

Verdiem™ Validation & Support

Verdiem's PC power management software, SURVEYOR™ is proven to save energy, reduce operating costs, help the environment and accurately measure and manage PC network energy consumption. SURVEYOR has a solid track record of delivering savings to public and private organisations Worldwide. Additionally, it has been tested, validated and supported by numerous third party organisations including utilities, energy groups and consultants. Moreover, its Measurement and Verification (M&V) process is based upon recognized international standards. The following information details the organisations that support SURVEYOR, customer success examples and the M&V methodology behind it.



VERDIEM
Power Management for PC Networks

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SURVEYOR's Third Party Validations

SURVEYOR's measurement functionality and field performance has been validated by a number of independent, third party organisations, including the Northwest Energy Efficiency Alliance (NEEA). NEEA commissioned Quantec LLC, an independent contractor, to conduct a series of market evaluation reports aimed at discovering SURVEYOR's impact in the commercial marketplace. Two of these reports have been completed and posted on the NEEA website at www.nwalliance.org under Evaluation Reports off the Resource section of the site.

Among other critical evaluation factors, Quantec evaluated SURVEYOR's measurement capabilities head-to-head against more traditional measurement equipment such as data loggers. Loggers were connected to PCs at a number of Verdiem's customer sites in order to collect data simultaneous to SURVEYOR. The results confirmed that SURVEYOR's measurements were statistically equal to those collected by data loggers.

Since the completion of the Quantec reports, SURVEYOR's measurement functionality has been evaluated by other organisations as well. Southern California Edison, Advanced Energy (part NC State University) and Platts are among the other organisations who have conducted rigorous studies verifying the validity of SURVEYOR's measurements. Numerous less rigorous evaluations have been conducted as well by utilities and energy service companies throughout North America.

Utilities & Energy Organisations

Verdiem's SURVEYOR software is recognized by power producers, utilities and energy groups throughout North America. Many of these organisations have supported SURVEYOR through development, marketing, incentive or outreach programs. The following list provides a sampling of these organisations and associated programs.

ENERGY STAR® is a U.S. Department of Energy EPA program that helps businesses and individuals protect the environment through energy efficiency. As an ENERGY STAR Buildings Program partner, Verdiem is complementing EPA's effort to educate public and private organisations about energy waste and greenhouse gas emissions that result from PC energy consumption.



Rebuild America is a U.S. Department of Energy program that focuses on energy-saving solutions for U.S. communities. Verdiem is a Rebuild America Premier Business Partner, educating the organisation's members on how to eliminate energy waste in PC networks.



Bonneville Power Administration studied SURVEYOR to determine its applicability for BPA's Conservation & Renewable Discount program. The study concluded that SURVEYOR would save an average of 200 kWh per PC per year and led to SURVEYOR's acceptance in BPA's utility incentive programs.



The Northwest Energy Efficiency Alliance (NEEA) is a regional consortium of utilities and energy efficiency groups that work to make affordable energy-efficient products and services available in the marketplace. NEEA provided funds for SURVEYOR's product development and hired an independent engineering firm to audit SURVEYOR's performance in customer environments, confirming its savings and reporting accuracy.



Northeast Utilities is a Fortune 500 diversified energy company with regulated and competitive subsidiaries, providing reliable, reasonably priced electricity, gas and energy services in the northeastern United States. Northeast Utilities conducted a rigorous evaluation of SURVEYOR's performance before offering a reimbursement program covering up to 50 percent of the installed cost of SURVEYOR.



Southern California Edison is one of the largest electric utilities in the U.S. and the largest subsidiary of Edison International. They conducted a meticulous internal review of SURVEYOR and Verdiem's measurement and evaluation protocols. As a result, Southern California Edison provides financial rebates to customers who purchase SURVEYOR through its Express Efficiency Program.



New York Power Authority (NYPA) is America's largest state-owned power organisation. NYPA operates 18 generating facilities and more than 1,400 circuit-miles of transmission lines and is a national leader in promoting energy efficiency. NYPA provides custom financial incentives to customers using SURVEYOR.



