IBM

Putting the brakes on data-centre sprawl

Tackle the growing carbon footprint of your data centre

What's the carbon management issue?

For most organisations, the growing importance of IT is putting pressure on space and resources in the machine room or data centre. The historical tendency to add a new server and storage system for each new application means that many businesses have over-sized, inefficient IT infrastructures – often with additional departmental servers outside of the central facility.

As demands for new applications and data storage grow, floorspace, power consumption and heat output in the data centre are becoming major issues. It's not just a question of rising costs for power and cooling – in many cases, organisations are coming up against the physical limitations of their data centre facilities, in terms of how much floorspace is available and how much power and cooling can be supplied. As more machines, running faster and hotter than the previous generation, are continually added, the carbon footprint of the typical data centre is growing rapidly.

With increasing public awareness of environmental issues and concern about global warming, the growing inefficiency in your data centre could be a public relations time-bomb for your company. Even if the business is not overly concerned about its environmental profile, the financial aspects of inefficiency should be enough to spur action. Energy prices are rising rapidly,

and IT power consumption is set to become a major cost centre for many organisations. Beyond these direct costs, a sprawling, inefficient data centre is also likely to be difficult and costly to manage and expand, and slow to adapt to new business requirements.

There is now significant pressure on businesses to reduce the physical footprint of servers in the data centre, cut heat output and power consumption, and reduce the speed at which the infrastructure needs to grow. By taking positive steps to tackle the carbon management issue in the data centre, your business can also benefit by reducing operational costs and gaining flexibility.

What's the solution?

Server consolidation is a relatively easy initial tactic in the strategic move towards an efficient, environmentally sound, low-cost infrastructure. By consolidating a large number of decentralised and under-utilised servers to a smaller number of more powerful machines in a central location, your business may be able to cut capital and operational expenditure both now and in the future.

As well as cutting the cost of hardware acquisition by squeezing more out of existing hardware, a well-managed programme of server consolidation can significantly improve quality of service, flexibility and speed of response to new business requirements. Moreover, reducing the total number of servers and storage systems will generally cut power consumption and heat output, shrinking your organisation's carbon footprint. A smaller, more efficient IT infrastructure should reduce hardware maintenance costs, and may also enable significant savings on software licensing.

The first and most important step is to accurately assess the existing IT infrastructure. This initial study should cover every aspect: not only the physical server, storage and networking hardware, but also all of the applications, databases, data flows and connectors used by the business. Once you have an accurate picture of the current environment – and how it is growing as demands increase – it will be possible to identify which opportunities for consolidation will generate the fastest and most significant IT infrastructure cost savings and environmental efficiencies.

When the likely cost savings are modelled, the resulting business case is likely to show that the cost of consolidation will be more than offset by the savings produced.

How to get started?

The Zodiac Environmental Study from IBM Global Technology Services is designed to produce a thorough analysis of your current infrastructure, detailed suggestions on how to optimise it, and a comprehensive summary of the projected business benefits. By delivering a validated projection of the expected return on investment, the Zodiac study can help you create an effective business case to secure the necessary funding.

With Zodiac, IBM offers an extremely versatile analysis of your infrastructure – from high-level to in-depth, and at any level in between. The study can cover any or every part of your infrastructure, including mainframes, UNIX** and other mid-range servers, the x86 landscape and storage devices – including non-IBM technologies. IBM can prepare a tailored scope of work to address the precise needs of your business.

A typical Zodiac engagement will start with the identification of the business objectives and the strategies currently in place for achieving them. IBM will produce a detailed report on the current state of the infrastructure, and analyse the gaps between existing capabilities and future plans. IBM will then work with you to identify the quickest and best opportunities for server consolidation – in particular, looking to eliminate isolated "islands" of IT resources.

IBM will then recommend a platform for consolidation, and will work with you to put together a detailed business case for the targeted solutions. This will detail:

- *Hard savings – reduced costs for hardware maintenance, software licences, hardware acquisition, staff and support, power and cooling*
- *Soft savings – increased flexibility and responsiveness, reduced physical complexity, improved environmental profile, greater efficiency, improved availability and quality of service.*

The IBM Zodiac study includes a full server and application inventory, showing how costs break down across maintenance, software, support, power and cooling. It also encompasses the creation of business cases for the purchase of new hardware, for migration and consolidation, and for the disposal of old hardware.

IBM is committed to environmental leadership in all of its business activities. For further information see **ibm.com**/ibm/environment

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