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Chapter XI

Ten Lessons from Finance for Commercial Sharing of IT Resources

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Abstract

Sharing IT resources within and among organizations is an attractive value proposition in terms of efficiency and flexibility, but despite this, commercial practice is limited. In contrast, financial and commodity markets have proved very successful at dynamic allocation of different resource types to many different organizations. Thus to understand how the potential benefits of sharing IT resources may be promoted in practice, we analyze enabling factors in successful markets. We present 10 basic lessons for IT resource sharing derived from a financial perspective and modified by considering the nature and context of IT resources. From each lesson we derive the

required software or process capability required to support it. We then evaluate the maturity of the respective capabilities within the peer-to-peer and grid environments using a simple framework based on the standard Capability Maturity Model approach. We conclude with a description of the largest capability gaps and the lowest hanging fruit for making IT resource sharing a more viable business proposition.

Introduction

Sharing IT resources within and among companies is an attractive value proposition for many organizations in terms of efficiency and flexibility, but despite this, commercial practice is limited. The scope of potentially sharable IT resources includes computation, storage, and data. Network bandwidth has been shared for some time, but this is typically done without a defined quality of service. It will also be necessary to create appropriate packages of the different resources to be shared, but beyond the scope of this article. The context we are considering is large-scale sharing among separate budget entities, for example, within a large life-sciences company, an oil company, or a financial institution, or indeed, among them all. Common technical paradigms for enabling resource sharing have been established in terms of the peer-to-peer (P2P), the cycle-harvesting, and more generally, the whole grid movement. Whilst the value proposition for resource sharing may be compelling in the abstract, sharing is still at a rudimentary stage in practice.

Although business executives and IT managers would surely welcome the ability to extract more value from available resources, especially in light of shrinking IT budgets, they have been slow to adopt such practices, presumably because many of them are not yet convinced that these new sharing paradigms can deliver in practice. Technically, it is indeed possible to allocate resources as needed and to change this allocation on very short time scales. However, the ability to dynamically align resource allocations with changing business objectives is largely absent. Thus the principal reason for the slow commercial adoption of P2P and related technologies is that although such technologies enable sharing, they do not help an organization decide how to best allocate the resources it owns. In contrast, financial and commodity markets have proved very successful in terms of both scale and scope regarding the dynamic sharing and allocation of many different types of resources among many organizations.

Thus, to understand how the potential benefits of sharing IT resources may be realized in practice, we consider 10 lessons learned from the financial sector. From each lesson we derive one or more software or process capabilities