Research Organisations

Quantec



As previously mentioned, Quantec LLC was commissioned by the Northwest Energy Efficiency Alliance (NEEA) to conduct a series of market evaluation reports to discern SURVEYOR's impact in the commercial marketplace.

Quantec is an advanced analytics consulting firm. They measure and predict consumer behavior and its impact on energy, financial and natural resources for the benefit of decision-makers in business and the public sector. Their clients rely on their expertise in strategic planning, market research, forecasting, risk management and program evaluation.

For more information on Quantec please visit http://www.quantecllc.com/?page=tools&action=about_quantec

Quantec, Market Progress Awareness Report 2: SURVEYOR, Software, May 2004

Advanced Energy



"The SURVEYOR software package by Verdiem, Inc., of Seattle, Washington, effectively enforces a low-energy profile on server-connected computers to regulate computer energy use. The demonstration project at Advanced Energy showed significant energy savings for all desktop computer configurations and some savings for laptop computers.

SURVEYOR accurately recorded energy use on all computers, even laptop computers, which can be hard to track with their mobile nature. Moreover, Advanced Energy verified results from a 2003 Northwest Energy Efficiency Alliance (NEEA) study of SURVEYOR that showed approximately 25 percent savings on desktop computers..."

"...The software was remarkably effective at reducing energy consumption, easy to use, resulted in no loss of data, and has the potential to greatly impact businesses in the state of North Carolina. There is the potential to reduce 371-GWh of energy consumption in the state, which could save NC businesses \$998 per 100 computers per year. Therefore, SURVEYOR should be considered by all businesses with a networked computer system."

What the experts are saying about SURVEYOR...

"Its unique combination of functionality and flexibility gives SURVEYOR the broadest applicability of any power-management software we are aware of and the potential to extract the maximum energy savings...with minimal disruption to worker productivity." – Platts

"Based on the results of a metering study, SURVEYOR generally appeared to properly shut down the computers and monitors, leading to energy savings." – Quantec

"All configurations saved between 15% and 60% of total energy consumed during the period. The software operated seamlessly, and was easy to install." – Advanced Energy

"The program is very robust, versatile and easy to use." – Advanced Energy

About Advanced Energy

Located in Raleigh, North Carolina, Advanced Energy is a national resource that focuses on industrial process technologies, motors and drives testing and applied building science. Their facility houses state-of-the art laboratories, where they perform testing and applied research in all three of these evolving disciplines.

For more information on Advanced Energy please visit <http://www.advancedenergy.org/>

Advanced Energy, Demonstration of SURVEYOR Software Implementation and Economic Feasibility, Final Report; August 2004

Platts



Platts Research and Consulting prepared a report in late 2004 examining network power management software. Platts deemed Verdiem's SURVEYOR software to be the universal winner, stating that it allowed "the greatest flexibility and broadest applicability with ease of deployment and minimal maintenance requirements."

About Platts Research & Consulting

Platts, a division of The McGraw-Hill Companies, is a leading global provider of energy and metals information. With nearly a century of business experience, Platts serves customers across more than 150 countries. From 14 offices worldwide, Platts serves the oil, natural gas, electricity, nuclear power, coal, petrochemical and metals markets.

Platts' real time news, pricing, analytical services and conferences help markets operate with transparency and efficiency. Traders, risk managers, analysts and industry leaders depend upon Platts to help them make better trading and investment decisions.

For more information on Platts please visit <http://www.platts.com/>

Institute of Electrical and Electronics Engineers (IEEE) Society

IT Professional Magazine, November/December 2004

"Several studies have shown that if every PC followed a best-practices approach to power management, an organisation could easily lower its energy costs by \$18 to \$45 per year per PC."

About IEEE



The IEEE, a non-profit organisation, is the world's leading professional association for the advancement of technology.

Through its global membership, the IEEE is a leading authority on areas ranging from aerospace systems, computers and telecommunications to biomedical engineering, electric power and consumer electronics among others.

