Chapter 74
Security Aspects in Utility Computing

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ABSTRACT

Utility computing is a need of today's cyber world and so the importance of its security is an important issue. Concerns for utility computer networks' security and dependability are growing quickly because of increasing utility devices with connections to external networks. This aggravates vulnerability of utility networks to cyber-attacks through external connections. Various types of issues and its solutions regarding security in utility computing have been explained in this chapter.

INTRODUCTION

In the past days when computers as well as computer users were less, the use of these machines was limited and depends on the technology. Now a day's technology is growing rapidly so the use of computers and its peripherals. Startup companies and organizations are not so self-sufficient to buy the entire required infrastructure at a time so they take help of utility computing.

Utility computing is defined as a service provided in which service provider avails computer resource as well as infrastructure management to the customers according to need and charge them for their specific usage in place of flat rates (Klvac, 2002).

Utility computing includes computation or processing devices, storage devices including hardware and software as a meter billing service as shown in Figure 1. This repackaging of computing services became the inspiration of the shift to "on demand" computing, code as a service and cloud computing models that more propagated the thought of computing, application and network as a service (Fox and Pallickara, 2013).

Figure 1. Utility computing
Image Courtesy: http://ajudaemti.blogspot.in/2012/05/utility-computing-o-que-e-isso.html.
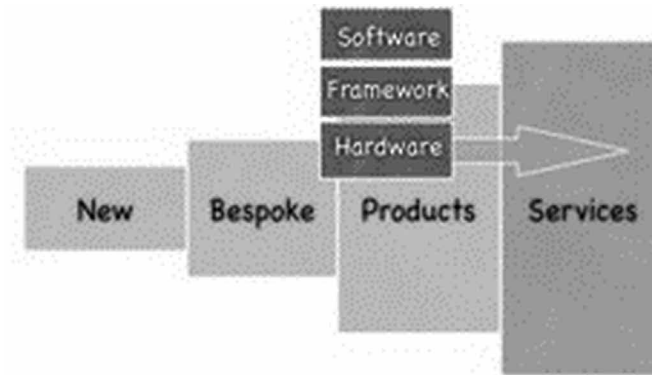
Difference between Utility Computing and Cloud Computing

In many ways, cloud computing and utility computing is similar (Qian et al., 2007). Each idea revolves round the leasing of computing technology. Within the past, firms were needed to take a position heavily in technology direct, creating it tough for little and new firms to own the instrumentation required to achieve their business goals. Through services like utility computing and cloud computing, that direct price is essentially offset, since firms lease what they have from month to month. Because they want grows, thus will the quantity chartered, thus creating it attainable to customize computing prices in the slightest degree points in time.

There are many similarities between these two computing paradigm. However, these two terms aren't interchangeable due to many key variations between them. If one does not understand the depth of those variations, it's not possible to be transparent of which technology is most efficient and useful within the computing realm, particularly for specific computing tasks.

One of the fundamental variations between cloud computing and utility computing relates to nature of the leasing these service. Whereas each designs utilize a third party for his or her computer code and infrastructure, utility computing involves rather more direct access to those services. It's an easy rental, wherever the business is totally attentive to the supply of the services they're leasing. In essence, this kind of computing makes the technology concerned like another utility, and at the top of every month, businesses would be beaked for his or her usage, similar to water or electricity.

This distinction between cloud computing and utility computing is substantial; since it reflects a distinction within the approach computing is approached. Utility computing depends on normal computing practices, usually utilizing ancient programming designs during a well-established business context. Cloud computing, on the opposite hand, involves making a wholly distinctive virtual computing surroundings that empowers programmers and developers in new ways that.

Even traditional business computing tasks will look different through these two computing designs. This routine task involves the storage and use of client data, also as contact details, contract specifics, and completely different connected content. Through utility computing, businesses will simply maintain a conventional approach to CRM, and even firms that lack resources to take a position heavily in infrastructure and code will still have a booming CRM program. this will be particularly powerful for up and

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