



# How Green is Your IT?

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- **Let's Take a Quiz**
- **Green IT in your home**
- **Green IT in the Data Center**
- **Green IT in Data Storage**
- **Virtualization of the desktop/applications**
- **Cloud Computing**
- **Questions**

**At the personal level**

**Replace Cathode Ray Tubes with LCD panels,**

**Replace desktops with notebooks**

**Reduce Vampire loads,**

**Buy: “Energy Star” devices**

**“Recycled or recyclable” devices**

- **Server Virtualization is Just the Start**
- **Blade-type servers reduce the foot-print**
- **In rack cooling reduces/eliminates the need for huge chiller installations**
  - May also eliminate the need for raised floors
- **Hot aisle-Cold aisle configuration maximizes cooling efficiency**
- **On-demand cooling produces only as much cooling as needed**
- **Overhead cabling conduit is replaced by over-rack cabling**
- **Allows a data center to be placed in standard office space**

- **Do we call it Green IT or Virtualization?**
  - Answer? “Yes!”
- **Server Virtualization is reducing the power consumption and space demands at many data centers, thereby reducing cost**
  - It’s good for the environment—reduced carbon footprint, lower construction costs, etc.
- **We are seeing many organizations approach things from a cost saving point of view or a Green IT point of view depending upon the audience**

# What is Virtualization?

- **A Working definition:**
- **“Server Virtualization is the masking of server resources, including the number and identity of individual physical servers, processors, and operating systems, from server users.”**
  - » Techtarget.com, 5 Jun 2007
- **Think of partitioning of your hard drive as a metaphor**

## ➤ **Virtualization of Data Storage**

- The abstraction of logical storage from physical storage

## ➤ **Three Main Types:**

- Host-based
- Storage device-based
- Network-based

## ➤ **Options for Storage Virtualization**

- Software that is installed on the host or on all application hosts
- Out-of-band solution
- In-band solution
- Switches and array controller microcode
  - Sources: Wikipedia and Storage Virtualization for IT Flexibility--Sun

# Green IT in Applications/Desktop

## ➤ Virtualization of Applications/Desktop



➤ **Cloud Computing Offers Users On-demand:**

- Computing power
- Storage
- Applications (Software as a Service—SaaS)
- Tailorable desktop

➤ **Pros**

- Reduced energy costs and space demands
- Consistent security strategy
- Off-loads risk to supplier
- Change: on-the-fly capabilities
- Extensible storage options

➤ **Cons**

- Your data is stored off-site
- Not in full control of COOP options

➤ **Questions?**

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