Members rely on the IEEE as a source of technical and professional information, resources and services.

Recent News

Wall Street Journal

March 27, 2007

IT Managers Make a Power Play

“Quad/Graphics Inc. in Sussex, Wis., has also outfitted its 4,000 PCs with SURVEYOR after a pilot study of the software last year showed it would shave 35% to 50% off the cost of the company’s computer power bills, say officials of the commercial printer. This equates to as much as \$70,000 annually in lower power costs. That’s a real boon, the officials add, since their business has been squeezed by fierce pricing pressure. ‘Every dollar saved has a direct impact to the bottom line,’ says Mike Fegley, Quad/Graphics’s manager of energy and corporate facilities.”

AMR Research

February 26, 2007

Do PCs Dream of Electric Sleep?

“Verdiem has created a software utility called SURVEYOR, which allows companies to centrally measure and manage PC power settings. The SURVEYOR software allows network administrators to measure PC power usage and then centrally administer energy saving strategies. For example, companies can transition to low-consumption energy states based on time of day or user activity. Managers can also schedule PCs to wake up at night to administer software upgrades without interrupting users during the work day.”

“In discussions with managers at several large educational institutions, each claimed paybacks within 18 months. A school district close to Microsoft’s Redmond campus uses 11,000 PCs in 45 schools. As the district’s Resource Conservation Manager noted, ‘telling people to do the right thing doesn’t work.’ While the district had been struggling to get energy use down, automating PC energy savings ‘was a touchdown.’”

Energy and Power Management

February 1, 2007

CUNY Manages Computer Energy

“Many facilities managers do not realize the hidden high cost of energy use by their organisations’ PCs. During the past decade, PCs have grown in their power and size, translating into increased energy usage in the office. According to a 2002 study by Arthur Little (now known as TIAX), PCs and related equipment accounted for 9% of all energy used in offices, and were on their way to becoming the third largest source of power demand in the commercial sector.”

Business 2.0 - Green Wombat

December 19, 2006

Verdiem: Energy-Savings Software Sales Boom as Corporate America Goes Green

“A running tally on Verdiem’s site, for instance, trumpets that its clients have saved nearly \$18 million and cut their greenhouse gas emissions by about 146,000 tons - the equivalent of taking 19,000 cars off the road. Such numbers give companies green bragging rights, of course, but also could potentially prove valuable as limits on greenhouse gases are imposed and carbon trading markets emerge in states like California.”

Public CIO

December 2006

Energy Hogs on the Server Farm - Side Bar: Greening the IT Department

"In 2004, the Lake Washington School District in Washington state installed power management software on its 12,000 PCs and 85 servers. The Surveyor product, developed by Seattle-based Verdiem Software, lets IT groups monitor power usage and put PCs to sleep when not in use."

"We leave our computers on 24/7 because we often work on them at night," explained Bob Siemers, a senior network engineer for the district. "This software gives us the best of both worlds, because we can leave them on, but when we're not working on them they are using much less energy. The savings are significant."

CNET News

September 2006

Curbing the CO₂ that comes from PC use

"The savings from SURVEYOR can be fairly substantial, according to Verdiem. The company has found that the software can cut power bills by \$20 per PC and reduce carbon dioxide emissions by 440 pounds a year. Fifteen PCs can generate as much carbon dioxide annually as a typical midsize car, according to the company, although the exact figure depends on where and how the electricity is generated and other factors."



THE WALL STREET JOURNAL.



