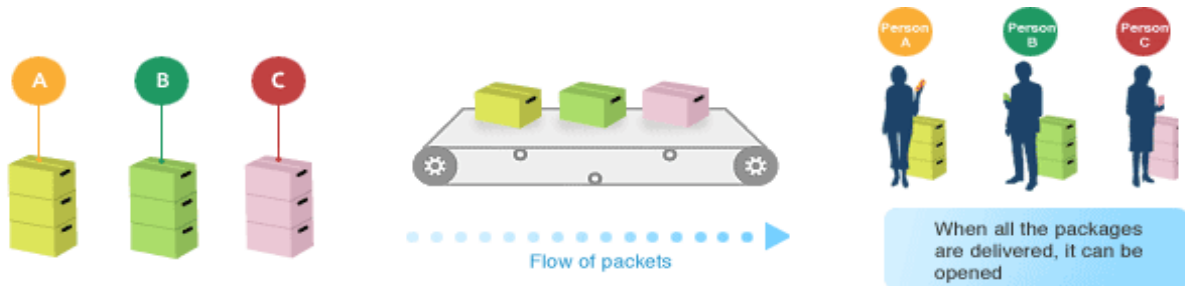


## What are Packet Communications?

Packet communications used for surfing the web of the cell-phone and mail is a communications method that divides transmission data into smaller segments called packets. Normal voice calls use the technology of circuit-switching communication where the time spent talking with the other person occupies one communication line. When all the communication lines that can be used when making calls are full, the user will have to wait until one of the communication lines becomes available. In the case of packet communications, by breaking the data up into smaller units, numerous people can share one line so the communications line can be used effectively.

Packets are the equivalent of packages and in the case of an email, just like a package, each packet has information called the header attached to it that is equivalent of a tag. Written in the header is information necessary in order to send and receive the data, such as dates, the order that the data has been broken up, the names and addresses of the sender and receiver, etc. Data that is sent in units on a shared line is delivered to the receiver precisely according to the header and then becomes the complete data that it was prior to being broken up. Packet communications are suitable for exchanging data such as e-mail or images.



Numerous handsets can share the same line.  
(However, there are times when the transmission will take time if a lot of people are connected.)

## What data will be exchanged in packet communications?

The size of data handled on computers is represented by units called bits and bytes. A bit is the smallest unit of data, and data represented by 8 bits is called 1 byte. In terms of characters, a half-size character is equivalent to 1 byte, and a full-size character to 2 bytes. The packet unit in packet communications is equivalent to 128 bytes. This means that 64 full-size Japanese characters can be transmitted in 1 packet. However, a packet contains a header that includes information such as the destination address so the number of characters that can actually be transmitted in 1 packet is less than 64 characters.

When you surfing the web of the cell-phone, the data required for display is sent from the sites in addition to the characters and images. The transmitted data contains not only the displayed characters but also the information required to specify the position of characters and colors on the screen, and other data required for packet communications.

## Billing System of Packet Charges

Packet communications charges are billed according to the volume of data (number of packets) that is sent and received. Circuit-switching communications where one person occupies one communication line are charged only by the length of the time spent using the communication line. On the other hand, because numerous people use a common communication line, packet communications charges are calculated by the actual volume of data that is transmitted and not the call time.

It is easier to understand by comparing it to a letter sent in the post. The charge is determined by the weight of the letter and not the distance to the destination or the time taken to deliver. Likewise packet charges are billed according to the volume of data, so users can search for and view the information they want without worrying about the time spent transmitting the data or the distance involved.

Packet communications charges are calculated from the total number of packets that have been used in one month and not the number of packets per.