Power Management with 1E

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Mission

▸ **U.S. Department of State**

– Create a more secure, democratic, and prosperous world for the benefit of the American people and the international community

– Protect U.S. national interests and advance peace, security, and sustainable development

▸ **Enterprise Network Management**

– Empower diplomacy by providing a secure and reliable global network that is available anytime, anywhere

– Manage and oversee the design, operation, and life-cycle management of the Department's worldwide networks

Geography

- ▸ 50+ domestic facilities

- ▸ 250+ U.S. embassies, consulates and passport agencies

- ▸ 80,000+ workstations
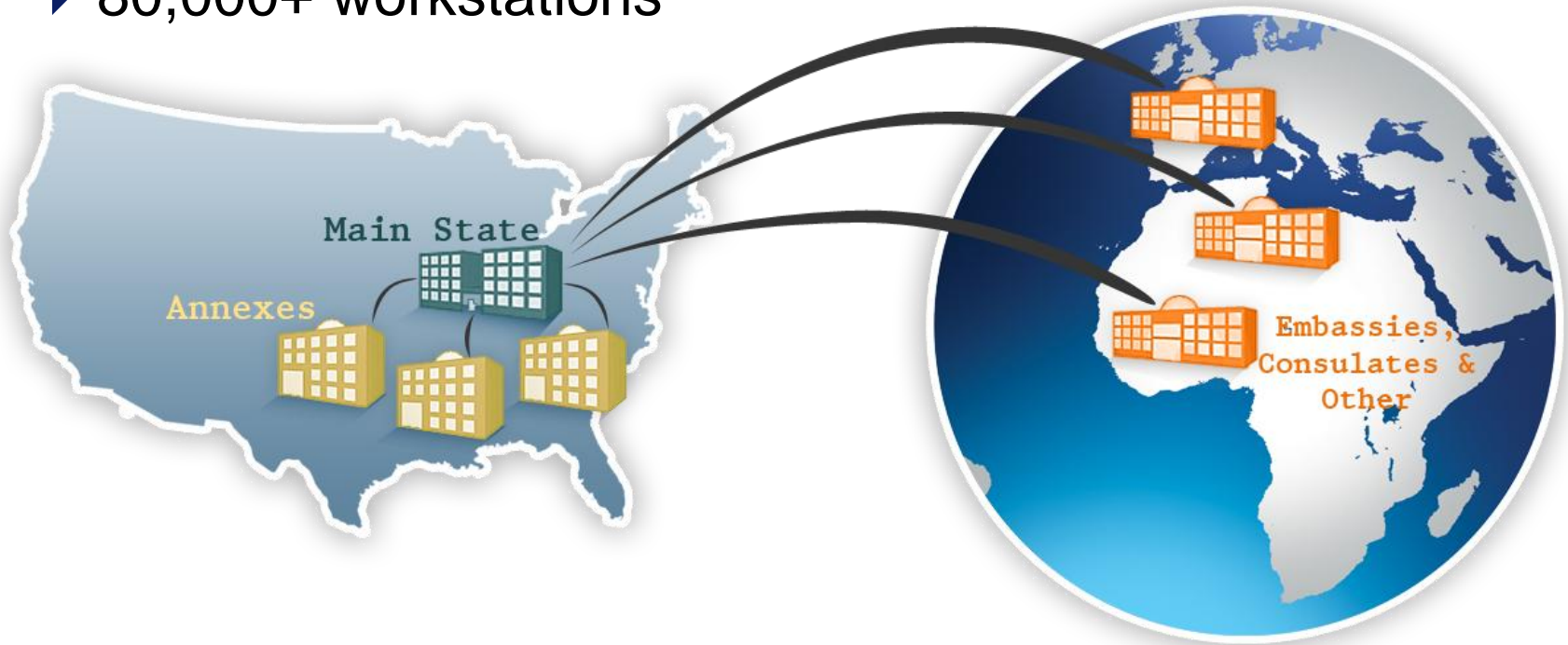
Secretary of State Comments

"Now the State Department's computer servers take up about 3 percent of our building space but consume 40 percent of our electricity load. We are working with a team from the IT Department to narrow that ratio. But one thing we could all do is turn off our computer. That actually would save energy."

- Secretary Clinton, 2009 Earth Day Speech

Desktop Power Management – Why Do It?

▸ Develop a robust, scalable power management tool with Wake-on-LAN capabilities for all DoS unclassified workstations that:

- Supports the Department's Greening Diplomacy Initiative

- Complies with E.O. 13514

- Reduces energy costs by not having desktops powered on 24/7

- Eliminates duplication of effort in power management strategies

- Minimizes disruption to DoS operations (Wake-on-LAN and graceful shut down)

Power Management - Advantages

▶ Key findings*

– A well-managed organization with 2,500 PCs can expect to reduce their power consumption by 43% versus an unmanaged one

– By employing a power management solution, an organization can expect to save $43,000 per year

– Turning off machines can save money; however, productivity can be affected because updates will be made during normal business hours

* From Gartner Research Paper dated Jan 16, 2009 entitled "PC Power Management Activation Leads to Significant Power and Cost Savings"

Why 1E?