BUSINESS 2.0

Proven Results

SURVEYOR delivers energy and cost reductions in a number of diverse and challenging environments, with an average savings of 200 kWh per computer per year. The following customer examples and testimonials illustrate a few of the many customer success stories and demonstrate SURVEYOR's performance. *(Figures depict average savings over 12 months of use as well as savings expected over 4 years of service.)*

SURVEYOR Results

City University of New York (CUNY); New York State

- With 19 colleges, and over 400,000 full and part-time students, CUNY is one of the largest educators in the U.S.
- The SURVEYOR project at CUNY is supported by the New York Power Authority.
- Annual Per-PC Energy Savings: 173 kWh / \$15.92 @ \$0.092 per kWh
- Projected 4-yr Total Savings:
 - 21 Million kWh
 - \$2 Million
 - 18 thousand metric tons CO₂ green house gases not emitted

City of Boston

- Boston is one of the largest cities in the U.S.
- City of Boston has been recognized as a national leader by the EPA's Green Power Partnership Program
- Annual Per-PC Energy Savings: 180 kWh / \$25.00 @ \$0.14 per kWh
- Projected 4-yr Total Savings:
 - 270,000 kWh
 - \$150,200
 - 171 metric tons of CO₂ green house gases not emitted

Prince George's County Public School System (PGCPSS); Maryland

- 134,190 students in 202 schools, PGCPSS is one of the largest school districts in the U.S.
- Annual Per-PC Energy Savings: 142* kWh / \$18.46 @ \$0.13 per kWh
- Projected 4-yr Total Savings:
 - 21.6 million kWh
 - \$2.8 million
 - 23 thousand metric tons of CO₂ green house gases not emitted

Customer Success

"In my opinion, this software package is the best that I have experimented with. Verdiem is the most professional and helpful sales company that I have worked with in the past thirteen years. I can't say enough about them."

— Edwin Hood, A.Sc.T., Energy Management Coordinator, School District 34 Abbotsford

"Many computers throughout the district were left on overnight or on weekends. Verdiem's software provides global control for the energy saving features already built into Windows. The software works well and hasn't caused any conflicts."

— Matt Evans, Director of Technology, Oceanside Unified School District
Director of Technology, Oceanside Unified School District

"Every dollar saved has a direct impact to the bottom line"

— Mike Fagley, Quad/Graphics manager of energy and corporate facilities

M&V PROTOCOL

Verdiem has integrated the Measurement and Verification M&V protocol that is the standard for the State of California statewide program into SURVEYOR, as sanctioned by the California Public Utilities Commission (CPUC). Verdiem has adopted this standard since California is a recognized leader in energy efficient practices, setting some of the nation's most aggressive energy saving goals and this protocol incorporates the International Performance Measurement & Verification Protocol (IPMVP). This standard is used globally to help standardize concepts and options for M&V of energy. Almost all performance-contracting firms adhere to the IPMVP.

Using an established protocol ensures the establishment of an accurate baseline and makes certain that actual savings are derived by referencing savings data to the baseline at regular intervals. A full copy of Verdiem's M&V protocol can be found below.

SURVEYOR measures and quantifies the amount of energy consumed by a PC network via a client-server application. The SURVEYOR server software includes a management console for an energy manager or network administrator to define and "push" power management settings to PCs on the network.

The SURVEYOR client software receives and enforces those power management settings, and continuously collects data such as the time and energy state of each PC. The resulting data is periodically saved in a server database to feed reports that can be generated to show energy consumption over any given period of time.

By determining the amount of time each PC spends in each of its energy states, SURVEYOR can precisely calculate the actual network energy consumption and enable organisations to establish optimum power management settings that minimize user impact and maximize energy savings.

Verdiem Measurement and Verification Plan

(formulated as described in the State of California SPC Procedures Manual)

Step 1: Process/Measure Description and Example

A. Verification of Existing Process/Equipment

First, determine the types of PCs that the organisation currently utilizes throughout its facilities and whether or not there is any current means of centrally controlling the power states of those computers. On average, the amount of energy wasted in a typical PC network exceeds 400 kWh per year per PC, with approximately 200 kWh per year per PC available to be transparently saved by introducing appropriate power management controls.

