Part One

Introducing Utility Computing

'Just get a bigger pipe; it can all be solved with a bigger pipe.'
<div align="right">Susanna Sherrell</div>

The premise of this book is that there is now a seed change in the way in which enterprise information services need to be accounted for. Strict alignment with the business is required to ensure that all resources create a suitable return on investment. By looking at other utilities, it is possible to discover the facets that make them successful, and in turn apply these to IT. In this part, we examine how we have arrived at this juncture and look at the way a restaurant is run to find an analogy for a service-driven organization that may be applicable to the next generation of IT organization.

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Introduction

Upon reflection we will see that the mid-2000s was an inflection point when it came to computing. The paradigm shift of utility computing has come about as information technology (IT) has moved from being *just a business enabler* to becoming *a true business differentiator*. The cost associated with IT has always been seen as high, but necessary and the .com crash in 2000 started putting the squeeze on IT budgets around the world. Alignment with the business has become the new IT mantra and it is up to the CIO to show value rather than just cost (See Figure 1.1).

Pushed by the lines of business to support more applications and their data with greater availability, while the CEO and CFO are squeezing costs, the CIO now has a challenge on his hands. Technology in itself has become cheaper and flexibility in the ways it can be used has increased, these point to improvements for the business. However, the sad fact is that this increasingly complex environment has become very expensive to manage. It is now a well-accepted fact that the business will spend \$3 on storage management for every \$1 it spends on storage hardware (Nicolett and Paquet, 2001).[1] The heterogeneous environment is here to stay and is now applied not only to proprietary hardware and its associated operating system (OS), but also to storage, commodity hardware

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[1] While there are no published figures for other aspects of IT, for example server management, the increase in provisioning and reprovisioning of servers and patch management, the numbers would probably be similar. Other, unsubstantiated, numbers put the overall cost of IT management at between \$7–\$10 for each \$1 spent on hardware.
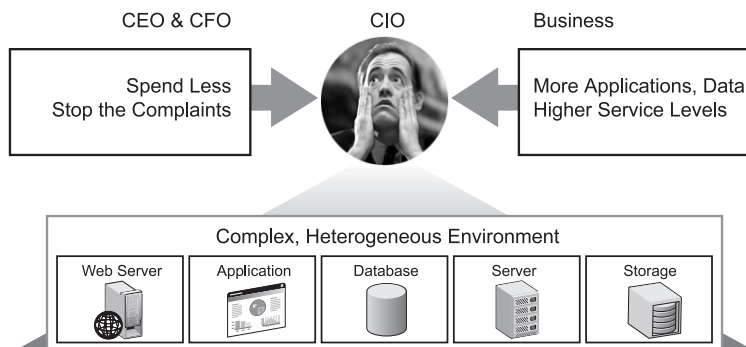
Figure 1.1   The CIO's dilemma.

with interchangeable operating systems and, finally, even to applications, be they on the same OS or in some cases on different ones.

The storage area network (SAN) was held up as the IT environment of the future and in some ways has held up to its promise, but the unforeseen management costs have held it back from universal adoption. Other new technologies, such as iSCSI and Infiniband, which show promise for adding value to the business, are not getting any traction as the cost to manage them is too high and the IT organization (ITO) is already under too much pressure just maintaining what it has already got.

In order to tackle rising costs, the CIO has traditionally turned to outsourcing (Figure 1.2). A large outsource company would come into the business and take the whole of IT off its hands, buying back the equipment, leasing the premises and employing the staff. It
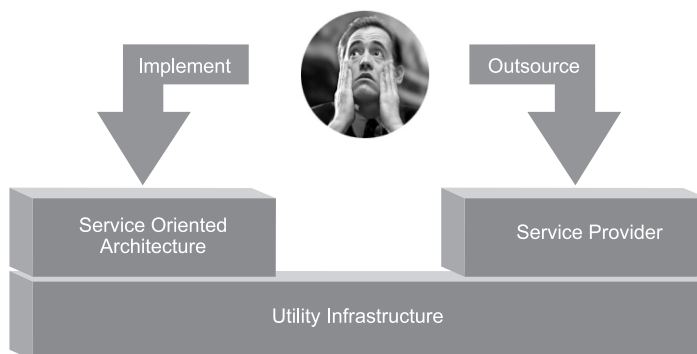

Figure 1.2   The CIO's options.

would then deliver IT as a service for a known and agreed upon price and terms. While this would not necessarily reduce the costs to the absolute minimum, it would, at least in theory, stop the escalation of them, leaving the business to concentrate on its core business and ultimately on making money.

However, utility computing offers the CIO an alternative. By moving to a service oriented architecture (Figure 1.2), the CIO can reduce costs by understanding where the costs actually are and then putting in place an agile ITO that can focus on delivering value to the organization as a whole. This will respond quickly to the changing needs and, through the introduction of automation of best practice, will allow the ITO to concentrate on innovation, thereby helping the business differentiate itself from its competition.

This book introduces utility computing as a better way for a business to run its IT services and puts forwards a complete methodology for transforming the ITO. Fortunately, the move to delivering IT as a service using a utility infrastructure is not an all-or-nothing project, there are a number of stages a business can go through, depending on which services are right for them to start with.

The chapters in Part One cover a general introduction to utility computing, the history of how it came about and the utility model.

Part Two elaborates on the technology and concepts behind utility computing, along with the complete transformational methodology. Step-by-step transition plans are put forward for all the major IT services, together will a method for determining which is best suited to your business.

Finally, Part Three covers the broader implications to the business of a utility computing strategy, how to overcome the cultural implications and develop a successful adoption strategy. It finishes with a look to the future in terms of what might come next.

REFERENCE

Nicolett, M. and Paquet, R. (2001) *The Cost of Storage Management: A Sanity Check*. Gartner Group.