▶ DoS purchased the 1E Power Management suite, an industry leader in power management technology

– Reduces power consumption costs and carbon emissions through the scheduled shutdown of workstations

– Provides a robust reporting environment to accurately document power and carbon consumption and savings

– Ease of installation and configuration

– Small machine footprint

– Roles-based

Why 1E? (cont'd)

▸ **DoS purchased the 1E Power Management suite, an industry leader in power management technology**

  – Integrates well with existing DoS systems management platform (SCCM) and initiatives

    • Centralized Patch Management (CPM)

    • Continuous monitoring/risk scoring

    • Compliance/vulnerability scanning

  – SCCM controls the 1E WakeUp agent

    • 1E WakeUp agent allows workstations to be powered on for security scanning, scheduled maintenance, and security patching

    • 1E agent provides health checks and automatically fixes common issues with SCCM client agents
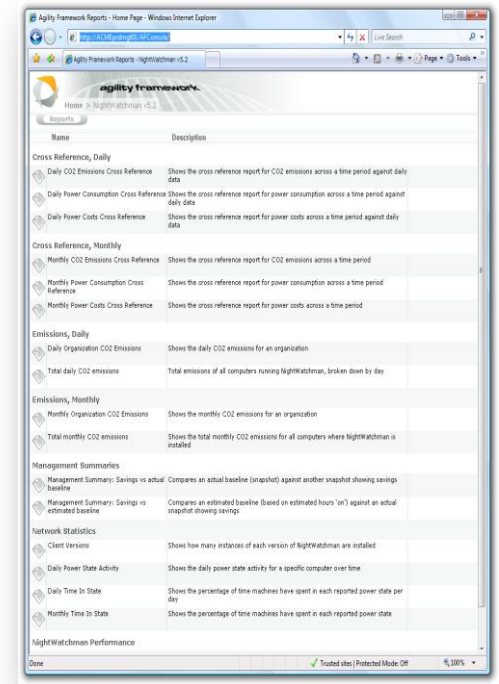
Systems Power Management – How 1E Works
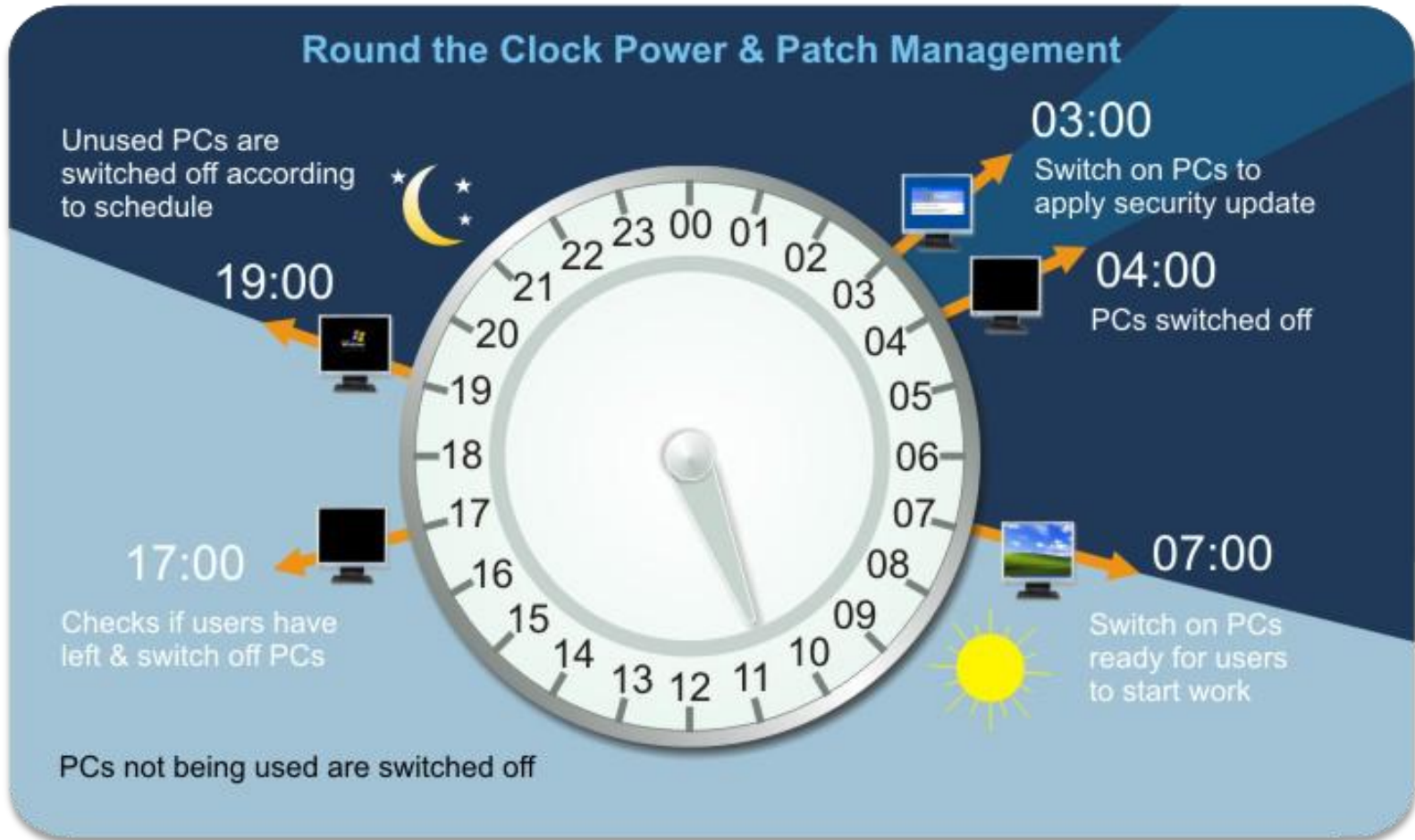
1E Reporting