B. Proposed New Equipment Retrofit or Enhancement

Verdiem and the organisation will utilize Verdiem's SURVEYOR software solution to cast a comprehensive central management net around all of the organisation's networked PCs. SURVEYOR is a unique software tool that enables comprehensive measurement and management of networked PCs. The product elevates control of power management features up from the individual PC to a central administrative console, allowing IT and energy personnel to define and control organisation-wide energy policies in a consistent and comprehensive fashion. These policies insure that PCs are always available to users when they need them, while ensuring that when they are not in use they are either in a low power state or completely shut down, including at appropriate times in the evening or on weekends. SURVEYOR is engineered with a robust set of data collection and reporting features, and provides measurable and verifiable data that details energy consumption, energy savings and cost savings. The methodology utilized by SURVEYOR is described in detail below.

C. Resultant equipment and/or process

While the organisation's PC equipment will not change, the process by which that equipment is managed will change significantly. By using SURVEYOR, the organisation will have the ability to develop customized energy management policies that are appropriate for the many groups of users within the network. These policies will enable the organisation to approach

energy management of PCs in a logical, metered fashion, guaranteeing that energy savings can be garnered in a way that has no negative impact on end users, user productivity or IT network management activities. The detailed data that SURVEYOR collects insures that the organisation's IT staff and energy personnel have the information necessary to report on energy savings and to ensure that their energy policies are as effective as they can possibly be.

Step 2: Establish Baseline Annual Energy Use

As discussed in the section above, SURVEYOR is a comprehensive tool that both measures and manages energy consumption across PC networks. Once deployed across the network, SURVEYOR provides a unique opportunity to measure current energy consumption levels without imposing any new energy management policies on the system. This enables an extremely accurate 'baseline' consumption level to be established, while also gathering critical information on how various groups of users interact with their PCs. This usage information is important in identifying the appropriate energy policies that should be imposed on any given group of users.

The following are the steps that Verdiem utilizes to establish baseline energy consumption levels with SURVEYOR:

1. In cooperation with the organisation, Verdiem will establish an inventory of PC equipment, including both CPUs and monitors;
2. Verdiem will use national average consumption values for the specific hardware noted (based upon data from over 300 SURVEYOR projects), or take actual energy consumption measurements of each of the typical PCs and monitors present on the network in each of their power states, including: on/active, standby, hibernate, and off.
3. Verdiem will create a table of the energy consumption levels of this equipment in each of its various power states. Based on inventory of each of these types of equipment, Verdiem will establish an average PC consumption figure that will serve as the standard in the SURVEYOR reporting tool. Below is an example of this process in a theoretical environment of 6,000 PCs with three primary CPU and monitor configurations:

TYPE OF EQUIPMENT	# OF UNITS IN SYSTEM (6,000)	WATTS CONSUMED ON	WATTS CONSUMED STANDBY	WATTS CONSUMED HIBERNATE	WATTS CONSUMED OFF
CPU's					
CPU #1	2000	55	25	4	2
CPU #2	2000	45	20	2	2
CPU #3	2000	60	35	8	2
AVERAGE PC ENERGY CONSUMPTION		53.3	26.6	4.6	2
MONITORS					
MONITOR #1	2000	60	0	n/a	0
MONITOR #2	2000	48	0	n/a	0
MONITOR #3	2000	55	1	n/a	0
AVERAGE MONITOR ENERGY CONSUMPTION		54.3	0.3		0

4. Once energy measurements for specific PCs are agreed upon, SURVEYOR will be deployed to each of the PCs within the organisation's PC network.
5. For a period of 2 consecutive weeks, SURVEYOR will simply collect data that will enable an accurate 'baseline' energy consumption level to be established for the organisation's PC network. SURVEYOR specifically collects precise information that determines the amount of time that PCs and monitors spend in their various power states. This 'time-in-state' data, when multiplied by the average energy consumption levels established above, provides the critical information necessary to calculate precise energy measurements. An example data set for one day of energy consumption for the 6,000 PC network described above is:

