

IBM Podcast

Data center design and how it can help businesses drive growth and energy efficiency.

Host: Jen Knecht

Speaker: Steve Sams, Vice President, Global Site and Facilities Services.

Jen:

Welcome to this IBM podcast series focused on how to optimize your technology infrastructure. I'm Jen Knecht from IBM. Through this series we will cover topics that help lower IT complexity and improve operating efficiency along with tips and advice on using technology and services to help you and your company succeed.

We recently spoke with Steve Sams, IBM Vice President and resident expert on energy efficiency and Green, to cover an area that is of interest around the world. How to redesign data centers to fuel business growth and be energy efficient. In this first of two podcasts, we'll cover the role of data center design and how it can help businesses drive growth and energy efficiency. The second podcast, which is also available on our podcast series Web page, Steve reviews how IBM is helping clients today build and deploy data centers that are flexible and efficient and how you can get started.

Please join us now as we cover part one of our interview with Steve Sams on this exciting topic.

Steve, we've heard a lot in the last year about Green IT and the importance of controlling rising energy costs. Can you describe for us to why clients are continuing to focus on being energy-efficient?

Steve:

Well Jen, every time you and I or anybody on this podcast takes their car to a gas pump, we all recognize that the cost of energy is going up and will continue to go up for some period of time. I don't think any of us foresee a downturn in the future of energy costs, or the future of energy rates. Quite simply put though, data centers are huge users of energy. A typical data center uses more than 30 times the amount of energy per square foot or per square meter versus traditional office space. These are huge users of energy and they are particularly important to running the IT operations for a client.

It's also clear that energy efficiency yields immediate results. We've been doing very many energy efficiency assessments around the world and the average improvement in terms of the data center infrastructure energy efficiency has been 23%. So our clients have been able to reduce their energy costs in their data centers by 23% through actions that pay for themselves in less than two years just by energy cost savings.

The other important factor is that energy efficiency is clearly a metric that shows overall IT efficiency. As you reduce your server population or consolidate or virtualize your server population you clearly can significantly reduce your energy consumption but you also reducing your people cost in supporting that technology, the maintenance cost for the technology, and the software cost for the technology. So we're finding that energy efficiency is a really good metric to look at overall optimizing IT efficiency.

Jen:

Steve as you mentioned data centers are the engine that fuel business growth. We've heard a lot about the challenges that data centers are having in terms of keeping up with this growth and being green. What are some of the challenges that are specifically facing clients?

Steve:

Well Jen a really good piece of insight to help answer that question is from a recently completed survey we've done with 1,100 CEOs. CEOs are indicators of what kind of things the CIO might need to focus on in the future. Of those 1,100 CEOs, 83% of them expected substantial change in their business over the next three years. That change is restructuring their business, adding new applications, new functions, and buying new businesses etc.

The second major thing that they highlighted was 75% of them expect to become globally integrated companies. So, they are entering new markets, they're leveraging resource and skills around the world. The third major thing that came out of this survey is that they are really focused on energy and environmental responsibility -- 69% of them believe that rising customer expectations of corporate social responsibility will positively impact their business if they can demonstrate that they are taking real action.

So those are three drivers, the drivers for businesses becoming more rapidly changing, having to globally integrate and focus on energy and environmental responsibility clearly puts pressure on the CIO to have data center infrastructure which is ready to handle that change. So this is a really good time to think about how you would redesign the data center to fuel business growth and meet these other requirements.

Jen:

Yes, that's a lot for an organization to address. Can you talk about some of the changes IBM recommends to help organizations move away from legacy and monolithic data center design principles?

Steve:

Well there are really four things that we encourage customers to think about. I'll share some facts and some of the studies that we've done around that. First of all what we really want to do is we really want to help customers optimize the lifecycle costs around energy versus floor space. In the past customers have thought about how big their data centers are, how many square feet or square meters they have and not necessarily how much energy they use. Quite simply when you

actually look at the cost associated with the floor space components of the data center, that's only 10% of the capital cost. 60% of the capital cost is actually on the elements that are using energy; the UPS systems, the power distribution systems, the cooling systems. So optimizing floor space isn't what will save huge amounts of capital cost, but optimizing energy efficiency clearly will.

The second thing associated with optimizing cost is when you actually look at the cost of the data center. Running the data center over a 20 year time period, that cost is typically three to five times what it originally cost to build the data center. So if you spend \$50 million to build the data center it's going to cost you somewhere between \$150 million and \$250 million to run that data center over the next 20 years. 75% of that operational cost is the cost of energy.

So obviously that's getting a focus on what the costs really are and how you optimize against those costs is critical. The second is we really think it's important to start aligning your data center strategy with your IT strategy. Over the last 20 years IT has basically moved to an environment where customers are buying on demand. If they need a bunch of new server capacities than they can go buy a bunch of very low cost of blade servers and pop them into a blade chassis and they have a new capacity up and running in minutes.

Data centers on the other hand are typically purchased to last 20 or 30 years and in the past customers have bought data center space and paid for the data center space on year one that they might need for the next 10 years, 20 years or 30 years. We are really thinking about being much more aligned to the IT requirements by building scalable data centers that can basically grow as IT requirements grow.

The third thing that they really need to think of is they need to align data centers to be able to be flexible to support the technology that they buy over the next 20 or 30 years. I think all of us recognize that our ability to predict where technology is going in a 10, 20, 30 year time frame is zero. Yet data centers are designed with a very specific set of requirements. What we're really trying to do is design our data centers today to be very flexible for changing IT requirements.

There was a study recently a study done by ASHRAE, a design organization that does most of the engineering specifications for data centers. They suggested that in this decade the density of technology will have increased by 20 times which means the power and cooling requirements per square foot or per square meter in a data center has increased by a factor of 20 to 30 times. That's not a very good issue to be facing, if you design a data center 10 years ago that was only designed for technology for 10 years ago. So clearly designing flexibility for new technology in new data centers is a critical success factor.

The last point is data center design and build is typically a very long, very time-consuming process. Typically new data centers take 18 to 24 months to come on stream. We have now been delivering some other data centers to new clients in less than eight weeks. So clearly time

to market and to be able to provide this new functionality, this new capacity, this new flexibility is one of the factors that we also think it's critical.

Jen:

This concludes part one of our interviews with Steve Sams. Please tune in to part two where Steve reviews how IBM is helping clients today build and deploy data centers that are flexible and efficient and how you too can get started.

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For listeners looking for more information, there are three good sites to go to, depending upon what you're interested in. If you're interested in just the overall information on system software and services for a greener world you can go to www.ibm.com/green. For CIOs who would like to keep current on our current white papers and videos that go into this area in a lot more depth I would suggest going to www.ibm.com/cio. For IT managers will have a site and would like some more detail on how to optimize their IT site I would suggest www.ibm.com/itsolutions/optimizeit.