

SME Server Hardware, Core Counts, Consolidation and more....

Introduction

Server hardware is often a crucial buy for any organization owing to cost, criticality in the data center and the expected reliability – moreso for an SME which often cannot afford additional standby equipment. However, industry statistics reveal the following – as per a 2007 Forrester report, SME/SMBs spend 27% on hardware of which 38% is kept aside for hardware and of this 50% is reserved for spending on servers (new and upgrades) – considering that an entry level server hardware costs at least 4-5 times a desktop, that is not a whole lot of money set aside!

Shopping for servers is a bit like shopping for a wedding – there are many options and accessories (memory, disk space, cooling, external and attached storage, operating environment etc) to be considered before deciding on the server and more often than not, server benchmark reports focus more on the server performance and not on presenting the server as part of a data center solution.

This article considers key activities for SME and SMB companies when it comes to server hardware selection, datacenter and the industry players.

Creating a datacenter for servers

SMEs often do not have structured datacenter spaces – this is of primal importance when selecting a server since it needs excellent air circulation or efficient cooling / air-conditioning it positioned in a cramped space. Other important aspects are the network architecture and design, numbers of servers, number of users / branches. The flip side however, is that the more servers, the more you have to worry about keeping them cool especially if they are to run 24/7.

Servers can also be application specific and may need to be separated on an isolated subnet for security reasons – such servers are called department servers (e.g. for EDM, PDM applications) wherein the department has a separate systems administrator to manage the same. Since servers are often 'always on', uninterrupted power and fire safety is a key support requirement and it does help if the office is manned at all hours. It is always good to specify operational requirements in the form of an IT policy so that users understand such limitations.

Server selection and configuration

Software and hardware are never released at the same time and this is one of the reasons that SMEs find it hard to manage server assets since they do not have the budget or the bandwidth to frequently change and upgrade hardware because the software demands so. Check with other SMEs of your size before buying a server.

While historically SMEs have gone in for tower configurations owing to better pricing and easier cooling, datacenter space constraints has pushed several organizations to consider rack / blade options which are now affordable as well. Basic technology options are available around organization sizes of 25, 50, 100 and suitable upward scale. Operationally servers are designed to function as part of local clusters, manage information from branches, manage local and remote storage and also facilitate business continuity and redundancy.

Servers come in standard tower options, standard rack options and blade servers (where power, cooling and networking can be moved to the blade enclosure or even virtualized). The standard racks can stack 42 1U units today.

The players

There are many players in the SME/SMB space who offer a wide range of options – key players include Dell, HP, IBM, Sun, Egenera, Hitachi and Lenovo and many other regional leaders in different countries. Most of them offer upgrade paths wherein many server components such as power supplies, memory, add on disks, storage units and many other such plug and play add on devices can be bought along the way. Most of these companies have kept user cluster sizes and number of concurrent users to define server computing capacity. With the market heavily oriented towards rack and blade equipment, budgets can be easily managed as the organization grows.

What's the catch?

Servers need to be cared for since they are on 24/7 and unless the company can support this with suitable redundant power, cooling, storage, monitoring etc, organization data and services will always be at risk. This is where it is better for SMEs to virtualize their server assets and worry more about IT service levels than the server hardware itself.

Did you know that servers have been around since 1970? So if you want to get to know more about servers, latch on to the relevant jargon such as EPROMs, VMEbus, PCI, CompactPCI, PICMG, AdvancedTCA, HA and Blades.

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