Baseline CPU Consumption

EQUIPMENT	TIME IN STATE (HOURS FOR ALL 6,000 UNITS)	TIME IN STATE (HOURS PER SINGLE UNIT)	WATTS CONSUMED PER UNIT IN EACH POWER STATE	kWh CONSUMED PER UNIT	ANNUAL kWh PER PC
CPU's					
ON	42000	10	53.3	0.533	194.54
STANDBY	12000	2	26.6	0.053	19.42
HIBERNATE	18000	0	4.6	0	0
OFF	72000	12	2	0.024	8.76
TOTAL CPU CONSUMPTION	144,000 HOURS	24 HOURS		0.610	222.72

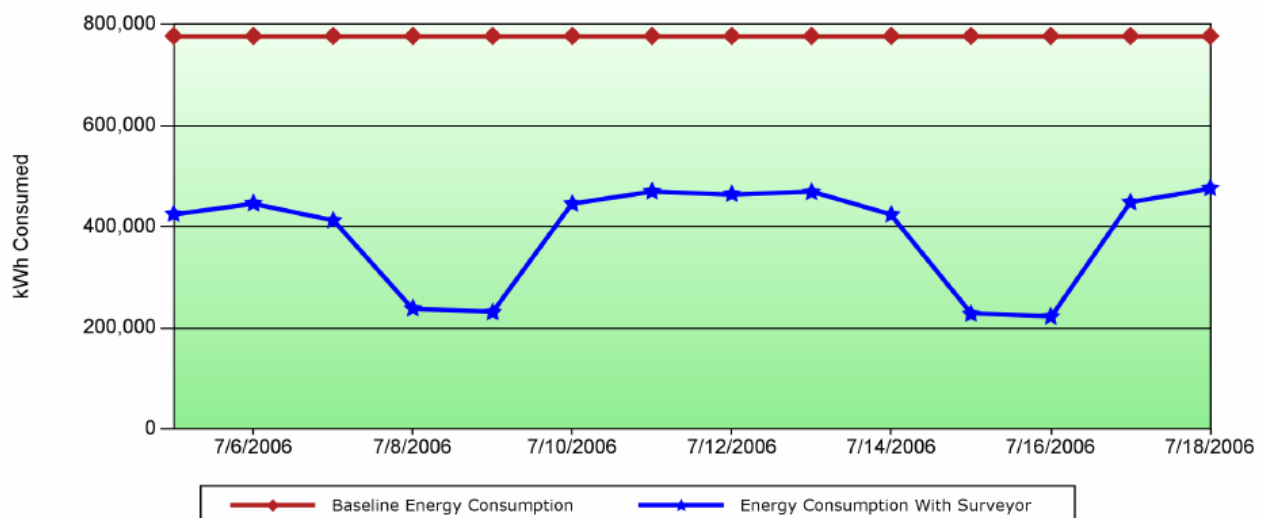
Baseline Monitor Consumption

EQUIPMENT	TIME IN STATE (HOURS FOR ALL 6,000 UNITS)	TIME IN STATE (HOURS PER SINGLE UNIT)	WATTS CONSUMED PER UNIT IN EACH POWER STATE	kWh CONSUMED PER UNIT	ANNUAL kWh PER UNIT
MONITORS					
ON	42000	10	54.3	0.543	198.16
STANDBY	12000	2	0.3	0.0006	0.22
OFF	72000	12	0	0.0	0
TOTAL MONITOR CONSUMPTION	144,000 HOURS	24 HOURS		0.544	198.38

Baseline Combined PC/Monitor Consumption

EQUIPMENT	DAILY kWh CONSUMED PER UNIT	ANNUALIZED kWh CONSUMED PER UNIT	ANNUALIZED CONSUMPTION FOR ALL 6,000 NETWORKED PCs
CPU's	0.61	222.65	1,335,900
MONITORS	0.544	198.38	1,190,280
TOTAL SYSTEM CONSUMPTION	1.154	421.21	2,526,180

Annualized Daily Power Usage



Energy consumption is extrapolated to a population of 2,000 PCs based on actual measurements.

SURVEYOR has a robust internal data collection and reporting system that makes all of these calculations automatically and provides diverse reporting capabilities for administrators of the product. The tables above depict annualized consumption data derived from baseline data typically collected over a period of 2-4 consecutive weeks. This is a period of sufficient length to capture user trends and anomalies that might impact data collection efforts of shorter duration.

