第 12 回 IT ソフトウェア翻訳士認定試験

＜1 次試験＞　4 月 17（日）10：00～15：00

問題 1・2 の両方について解答のこと。選択ではありません。

＜問題 1＞　全文を訳して提出してください。

Introduction

The buzz around cloud computing has reached a fever pitch. Some believe it is a disruptive trend representing the next stage in the evolution of the Internet. Others believe it is hype, as it uses long established computing technologies. As with any new trend in the IT world, organizations must figure out the benefits and risks of cloud computing and the best way to use this technology.

One thing is clear: The industry needs an objective, straightforward conversation about how his new computing paradigm will impact organizations, how it can be used with existing technologies, and the potential pitfalls of proprietary technologies that can lead to lock-in and limited choice.

This document is intended to initiate a conversation that will bring together the emerging cloud computing community (both cloud users and cloud providers) around a core set of principles. We believe that these core principles are rooted in the belief that cloud computing should be as open as all other IT technologies.

This document does not intend to define a final taxonomy of cloud computing or to charter a new standards effort. Nor does it try to be an exhaustive thesis on cloud architecture and design. Rather, this document is intended for ClOs, governments, IT users and business leaders who intend to use cloud computing and to establish a set of core principles for cloud providers. Cloud computing is still in its early stages, with much to learn and more experimentation to come. However, the time is right for the members of the emerging cloud computing community to come together around the notion of an open cloud.

What is Cloud Computing and Why is it Important?

In order to understand the core principles of an open cloud, we need to first agree on some basic definitions and concepts of cloud computing itself. First, what is "the cloud"? The architecture and terminology of cloud computing is as clearly and precisely defined as, well, a cloud. Since cloud computing is really a culmination of many technologies such as grid computing, utility computing, SOA, Web 2.0, and other technologies, a precise definition is often debated.

While definitions, taxonomies and architectures are interesting, it is more important to understand the value propositions for cloud computing. We need to understand how suppliers of cloud technology will come together to deliver on the promise of cloud computing.

The key characteristics of the cloud are the ability to scale and provision computing power dynamically in a cost efficient way and the ability of the consumer (end user, organization or IT staff) to make the most of that power without having to manage the underlying complexity of the technology. The cloud architecture itself can be private (hosted within an organization's firewall) or public hosted on the Internet). These characteristics lead to a set of core value propositions.

＜問題2＞　全文を訳して提出してください。

Scaling and Provisioning Virtual Servers

While virtual servers have proven a boon in the data center, they don't address the challenge of incrementally adding server capacity and automatically distributing load across them. As a result, the responsiveness and availability of a highly utilized Web application, such as Microsoft SharePoint, can deteriorate when the virtual machine it runs on is out of capacity. Next-generation application delivery controllers (ADCs) not only address this challenge, they interoperate with virtualization tools to provide greater control and even make it possible to automatically deploy server resources based on real-time demand.

Virtualization ignores the reality that a given physical server has a fixed performance capacity. The result of virtual machines (VMs) sharing resources means spikes in any one virtual server's utilization can have an adverse impact on all the other virtual servers running on the same hardware. For example, if a virtual server running a database application has a spike of queries, any virtual server on the same hardware may be unable to deliver adequate performance due to the increase in processor load.

Perhaps the most frequently misunderstood aspect of virtualization with respect to quality of service management is the hypervisor's lack of application awareness. While virtualization management tools are able to monitor and control the operating systems they host, the same is not true for the applications running on those guest operating systems. Virtualization environments are blind to failures or bottlenecks at the application layer, which means that, although virtualization infrastructure may consider a guest machine to be healthy according to operating system metrics, the applications running on that server may be unresponsive.

Scaling applications without having to change the application requires server load balancing, where advanced ADCs intelligently distribute end-user requests across multiple servers; from the end-user's perspective, there is only one server.