[CLAIMS]

[Claim 1]

A communication control device, comprising:

a communication unit connected to a first device and a network communication network, wherein the communication unit is configured to:

communicate with ~~a~~ the first device and a second device~~;~~,

wirelessly communicate with at least one of the first device and the second device,~~; and~~

transmit data acquired by the first device to the second device, and

communicate with a second communication control device connected to the second device and the network communication network; ~~and~~

a notification unit configured to cause the communication unit to transmit predetermined information to the second device when a state of communication with the first device is a predetermined state or behavior of the communication control device is predetermined behavior;

a first authentication unit; and

a first control unit configured to:

request the first authentication unit to perform at least one of a mutual authentication process of performing mutual authentication using a secret key and a client certificate issued by a private certificate authority in communication with the second communication control device and an encryption/decryption process of encrypting information to be transmitted to the second device by the first device using a common key determined by the mutual authentication process and decrypting information transmitted to the first device by the second device,

transmit the encrypted information to the second communication control device, and

transmit the decrypted information to the first device.

[Claim 2]

The communication control device according to claim 1, wherein the notification unit is configured to cause the communication unit to transmit the predetermined information to the second device by determining that the state of communication with the first device is the predetermined state when change in communication state is recognized based on the state of communication with the first device.

[Claim 3]

The communication control device according to claim 2,

wherein the communication control device and the first device are connected to each other via wireless communication, and

wherein the notification unit is configured to cause the communication unit to transmit the predetermined information to the second device by determining that the state of communication with the first device is the predetermined state when communication with the first device is cut off.

[Claim 4]

The communication control device according to claim 2,

wherein the communication control device and the first device are physically connected to each other, and

wherein the notification unit is configured to cause the communication unit to transmit the predetermined information to the second device by determining that the state of communication with the first device is the predetermined state when the communication control device is disconnected from the first device physically.

[Claim 5]

The communication control device according to any one of claims 1 to 4, further comprising a sensor configured to detect the behavior of the communication control device,

wherein the notification unit is configured to cause the communication unit to transmit the predetermined information to the second device by determining that the behavior of the communication control device is the predetermined behavior when change in behavior of the communication control device is recognized based on output of the sensor.

[Claim 6]

The communication control device according to any one of claims 1 to 4, further comprising a function restriction unit configured to stop or restrict a function of the first device when the state of communication with the first device is a predetermined state or the behavior of the communication control device is the predetermined behavior.

[Claim 7]

The communication control device according to any one of claims 1 to 6, wherein the notification unit is configured to cause the communication unit to transmit the predetermined information to a third device different from the second device when

the state of communication with the first device is a predetermined state or the behavior of the communication control device is the predetermined behavior.

~~[Claim 8]~~

~~The communication control device according to any one of claims 1 to 7,~~

~~wherein the communication unit is connected to the first device and a network communication network and is configured to communicate with a second communication control device connected to the second device and the network communication network, and~~

~~wherein the communication control device further comprises:~~

~~a first authentication unit; and~~

~~a first control unit configured to:~~

~~request the first authentication unit to perform at least one of a mutual authentication process of performing mutual authentication using a secret key and a client certificate issued by a private certificate authority in communication with the second communication control device and an encryption/decryption process of encrypting information to be transmitted to the second device by the first device using a common key determined by the mutual authentication process and decrypting information transmitted to the first device by the second device;~~

~~transmit the encrypted information to the second communication control device; and~~

~~transmit the decrypted information to the first device.~~

[Claim ~~9~~8]

A communication control system, comprising:

a first communication control device connected to a first device and a network communication network; and

a second communication control device connected to a second device and the network communication network,

wherein the first communication control device comprises: a communication unit configured to: communicate with ~~a~~ the first device and the~~a~~ second device; wirelessly communicate with at least one of the first device and the second device; and transmit data acquired by the first device to the second device;

a notification unit configured to cause the communication unit to transmit predetermined information to the second device when a state of communication with the first device is a predetermined state or behavior of the communication control device is predetermined behavior;

a first authentication unit; and

a first control unit configured to:

request the first authentication unit to perform at least one of a mutual authentication process of performing mutual authentication using a secret key and a first certificate issued by a private certificate authority in communication with the second communication control device and an encryption/decryption process of encrypting information to be transmitted to the second device by the first device using a common key determined by the mutual authentication process and decrypting information transmitted to the first device by the second device;

transmit the encrypted information to the second communication control device; and

transmit the decrypted information to the first device, and

wherein the second communication control device comprises:

a second authentication unit; and

a second control unit configured to:

request the second authentication unit to perform at least one of a mutual authentication process of performing mutual authentication using a secret key and a second certificate issued by the private certificate authority in communication with the first communication control device and an encryption/decryption process of encrypting information to be transmitted to the first device by the second device using a common key determined by the mutual authentication process and decrypting information transmitted to the second device by the first device;

transmit the encrypted information to the first communication control device; and

transmit the decrypted information to the second device.