[0004]

Communication throughput in communication using TCP/IP (Transmission Control Protocol/Internet Protocol) relatively largely changes in a short period of time due to complicated action of various factors (e.g., End-to-End delay, packet loss, cross traffic, the intensity of radio waves in radio communication, etc.).

[0005]

For example, in the communication throughput prediction device, communication throughput may decrease due to increase of cross traffic after transmission of test data is completed, or communication throughput may increase due to increase of the intensity of radio waves in radio communication. In these cases, there is a problem that the communication throughput prediction device cannot estimate communication throughput with high accuracy.

SUMMARY

[0006]

Embodiments~~Accordingly, an object~~ of the present invention ~~is to~~ provide a parameter estimation device capable of solving the abovementioned problem, "there is a case where the accuracy of estimation of communication throughput becomes excessively low."

[0007]

According to a first aspect of the present invention~~In order to achieve the object~~, there is provided a parameter estimation device comprising~~as an exemplary embodiment of the present invention includes~~:

a communication throughput acquiring means for acquiring communication throughput that is an amount of data transmitted per unit time; and

a function specification parameter estimating means for estimating a function specification parameter for specifying a probability density function where communication throughput at a second time point later than a first time point is a random variable, based on the communication throughput acquired by the first time point.

[0008]

According to a second aspect~~Further~~, there is provided a parameter estimation method comprising~~as another exemplary embodiment of the present invention is a method including~~:

acquiring communication throughput that is an amount of data transmitted per unit time; and

estimating a function specification parameter for specifying a probability density function where communication throughput at a second time point later than a first time point is a random variable, based on the communication throughput acquired by the first time point.

[0009]

According to a third aspect~~Further~~, there is provided a parameter estimation program ~~as another exemplary embodiment of the present invention is a program~~ including instructions for causing an information processing device to perform operations including:

acquiring communication throughput that is an amount of data transmitted per unit time; and

estimating a function specification parameter for specifying a probability density function where communication throughput at a second time point later than a first time point is a random variable, based on the communication throughput acquired by the first time point.

[0010]

With the configurations as described above, embodiments of the present invention can increase the accuracy of estimation of communication throughput.

BRIEF DESCRIPTION OF DRAWINGS

[0011]

Fig. 1 is a block diagram showing a function of a communication throughput prediction device according to a first exemplary embodiment of the present invention;

Fig. 2 is a graph showing an example of change of communication throughput following a probability density function used by the communication throughput prediction device according to the first exemplary embodiment of the present invention;

Fig. 3 is a graph in which a standard deviation calculated based on the probability density function used by the communication throughput prediction device according to the first exemplary embodiment of the present invention is compared with a standard deviation calculated based on communication throughput measured in an actual communication network;

Fig. 4 is a block diagram showing a function of a delivery device according to a second exemplary embodiment of the present invention;

Fig. 5 is a block diagram showing a function of a delivery system according to a third exemplary embodiment of the present invention;

Fig. 6 is a block diagram showing a function of a communication throughput prediction device according to a fourth exemplary embodiment of the present invention;

Fig. 7 is a block diagram showing a function of a parameter estimation device