▸ View the daily power consumption and cost reports for each computer in a given department

▸ Total power consumption of all computers running NightWatchman, broken down by day

▸ Display the monthly/daily costs for each department

▸ Estimate monthly cost savings as a result of using NightWatchman

1E Reporting (cont'd)

Management Summary Reports


Cost per KWh : 0.05
kg per KWh : 0.657709

|◄ ◄ 1 of 1 ► ►| 100% ▼ Select a format ▼ Export 🔁

NightWatchman Report

Report: Management Summary, by Simple Extrapolation

	Snapshot "June 2007"	Snapshot "July 2007"	
Period	Jun 2007 to Jun 2007	Jul 2007 to Jul 2007	
Days in Period	30 days	31 days	
Total PCs Seen	60,012	61,745	
			Savings (Extrapolated)
Avg kWh/PC/Day	0	0	0
Total Energy Used	449533.34 kWh	133667.05 kWh	344264.88 kWh
Total CO2 emitted	295662.13 kg (651823.41 lb)	87914.02 kg (193817.24 lb)	226426.11 kg (499184.12 lb)
Total Energy Cost	$22,476.67	$6,683.35	$17,213.24

Power Consumption
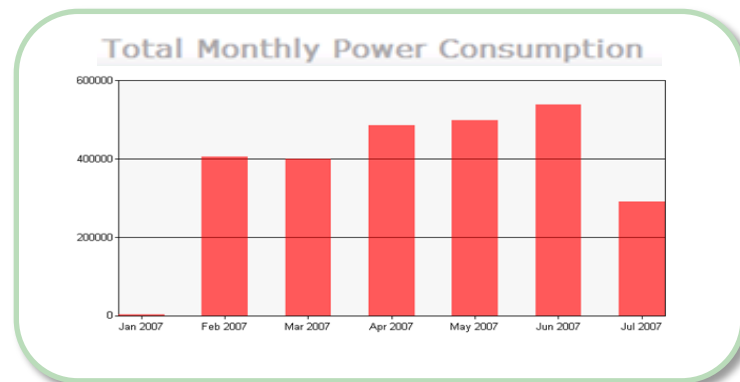
Monthly CO_2 Emissions
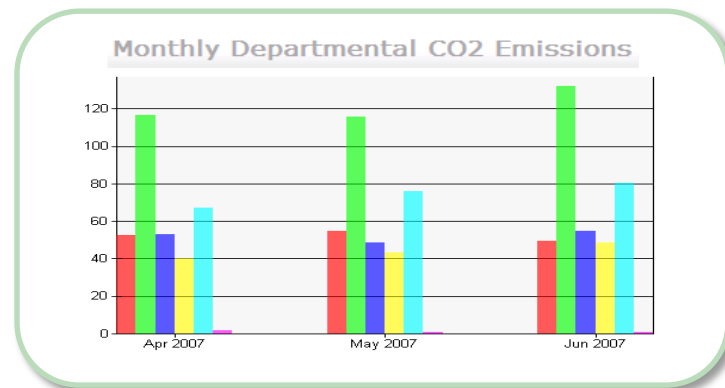
Power Management Cost Savings

▶ Estimated cost savings to DoS by implementing a power management solution

- Always on costs $6,023,962
- Costs after implementation   - $4,158,919
- Savings total $1,865,043

▶ Above figures based on:

- Cost/kWh: 10.5 ¢
- Number of workstations: 77,970

Coordinating Desktop Power Management

▶ Key stakeholder examples: overseas post administrators, domestic location administrators, technical teams responsible for specific technologies, and end users

▶ Local power management implementations

- Some posts and domestic locations have their own power management systems (local WoL implementations, scripts to shutdown/startup systems, use of Windows power management policies)

- We will incorporate their requirements into the enterprise solution

▶ Sensible policies upon implementation ⟶ avoid shutting down logged-on users

Current Status

- ▸ 1E purchased and lab tested

- ▸ Proceeding through internal approvals for use on DoS network

- ▸ Planning and deployment
  - – Pilot
  - – Production rollout: November 1

- ▸ Communications and coordination

POC

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