Therefore, it would be desirable to have a method and apparatus that takes into account at least some of the issues discussed above, as well as other possible issues.

SUMMARY

According to an aspect of the present disclosure, there is provided an apparatus comprising a line replaceable unit in an aircraft ~~vehicle~~ connected to a number of systems of the aircraft ~~vehicle~~ and a network in a network data processing system of the aircraft~~vehicle~~; and

an information agent located in the line replaceable unit, wherein the information agent provides access to information received by the line replaceable unit to other line replaceable units in the aircraft~~vehicle~~, wherein the other line replaceable units are connected to another number of systems of the aircraft~~vehicle~~ and the network.

According to another aspect of the present disclosure, there is provided an apparatus comprising a first line replaceable unit located in an aircraft~~vehicle~~, wherein the first line replaceable unit communicates with a first number of systems in the aircraft~~vehicle~~, and wherein a first system in the first number of systems is at least one of a first sensor system or a first control system; and an information agent located in the first line replaceable unit, wherein the information agent identifies information received from the first number of systems that correspond to a subscription for an application in a second line replaceable unit in the aircraft ~~vehicle~~ and sends the information identified to the application in the second line replaceable unit, wherein the second line replaceable unit communicates with a second number of systems in the aircraft ~~vehicle~~ different than the first number of systems, and wherein a second system in the second number of systems is at least one of a second sensor system or a second control system.

According to another aspect of the present disclosure there is provided an information management system comprising:

a first line replaceable unit located in a aircraft~~vehicle~~, wherein the first line replaceable unit communicates with a first number of systems in the aircraft~~vehicle~~, and wherein a first system in the first number of systems is at least one of a first sensor system or a first control system;

a second line replaceable unit that communicates with the first line replaceable unit, wherein the second line replaceable unit communicates with a second number of systems in the aircraft ~~vehicle~~ different than the first number of systems, and wherein a second system in the second number of systems is at least one of a second sensor system or a second control system;

an information agent in the first line replaceable unit, wherein the information agent identifies information received from the first number of systems that correspond to a request

from the second line replaceable unit and sends the information identified to the second line replaceable unit; and

a manager located in the second line replaceable unit, wherein the manager receives the information from the information agent and sends the information to an application in the second line replaceable unit.

According to another aspect of the present disclosure, there is provided a method for collecting information in a aircraft~~vehicle~~, the method comprising:

identifying, by a processor, the information received from a first number of systems at a first line replaceable unit in the aircraft ~~vehicle~~ using a number of connections to the first number of systems, wherein the information identified is requested information that is requested by an application in a second line replaceable unit in the aircraft~~vehicle~~, and wherein a first system in the first number of systems is at least one of a first sensor system or a first control system; and

sending, by the processor, the requested information to the application in the second line replaceable unit, wherein the second line replaceable unit communicates with a second number of systems in the aircraft ~~vehicle~~ different than the first number of systems, and wherein a second system in the second number of systems is at least one of a second sensor system or a second control system.

In one illustrative embodiment, an apparatus comprises an existing aircraft node and an information agent located in the existing aircraft node. The existing aircraft node is connected to a number of aircraft systems and a network in an aircraft network data processing system. The information agent is configured to provide access to information received by the existing aircraft node to other aircraft nodes in the aircraft network data processing system.

In another illustrative embodiment, an apparatus comprises an aircraft node and an information agent located in the aircraft node. The aircraft node is configured to be located in an aircraft and communicate with a number of aircraft systems in the aircraft. The information agent is configured to identify information received from the number of aircraft systems that correspond to a subscription for an application in a host aircraft node in the aircraft and send the information identified to the application in the host aircraft node.

