

CLAIMS

1. A method for network constructing, comprising:

in response to a network mis-configuration generated during network configuration for a network environment including at least two devices, removing the network mis-configuration by an action performed by the device per se associated with the network mis-configuration, without intervention of an administrator and/or a user of the network environment;

~~2. The method according to claim 1,~~ wherein, the network mis-configuration includes one of the following:

a device that should have joined an existing network did not join the existing network; and

at least two devices that should have created one network did not complete creation of the network.

~~32. The method according to claim 21,~~ wherein, said removing the network mis-configuration by an action performed by the device per se associated with the network mis-configuration comprises:

creating, by the device, a new network when the device finds no network that the device can join; and

judging, by the device, whether the new network is invalid based on the configuration information of the new network when a waiting time period of the device during which other devices are permitted to join is interrupted, and revoking configuration information related to the new network in the device when the new network is judged to be invalid.

~~43. The method according to claim 32,~~ wherein, the waiting time period of the device during which other devices are permitted to join is interrupted in any of the

following manners:

a time interval set by the device for waiting for other devices to join the new network expires; and

the device is triggered by an external signal to stop waiting for other devices to join the new network.

54. The method according to claim 3-2 or 43, wherein the device revokes the configuration information related to the new network by the following operations when the new network is judged to be invalid:

deleting the new network; and

returning the settings of the device to factory default or to the settings before occurrence of the network mis-configuration.

65. The method according to any of claims 32-54, wherein, said judging, by the device, whether the new network is invalid based on the configuration information of the new network comprises:

judging the new network to be invalid when the new network satisfies at least one of the three conditions:

the number of the devices in the new network is 1;

all devices in the new network have no compatibility; and

security levels of devices in the new network are not matched with each other.

76. The method according to any of claims 1-65, wherein the network mis-configuration is caused by misoperation of the administrator and/or the user of the network environment, and/or by limits of the system per se including an existing network and the device.

87. The method according to any of claims 1-76, wherein, the method is applied in a ZigBee network environment.

98. An apparatus for network constructing configured to, in response to a network mis-configuration generated during network configuration for a network environment including at least two devices, remove the network mis-configuration by an action performed by the device per se associated with the network mis-configuration, without intervention of an administrator and/or a user of the network environment.

~~10. The apparatus according to claim 9,~~ wherein the network mis-configuration comprises one of the following:

a device that should have joined an existing network did not join the existing network; and

at least two devices that should have created one network did not complete creation of the network.

~~119. The apparatus according to claim 108,~~ comprising:

a network creating unit configured to make the device related to the network mis-configuration create a new network when the device finds no network that the device can join; and

a mis-configuration removing unit configured to judge whether the new network is invalid based on the configuration information of the new network when a waiting time period of the device during which other devices are permitted to join is interrupted, and revoke configuration information related to the new network in the device when the new network is judged to be invalid.

~~12~~10. The apparatus according to claim ~~11~~9, wherein, the waiting time period of the device during which other devices are permitted to join is interrupted in any of the following manners:

a time interval set by the device for waiting for other devices to join the new network expires; and

the device is triggered by an external signal to stop waiting for other devices to join the new network.

~~13~~1. The apparatus according to claim ~~11~~9 or ~~10~~2, wherein the mis-configuration removing unit comprises a new network deleting subunit and a configuration recovering subunit, the two subunits being configured to revoke the configuration information related to the new network by the following operations when the new network is judged to be invalid:

deleting the new network by the new network deleting subunit; and

returning the settings of the device to factory default or to the settings before occurrence of the network mis-configuration by the configuration recovering subunit.

~~14~~2. The apparatus according to any of claims ~~9~~11-131, wherein, the mis-configuration removing unit is configured to judge the new network to be invalid when the new network satisfies at least one of the three conditions:

the number of the devices in the new network is 1;

all devices in the new network have no compatibility; and

security levels of devices in the new network are not matched with each other.

~~15~~13. The apparatus according to any of claims ~~98~~98-1412, wherein, the apparatus is applied in a ZigBee network environment.

~~14~~16. A device having the function for network constructing configured to include the apparatus for network constructing according to any of claims ~~98~~98-~~153~~153.

~~17~~15. The device according to claim ~~14~~16, which is one of the following:

a dimmer, a switch, a curtain controller, a remote controller, a gateway, a sensor or an electrical device including the apparatus for network constructing.

~~16~~8. A program product stored thereon machine readable instruction codes which can execute the method for network constructing according to any of claims ~~1-87~~1-87 when read and executed by a machine.

~~19~~17. A storage medium carrying the program product according to claim ~~18~~16.