

## Think Green, Think Thin: Saving Money and Reducing Energy through Green IT

You've heard the buzz around "green computing." Organizations are "going green" in many areas, but there is a growing focus on Green IT because data centers and servers are among the biggest offenders when it comes to waste and inefficiency.

Many organizations today have an abundance of servers, and most of them are underutilized. Typically, servers operate at 5%-20% of full processing capacity, but are still using energy. Add on the cost of running hundreds, if not thousands, of desktop PCs everyday and power costs alone are putting dents in already tight IT budgets everywhere.

### The Keys to Green Computing

- Product Longevity - The manufacturing process and end of life disposal are the two biggest offenders when it comes to leaving behind a large ecological footprint. Using computing products with a long lifespan can minimize this negative impact, while at the same time allowing companies to maximize their investment in IT.
  - Devon IT thin clients can last from 7-10 years, compared to the 3-5 year life expectancy of a PC.
  - Devon IT's VDI Blaster software will extend the life of your existing PCs by converting them into VDI ready thin client devices.
  
- Power Consumption - One of the simplest ways to make an IT environment more green is simply to turn off devices when they're not in use. Properly managing automatic hibernation settings can drastically lower the amount of power used and heat generated in an IT environment.
  - Devon IT thin clients are compliant with the Energy Star 5.0 requirements for hibernation and can be configured in many ways to ensure that they are using the minimum amount of power when not in use.
  - Even when being actively used, thin clients generate far fewer BTUs than PCs. These savings in cooling costs can become even greater through effective power management.

**The examination of thin client deployment in two different productive installations shows that thin clients in combination with terminal servers and desktop virtualization solutions offer economic and ecological advantages over conventional PC infrastructures.**

- Fraunhofer Institute for Environmental, Safety and Energy Technology study

- Virtualized Servers - Instead of carrying out processes on many individual PCs, a previously underutilized server can handle the computations the users require while the end users can continue accessing all of their work through a connected thin client.
  - Server virtualization eliminates the need for power consuming PCs
  - Devon IT thin clients use between 8-15 watts of power, compared to 150 watts for a typical PC. Replacing PCs with thin clients connected to a Virtual Environment not only helps to capitalize on your server investment, it results in great energy savings.
  - The central management approach eliminates the need to send administrators and engineers to remote sites should a problem arise. Not only does this make support and maintenance that much easier, it also cuts down on travel expenses and saves fuel and energy while cutting down waste.
  
- Reduce Waste - Disposal of obsolete hardware is a large concern in Green IT, and e-waste remains a problem. Between toxic components being disposed of improperly, large amounts of material going into landfills, and the volume of extraneous waste associated with shipping devices, the more IT departments can reduce their waste, the better.
  - The smaller size of thin clients results in a great reduction in packaging needed for shipping and disposal, which also results in reduced transportation costs.
  - The long lifespan, reduced size, and small number of components of a thin client make them far more recycle-friendly than PCs.
  - Concerns over data stored on hard drives can make PC recycling troublesome from a security standpoint. With Devon IT thin clients, however, what little persistent memory they do utilize can be easily wiped clean before disposal.
  - Devon IT thin clients comply with the RoHS standards of reducing the usage of toxic metals and hazardous substances.

**Virtualization helps us in 20 different ways, we have much better use of capital and the obsolescence of our equipment is being elongated.**

*-Guy Chiarello, CIO,  
JPMorgan Chase*

**Thin clients are definitely a way forward in reducing the component count. It doesn't make sense to have a PC for every desk. This is definitely a step forward in reducing the resources used.**



## Crunching the Numbers: Thin Clients vs. PCs

Utilizing Thin Clients in an IT environment provides savings in a number of financial and ecological ways. In the end, the savings really add up. The clearest example of these savings is seen in energy costs and carbon footprints associated with energy consumption. Here is an example based off of the following theoretical situation: A business has 1000 PCs which they run 40 hours a week, 52 weeks a year. PCs typically use about 150 watts/hour, and the average price per KWH is currently 12.06 cents. Alternatively, that company could be using 1000 TC5X thin clients running on four virtualized servers.

Device	Watts/Hour	Avg. Cost KWH	Cost/Year	Total kWh/Year	CFP/Year (in tons)
TC5X	11	12.06	2759.32	22880	13.55
4 Servers	206	12.06	206.69	1713.92	1.01
PC	150	12.06	37627.20	312000	184.86

When the total costs have been calculated, we arrive at the following totals:

Total Cost in Dollars/Year		Carbon Footprint in Tons/Year	
Total PC	37627.20	Total PC	184.86
Total TC5X	2966.03	Total TC5X	14.57
Savings	\$34,661.17	Savings	170.29 tons

Many companies are burning through tens of thousands of dollars in excessive energy costs per year, leaving a recklessly large carbon footprint behind. In modern times, using PCs in large enterprise environments simply no longer makes sense. It's time to think green: It's time to think thin.