the working day and affects all Renal PCs and laptops.

This new scheme conserves power by switching off the monitor after 30 minutes of inactivity. After an additional 15 minutes (ie 45 mins) of inactivity the disk(s) will turn off. Finally, after a further 15 mins (ie 60 mins) of inactivity, the machine will go into standby mode. To restore power in the first two instances, the user simply taps any key on the keyboard to restore the desktop to its previous state. If and when the machine is in standby mode (blinking power button), the user presses the power button as if you were switching the machine on. The desktop is then restored to its previous state.

If the new power scheme activates at any time, none of the logged on user's work is lost.

The response by our staff has been positive although many members seem to be/are unaware.

At the moment this has only been implemented within the renal unit. The Trust IM&T department are aware of our project however but at present are pursuing proprietary software solutions.

Financial Appraisal

Our hospital currently pays a favourable rate for electricity of 7.8p per kWh. For the purposes of our calculation we have assumed that ALL PCs get switched off at 10PM and get switched back on by staff at 8AM. We have also compared this to having ALL the PCs switched on constantly. The reality will be slightly different as not all PCs were being left switched on overnight. However, not all PCs are being switched back on at 8AM and in the absence of accurate usage data for each PC the calculations below should provide a reasonable estimate of savings.

Using Dell's energy savings calculator (<http://www.dell.com/content/topics/topic.aspx/global/products/landing/en/client-energy-calculator?c=us&l=en&s=gen/>) the energy costs are as follows:

32 desktop PCs running 24 x 7 consume 22038 kWh annually with annual costs of £1719

32 desktop PCs running 14 x 7 consume 14090 kWh annually with annual costs of £1100

Savings 7948 kWh, **£619** annually

16 x laptops running 24 x 7 consume 3916 kWh annually with annual costs of £305

16 x laptops running 14 x 7 consume 2563 kWh annually with annual costs of £200

Savings 1353 kWh, **£105** annually

In summary, the above small changes are saving 9301 kWh and **£724** annually for no outlay.

Carbon savings

9301 kWh x 0.58982* = 5486 kg CO2e savings per year

(*conversion factor for UK Grid Electricity, taken from Table 6, 2011 Guidelines to Defra / DECC's GHG Conversion Factors for Company Reporting: Methodology Paper for Emission Factors)

Location:

Monklands Renal Unit, Airdrie, Lanarkshire

Start date:

29/01/2010

Status:

completed

Reasons for project:

Cost and carbon savings

Implementation costs:

None

Tool used:

"Script" developed in-house by the renal IT administrators.

Negative outcomes:

There are no real disadvantages of this system. No-one has complained or noticed with the exception of one person who acknowledged that fact that the PC switched itself off at 10pm was a useful reminder that she was working far too late. Feedback from people in other renal units is that they leave their PCs switched on overnight on purpose as it takes too long to boot up in the morning. We have had no such feedback from within our unit but this might be relevant to other units wishing to implement a similar solution.

Barriers in project implementation:

We have been fortunate that our renal unit is fairly small and mostly contained on a single site. The other crucial factor for us is that we have our own dedicated IT administrator (paid from renal unit) who has administrator level of control over all PCs within the department. Although the 'script' he has written is very simple it takes someone who knows what they are doing to execute it. However, there is no reason why this solution could not be extended to the rest of the Trust by IM&T.

Most people have not noticed and as we warned people in advance no-one has complained. Only one person has commented that her work laptop switched itself off at home at 10pm and it took her a while to realise why.

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