Step 3: Establish Post-Installation Annual Energy Use

The process for establishing post-installation annual energy consumption levels for this project is almost identical to that of establishing the baseline consumption levels as described in the previous section. Below are the specific steps:

1. Once the baseline consumption information is gathered, Verdiem will review the information in detail with the organisation in order to gain an understanding of how and when various groups of PC users within the network utilize their machines. This information will be used to create energy management user groups and profiles within SURVEYOR that will gain energy savings without impacting users or user productivity.
2. Verdiem will provide a detailed review of software and BIOS settings to help in the eventual configuration of systems and the network, to facilitate low power states in the computers.
3. The organisation, with assistance from Verdiem, will configure systems, the network, and energy management policies that will ensure that PCs properly use low power states when users are away and appropriately powered down in the evenings, on weekends, and on holidays.
4. For a period of 2 consecutive weeks, an identical timeframe to that of the baseline collection period, SURVEYOR will both enforce energy policies and continue to collect data that will enable an accurate 'post-installation' energy consumption level to be established for the organisation's PC network. The collection, calculation, and reporting of data occurs in an identical fashion to that of the baseline period. The only difference is that the consumption numbers will be significantly reduced since SURVEYOR is now actively controlling PC power states. For example, the energy consumption on a per unit basis for the 6,000 PC network described above AFTER energy policies are enabled is:

Enforcement CPU Consumption

EQUIPMENT	TIME IN STATE (HOURS FOR ALL 6,000 UNITS)	TIME IN STATE (HOURS PER SINGLE UNIT)	WATTS CONSUMED PER UNIT IN EACH POWER STATE	kWh CONSUMED PER UNIT	ANNUALIZED kWh PER PC
CPU's					
ON	42000	5	53.3	0.267	97.46
STANDBY	12000	5	26.6	0.133	48.55
HIBERNATE	18000	3	4.6	0.014	5.11
OFF	72000	11	2	0.022	8.03
TOTAL CPU CONSUMPTION	144,000 HOURS	24 HOURS		0.436	159.14

Enforcement Monitor Consumption

EQUIPMENT	TIME IN STATE (HOURS FOR ALL 6,000 UNITS)	TIME IN STATE (HOURS PER SINGLE UNIT)	WATTS CONSUMED PER UNIT IN EACH POWER STATE	kWh CONSUMED PER UNIT	ANNUALIZED kWh PER UNIT
MONITORS					
ON	42000	5	54.3	0.272	99.28
STANDBY	12000	8	0.3	0.0001	0.088
OFF	72000	11	0	0	0
TOTAL MONITOR CONSUMPTION	144,000 HOURS	24 HOURS		0.272	99.32

Combined PC/Monitor Enforcement Consumption

EQUIPMENT	DAILY kWh CONSUMED PER UNIT	ANNUALIZED kWh CONSUMED PER UNIT	ANNUALIZED CONSUMPTION FOR ALL 6,000 NETWORKED PCs
CPU's	0.436	159.14	954,840
MONITORS	0.272	99.32	595,920
TOTAL SYSTEM CONSUMPTION	0.708	258.46	1,550,760

