Benefits of desktop virtualization

FOR THE BUSINESS
- Reduced energy costs through virtual desktops with smaller power footprints and server consolidation
- Reduced operational costs (desktop support costs, client hardware)
- Reduced total cost of ownership (energy costs, desktop support costs and client hardware)
- Increased flexibility
- Better security
- Improved user uptime by compartmentalizing workloads
- Better remote access solution

FOR THE IT DEPARTMENT
- Speed of service delivery
- Simplified manageability
- Lower cost of operations
- Support for legacy and line of business applications
- Robust disaster recovery
- Smaller carbon footprint

FOR THE USER
- Continuity of experience across devices, locations and time zones
- Greater productivity because of the flexibility to work wherever, seamless access to applications, data, etc., from any device (laptops, tablets or mobile phones)
- User customization on multiple platforms

How PG&E can help

Pacific Gas and Electric Company offers financial incentives to help offset the costs of implementing desktop virtualization. Earn a rebate for each desktop PC you replace with a virtual desktop.

To get more information about this energy-saving solution, and to learn whether or not this incentive program is right for your organization, contact your PG&E Account Representative, call the PG&E Business Service Center at 1-800-468-4743, or visit www.pge.com/hightech.

Sources:

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Reducing energy costs while providing more computing power to more devices

The perceived low acquisition costs of PCs and the rising demand for computing power has led to PC sprawl in the workplace. But the energy to power these desktop PCs (plug load) has rarely been factored into a company’s budget, because energy costs were often fixed or even free, depending on a company’s chargeback formula or the building’s lease.

That’s all changing as energy costs and consumption continue to rise. Today, corporate energy costs typically represent 4% of the total IT budget. Moreover, industry analysts estimate the annual cost of powering a server will soon exceed its acquisition costs.²

Idle hardware = Energy hogs

The problem is underutilized desktop and server hardware. Desktop CPUs and servers run at average utilization rates of only 8 – 15%, yet, while idle, consume nearly as much power.¹ Many organizations are implementing mandatory hibernation before to accommodate increasingly mobile users and their smartphones and tablets.

Shift in technology control

Lately, IT.C and end users are adopting technology. Now end users are a major influence. This emerging “consumerization” of corporate IT creates new issues for IT related to manageable, security, governance, and the management of user expectations.

Enterprise Challenge

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Desktop virtualization delivers end user freedom and IT control for less

Desktop virtualization minimizes computing on a device (like a desktop computer, laptop, tablet, etc.) and moves it to a server with a change in hardware and software. Multiple virtual machines can reside on the server, each with their own applications and operating systems. This enables users to access corporate resources independent of location or device — making it an ideal way to support today’s increasingly mobile worker who often uses a mix of devices, some personal and some corporate-owned.

PG&E can help you adopt virtualization with rebates to convert desktop PCs

Pacific Gas and Electric Company (PG&E) recognizes the transformative power of desktop virtualization and is helping companies implement this strategy by offering rebates for replacing desktop PCs with virtual machines.

Before

| After |
|------------------|------------------|
| LC D MONITOR + CPU | LC D MONITOR + CPU |
| 5,200 watts x 100 employees | 320 watts x 100 employees |

Each virtual machine uses an average of 64% less energy than a typical desktop PC.³

Less energy, more control

At the same time, desktop virtualization helps meet IT’s need to simply management, protect data and control costs (including support and energy). That’s because each virtual machine is centrally managed and uses an average of 86% less energy than a typical desktop PC.³ Software is widely available to run both Windows and Unix/Linux varieties as well as Apple’s Macintosh computers.

Notes:  Magenta Dotted Lines Indicates Fold Lines, Do Not Print.

Challenge
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The perceived low acquisition costs of PCs and the rising demand for computing power have led to PC sprawl in the workplace. But the energy to power those desktop PCs (plug loads) has rarely been factored into a company’s budget, because energy costs were often fixed or even free, depending on a company’s chargeback formula or the building’s lease. That’s all changing as energy costs and consumption continue to rise. Today, corporate energy costs typically represent 4% of the total IT budget. Moreover, industry analysts estimate the annual cost of powering a server will soon exceed its acquisition costs.

Idle hardware = Energy hogs

The problem is underutilized desktop and server hardware. Desktops and servers run at average-utilization rates of only 8–15%, yet, while idle, consume nearly as much power. Many organizations are implementing mandatoryibernation settings on monitors and computers, and converting to more energy-efficient laptops. But these are only partial solutions because IT departments don’t have the luxury of reducing service levels to cut costs. In fact, IT departments are being challenged to provide more computing power than ever before to accommodate increasingly mobile users and their smartphones and tablets.

Shift in technology control

Lately, IT used to control how end users adopted technology. Now end users are a major influence. This emerging “consumerization” of corporate IT creates new issues for IT related to manageability, security, governance and the management of user expectations.

