Unit one   Cloud Computing

Unit Focus

Reading 1: Cloud Computing in a Nutshell

Reading Strategy: Skimming

Vocabulary Building: Using the Context

Language Focus: As

Reading 2: Hardware Virtualization

Reading 1

Before You Read

1. Do you have any ideas about virtualized electricity?

2. How would you explain virtualized computing?

3. Do you see any similarities between the two?

4. What do you think could computing refers to?

5. take a quick look at the headings of the following text and find out what it is about.
   understand

   Share your ideas with a partner.

Cloud Computing in a Nutshell
in short; briefly

main idea

When plugging an electric appliance into an outlet, we care neither how
become connected to   *device*

electric power is generated nor how .it gets to that outlet. This is possible

because electricity is virtualized; that is, it is readily available from a wall   *a system of*
quickly; easily   *power stations*

socket that hides power generation stations and a huge distribution grid. When
                                                                network

extended to information technologies, this concept means delivering useful
increase the range of   *carry out; fulfill*

functions while hiding how their internals work. Computing itself, to be
                              inner parts

considered fully virtualized, must allow computers to be built from distributed
                                                                        shared

components such as processing, storage, data, and software resources.

cluster computing: when many computers are connected and they perform like a single system

main idea

Technologies such as *cluster*, *grid*, and now, *cloud computing,* have all aimed at
                                                                  directed to; try to do sth

allowing access to large amounts of computing power in a fully virtualized

grid computing: using a group of interconnected computers which work together as a virtual supercomputer to perform large tasks such as weather modelling

manner, by aggregating resources and offering a single system view. In
combine into a single group

addition, an important aim of these technologies has been delivering
carry out; perform   *tense*

computing as a utility. Utility computing describes a business model for

'on-demand' delivery of computing power; consumers pay providers based
whenever requested

on usage ("pay-as-you-go"), similar to the way in which we currently obtain
paying for a service before you use it   *at the present time*

services from traditional public utility services such as water, electricity.

gas, and telephony.

the use of an apparatus for sound transmission

Cloud computing has been coined as an umbrella term to describe a
invent

category of sophisticated on-demand computing services initially offered by
at first

commercial providers, such as Amazon, Google, and Microsoft. It denotes a
companies that provide equipment for transmission; reception and transfer of data

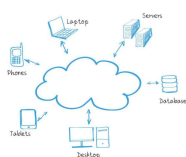model on which a computing infrastructure is viewed as a "cloud", from
basis; foundation   *servers that are accessed over the*

which businesses and individuals access applications from anywhere in the
Internet & the software databases

world on demand. The main principle behind this model is offering
running on those servers

computing, storage, and software "as a service".

= offered a service

Many practitioners in the commercial and academic spheres have
area; domain

attempted to define exactly what "cloud computing" is and what unique

characteristics it presents. While there are countless definitions, there seems

to be common characteristics between the most notable ones: (i) pay-per-

use; (ii) elastic capacity and the illusion of infinite resources; (iii) self-service
idea   *unlimited*   *create a virtual version of sth*

interface; and (iv) resources that are abstracted or virtualized.
consider sth theoretically

the ability to expand or decrease memory and storage to meet the changing demands

so no worries about capacity for peak usage

Roots of Cloud Computing

main idea

We can track the roots of cloud computing by observing the advancement of several technologies, especially in hardware (virtualization, multi-core chips), Internet technologies (Web services, service-oriented architectures, *SOA* Web 2.0), distributed computing (clusters, grids), and systems management (autonomic computing, data center automation). Figure 1-1 shows the *able to manage itself automatically* convergence of technology fields that significantly advanced and *joining; connecting* contributed to the advent of cloud computing. The emergence of cloud *appearance; emergence* *appearance* computing itself is closely linked to the maturity of such technologies. We present a closer look at the technologies that form the base of cloud computing, with the aim of providing a clearer picture of the cloud ecosystem as a whole.

a complex system of interdependent components that all work together to

From Mainframes to Clouds

main idea

We are currently experiencing a switch in the IT world, from in-house *done within an organization* generated computing power into utility-supplied computing resources delivered over the Internet as Web services. This trend is similar to what *direction* occurred about a century ago when factories, which used to generate their own electric power, realized that it was cheaper just plugging their machines into the newly formed electric power grid.

main idea

Computing delivered as a utility can be defined as "on demand delivery of