Step 4: Calculate Energy Savings

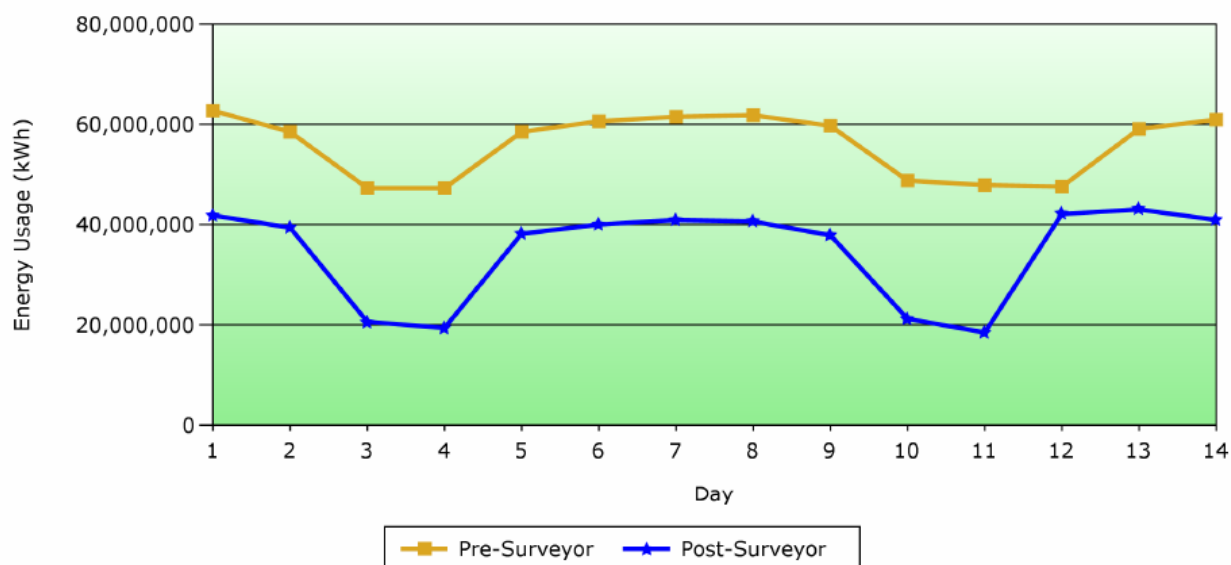
Once the baseline and post-installation (i.e., enforcement) energy use measurements are completed, savings levels are simply the difference between the baseline and the post-installation consumption levels

Savings (kWh/year) = Baseline Energy Use – Post Installation Energy Use

Applying this formula to the data sets used as examples above yields the following results:

BASILINE CONSUMPTION PER PC PER YEAR	ENFORCED (POST INSTALLATION) CONSUMPTION PER PC PER YEAR	ENERGY SAVED PER PC PER YEAR	AMOUNT SAVED PER PC PER YEAR (BASED ON \$.14 PER kWh)	AMOUNT SAVED/ YEAR FOR THE ENTIRE 6,000 PC NETWORK
450	250	200	\$11.12	\$66,720

Annualized Daily Power Usage



Energy usage is based on the average measured daily power usage, extrapolated to 100,000 PCs.

Step 5: Calculate Corresponding kW Reductions – Impacts on Demand

The data collected in the previous sections can be further analyzed to determine SURVEYOR's impact on demand and kW reductions. At the request of several utility partners, SURVEYOR was reengineered to collect data in a way that enables 'time of day' analysis, providing an opportunity to define the amount of kW reductions that can be attributed to SURVEYOR activities. As a result of the relative newness of this data collection capability, Verdiem believes that this analysis is valid and

verifiable and has 3rd party validation in process, but doesn't yet have published results. It is clear, however, that SURVEYOR provides significant demand reduction benefits, and as an additional benefit of the product SURVEYOR will provide this data for the benefit of Verdiem customers.

Since its founding, Verdiem has solely concentrated on developing comprehensive PC power management software that accurately measures and reports energy consumption and savings. No other solution on the market today has as much experience, expertise and backing from external experts and utilities as SURVEYOR.

New and existing customers alike continue to substantiate the findings of the previous evaluations of SURVEYOR. Currently, SURVEYOR monitors and controls the energy use of more than 400,000 PCs worldwide saving their owners more than \$32 million, and saving the environment from 276,000 tons of carbon dioxide emissions—the equivalent of taking 34,000 cars off the road.

Ready to learn more?

Call us on 0870-858 2000 or e-mail us at info@unitedaccess.co.uk. We have services available to measure your network's current energy consumption and accurately show you how much energy and CO₂ emissions SURVEYOR can save your organisation.