Solution

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Enterprise Challenge: Providing users more access to corporate resources

Virtualization Solution: Centralized managed virtual machine use on average of 84% less energy than a typical desktop PC²

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Less energy, more control

At the same time, desktop virtualization helps meet IT’s need to simplify management, protect data and control costs (including support and energy). That’s because each virtual machine is centrally managed and uses an average of 84% less energy than a typical desktop PC.² Software is widely available to run both Windows and Unix/Linux variants as well as Apple’s Macintosh computers.

Desktop virtualization with rebates to convert desktop PCs

Pacific Gas and Electric Company (PG&E) recognizes the transition to power of desktop virtualization and is helping companies implement this strategy by offering rebates for replacing desktop PCs with virtual machines.

Making the right choices

Moreover, one size doesn’t fit all. Users and corporate culture play big roles in determining which is the best desktop virtualization option to deploy. Since users range from power user, through knowledge worker to process worker, it’s critical to evaluate each case. More than one virtual desktop implementation has failed because users weren’t prepared to lose the autonomy and freedom that desktop implementation has failed because users weren’t prepared to lose the autonomy and freedom.

It’s important that desktop virtualization also be combined with good user behavior (turning on/off power at night, configuring power settings to optimize energy consumption) and effective data center design. Using a combination of technologies and best practices is the best way to achieve optimal savings.
Reducing energy costs while providing more computing power to more devices

The perceived low acquisition costs of PCs and the rising demand for computing power has led to PC sprawl in the workplace. But the energy to power these desktop PCs (plug load) has rarely been factored into a company’s budget, because energy costs were often fixed or even free, depending on a company’s chargeback formula or the building’s lease.

That’s all changing as energy costs and consumption continue to rise. Today, corporate energy costs typically represent 6% of the total IT budget.1 Moreover, industry analysts estimate the annual cost of powering a server will soon exceed its acquisition costs.2

Idle hardware = Energy hogs

The problem is underutilized desktop and server hardware. Desktop CPUs and servers run at average utilization rates of only 8–15%, yet, while idle, consume nearly as much power.3

Analysts estimate the annual cost of powering a server (including support and energy) is the same as or nearly as much as the initial purchase price. The problem is compounded when one considers the energy cost of powering servers in the data center. More than one virtual machine can reside on the server, each using its own share of power.4

Shifting in technology control

Lastly, IT used to control how end users adopted technology. Now end users are a major influence. This emerging “consumerization” of corporate IT creates new issues for IT related to managed, security, governance and the management of user expectations.

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Desktop virtualization minimizes computing on a device (like a desktop computer, laptop, tablet, etc.) and moves it to a server with a change in hardware and software. Multiple virtual machines can reside on the server; each with its own applications and operating systems. This enables users to access corporate resources independent of location or device — making it ideal way to support today’s increasingly mobile workforce who often uses a mix of devices, some personal and some corporate-owned.

Enterprise Challenge Virtualization Solution

Reduce overall energy costs without losing computing power

Centrally managed virtual machines use an average of 48% less energy than a typical desktop PC.3

Keep environment secure while providing users more access via more devices

By centralizing desktop computing in the data center and removing applications and data from the endpoints, IT can provide comprehensive and secure remote access on a wide range of devices.

Accelerate deployment of applications while reducing support costs

Virtualization enables IT to quickly update, install and patch operating systems, applications and user data from a centralized location, rather than doing time-consuming endpoint updates.

Solution

Less energy, more control

At the same time, desktop virtualization helps meet IT’s need to simply management, protect data and control costs (including support and energy). That’s because each virtual machine is centrally managed and uses an average of 56% less energy than a typical desktop PC.2 Software is widely available to roll both Windows and Unix/Linux varieties as well as Apple’s Macintosh computers.

Optimization software (like VMware’s Horizon) is widely available to virtualize a wide range of devices. Some personal and some corporate-owned.

PG&E can help you adopt virtualization with rebates to convert desktop PCs

Pacific Gas and Electric Company (PG&E) recognizes the transformative power of desktop virtualization and is helping companies implement this strategy by offering rebates for replacing desktop PCs with virtual machines.

PG&E will work with you to identify the best opportunities for success, since desktop virtualization is a complex undertaking. You must carefully analyze total cost of ownership (TCO), including hard numbers (like energy and support savings) and positive side effects (like an demonstrating green business practices to customers, shareholders and employees). Any sizable gain in TCO is generally realized alongside an equally sizable investment in servers, storage, security mechanisms and wide area networks.6

Making the right choices

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It’s important that desktop virtualization also be combined with good user behavior. Barring all users at night, configuring power settings to optimize energy consumption and effective data center design. Using a combination of technologies and best practices is the best way to achieve optimal savings.

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- Lower cost of operations
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- Continuity of experience across devices, locations and time zones
- Greater productivity because of the flexibility to work anywhere, with seamless access to applications, data, etc., from any device (laptops, tablets or mobile phones)
- User customization on multiple platforms

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**Sources:**
Improve productivity and energy efficiency via desktop virtualization

Benefits of desktop virtualization

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