

Cloud computing offers a way of using computers that makes it possible for you to store and access data and applications (apps) over the internet or another network instead of using your computer's hardware and software. It is also called simply "the cloud."

## Development of the Internet Changes the Use of Computers

Today we all use computers in various aspects of our daily activities both at work and at home. We use them to make meeting materials, adjust business meeting schedules, book hotels for family trips, and shop online. It was about 70 years ago when the first computer was invented. Compared with computing hardware at that time, which was so large that a room as big as a school classroom was necessary to store it, today's computers are very small. Today there are many notebook-sized computers that are thin, light, and high-performing.

At around the end of the 20th century, many people began using the Internet and the communication environment began to improve, developments which have changed how computers are used. Today it is common to use computers online rather than using them disconnected from the Internet. With the advent of devices like smartphones and tablets, anyone can easily use computers anytime and anywhere.

## We Use the Cloud without even Knowing It

When we want to create something using the computer, we first have to install a suitable application, such as a word-processing application or graphic design software. As a result, our computers are usually loaded with multiple applica-

tions and the data we have created using them.

However, in recent years, a service freeing us from installing applications on our computers has made its way into our daily lives. This service allows us to access and use applications provided over the Internet and also to store the created data on the Internet. This is one example of using *cloud computing*. The word *cloud* we increasingly hear today is an abbreviated way of saying cloud computing.

In fact, we have been using cloud services for quite some time without even knowing it. Online search engines are one example. We use our computers to access search engines on the Internet and obtain information from them. Web-mail\* services and file-sharing services available for free are also examples of cloud services.

## Cloud Services are Increasingly Used for Their Availability and Convenience

The Internet is like a web of connections of many computers. We can receive various cloud services through this network crisscrossing cyberspace.

With cloud computing, both applications and data are on the Internet. If you have a device like a smartphone that is connected to the Internet, you can accomplish necessary tasks anytime, even in the train or in a cafe. We can do the same thing without using cloud services, for example by installing a computer and constructing a system for it at the company, but that requires

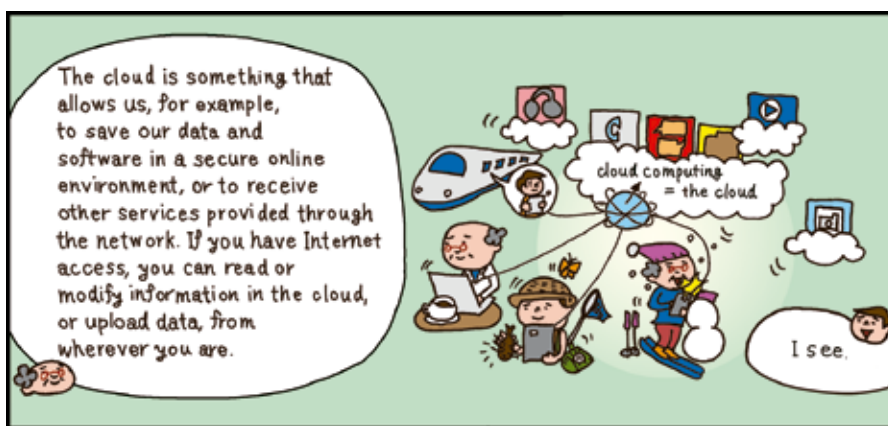
labor and cost. Also, periodic maintenance, such as updating applications to correct program errors, is needed, but in the case of the cloud, a cloud service administrator does an update, so each user does not have to do it individually, which saves both time and effort.

Because of these advantages, cloud computing is now becoming increasingly widespread. For example, in the area of building management, cloud service for sharing building operation data online has appeared. Previously, data on electricity or natural gas consumption was only available to staff working in the central monitoring room of the building. However, using this cloud service, the information can be checked in real time, without being on-site, using a smartphone or tablet.

In addition, collectively managing information in the cloud that was gathered from multiple buildings can lead to more efficient energy management operations through the use of comparative analysis, so information obtained daily can be used even more effectively. Also, information such as the work logs of building managers can be stored in the cloud, allowing it to be shared easily.

It is expected that if everyone involved can access relevant energy information when they need, energy-saving awareness throughout the entire building will increase. In the future, as cloud computing technology develops further, we will have even easier access to various services that will make our daily lives ever more convenient.

\* Webmail or web-based e-mail is a mail service running on a web site. It is accessed from a web browser, without any special e-mail software. Old e-mail and the user's address book are stored in the cloud.



©ad-manga.com



Azbil's cloud service for building management provides energy management, efficient facility operation management, and reduced management costs. Since users can check information regardless of time and place, everyone involved has better information access.

Cover photo by Koji Mizutani, MERRY PROJECT Representative