IT BEST PRACTICES: PC POWER MANAGEMENT

Authored by:
California Information Technology Managers Academy, Class XVI

ITMA XVI

"California IT – A Commitment to Green"

May 2009

BACKGROUND

Personal computers (PCs) left on while unused for long periods can be a significant waste of energy. This can increase costs to the State of California, and create negative impact to the environment due to carbon dioxide (CO_2) emissions. Additionally, the California 2009 IT Strategic Plan Concept 5: Economic And Sustainable Strategy 1 states a goal to "Promote practices that protect the environment and reduce energy usage" [1].

BENEFITS

The State of California can achieve significant annual savings by using PC power management features, and can reduce carbon emissions.

PC power management tools can achieve an annual energy savings per PC in the range of $10-$30, with $10-$20 being more realistic for most. Estimates include an expected return on investment (ROI) within 18 months [2]. The actual amount of energy savings will depend on the following factors:

- Whether PC's are shut down at night

- Percentage of time PC is in use during work hours

- Length of workday

- Ratio of PC's to notebooks

- Energy efficiency of the existing PC's

- Ratio of LCD monitors vs. CRT monitors

- Cost of electricity

Moving from an unmanaged PC power environment to a managed can result in a 50% reduction in CO2 emissions. For a 2,500 PC organization, a 50% reduction is equivalent to the annual emissions of 55 automobiles [3].

Utility company rebate programs may offer additional savings [4].

RECOMMENDED STRATEGIES FOR IMPLEMENTATION

- Utilize the built-in power management features most Windows and Macintosh computers have, typically called "system standby", "sleep", or "hibernate" mode. These put the computer into a low power mode if the computer has not been used for awhile.

- Configure an inactivity period of 30 minutes. [5]

- Assess both free and commercial solutions, and test thoroughly [2].

- Contact other agencies which have implemented power management software for lessons learned.

- Ensure power management features are configured to allow security patches and antivirus updates.

- Communicate well with users prior to implementation, ensuring they understand the benefits to reduce resistance.

REFERENCES

[1] California IT Strategic Plan: http://www.itsp.ca.gov/

[2] Gartner, When to Consider Commercial PC Power Management Tools, March 25, 2009: http://www.gartner.com/DisplayDocument?doc_cd=166539

[3] Gartner, PC Power Management Policies Greatly Cut CO2 Emissions, August 31, 2007 (G00150423)

[4] Utility Rebate Programs http://www.pge.com/mybusiness/energysavingsrebates/, http://www.smud.org/en/business/rebates/Pages/index.aspx

[5] Computer Power Management for Public Enterprises, US EPA, February 4, 2008: http://www.federalelectronicschallenge.net/resources/docs/cpm_for_enterprises.ppt

Additional References

California Office of the State CIO: http://www.cio.ca.gov/

Gartner, PC Power Management Tools Market Update 2009, March 25, 2009: http://www.gartner.com/DisplayDocument?id=919914

Energy Star Power Management Recommendations: www.energystar.gov/powermanagement, http://www.energystar.gov/index.cfm?c=power_mgt.pr_power_mgt_enterprises

Federal Power Management Technical Forum: http://forum.powermanagement.org

Power Management Success Stories: http://www.energystar.gov/index.cfm?c=power_mgt.pr_power_mgt_ss

The Climate Group Smart 2020 Report: http://www.theclimategroup.org/assets/resources/publications/Smart2020Report_lo_res.pdf