In yet another illustrative embodiment, an information management system comprises an aircraft node, a host aircraft node, an information agent in the aircraft node, and a manager located in the host aircraft node. The aircraft node is configured to be located in an aircraft and communicate with a number of aircraft systems in the aircraft. The host aircraft node is configured to communicate with the aircraft node. The information agent is configured to

CLAIMS

1. An apparatus comprising:

a line replaceable unit in an aircraft ~~vehicle~~ connected to a number of systems of the aircraft ~~vehicle~~ and a network in a network data processing system of the aircraft~~vehicle~~; and

an information agent located in the line replaceable unit, wherein the information agent provides access to information received by the line replaceable unit to other line replaceable units in the aircraft~~vehicle~~, wherein the other line replaceable units are connected to another number of systems of the aircraft ~~vehicle~~ and the network.

2. The apparatus of claim 1, wherein the information agent provides access to the information received by the line replaceable unit to the other line replaceable units by identifying the information received from the number of systems for an application using a subscription for the application in a host in the other line replaceable units and sending the information identified to the application in the host.

3. The apparatus of claim 2, wherein the subscription identifies at least one of a type of information, an event, and the application.

4. An apparatus comprising:

a first line replaceable unit located in an aircraft~~vehicle~~, wherein the first line replaceable unit communicates with a first number of systems in the aircraft~~vehicle~~, and wherein a first system in the first number of systems is at least one of a first sensor system or a first control system; and

an information agent located in the first line replaceable unit, wherein the information agent identifies information received from the first number of systems that correspond to a subscription for an application in a second line replaceable unit in the aircraft ~~vehicle~~ and sends the information identified to the application in the second line replaceable unit, wherein the second line replaceable unit communicates with a second number of systems in the aircraft ~~vehicle~~ different than the first number of systems, and wherein a second system in the second number of systems is at least one of a second sensor system or a second control system.

5. The apparatus of claim 4, wherein the second line replaceable unit receives the information from the first line replaceable unit and sends the information to the application.

6. The apparatus of claim 5 further comprising:

a manager located in the second line replaceable unit, wherein the manager receives a request from the application in the second line replaceable unit, communicates with the information agent to generate the subscription, receives the information from the information agent, and sends the information to the application.

7. The apparatus of claim 6, wherein the manager sends the information to the application by placing the information into a data buffer for the application.

8. The apparatus of claim 4, wherein the information agent encrypts the information.

9. The apparatus of claim 4, wherein the subscription identifies at least one of a type of information, an event, and the application.

10. The apparatus of claim 4, wherein the first system in the number of systems is selected from at least one of the first sensor system, a flight recorder, a navigation system, a flight control system, an environmental control system, and an engine system.

11. The apparatus of claim 4, wherein the application is at least one of an engine vibration monitoring application, a maintenance application, a fuel use application, and a health monitoring application.

12. The apparatus of claim 6, wherein the manager communicates with the information agent to generate the subscription responsive to identifying that the information agent has a connection to a source of the information in the first number of systems.

13. The apparatus of claim 12, wherein the first number of systems and the second number of systems are a portion of a plurality of systems in the aircraft~~vehicle~~, the first line replaceable unit and the second line replaceable unit are a portion of a plurality of line replaceable units in the aircraft~~vehicle~~, and the manager identifies that the information agent has the connection to the source of the information in the first number of systems from data about which of the plurality of line replaceable units the plurality of systems are connected to.

14. The apparatus of claim 12, wherein at least two systems in the plurality of systems have the information wherein the manager selects the source of the information based on metadata for the at least two systems.

15. The apparatus of claim 14, wherein the metadata is selected from at least one of resolution of the information, calculation rate for the information, and transmission rate for the information.

16. An information management system comprising:

a first line replaceable unit located in a aircraft~~vehicle~~, wherein the first line replaceable unit communicates with a first number of systems in the aircraft~~vehicle~~, and wherein a first system in the first number of systems is at least one of a first sensor system or a first control system;

a second line replaceable unit that communicates with the first line replaceable unit, wherein the second line replaceable unit communicates with a second number of systems in the aircraft ~~vehicle~~ different than the first number of systems, and wherein a second system in the second number of systems is at least one of a second sensor system or a second control system;

an information agent in the first line replaceable unit, wherein the information agent identifies information received from the first number of systems that correspond to a request from the second line replaceable unit and sends the information identified to the second line replaceable unit; and

a manager located in the second line replaceable unit, wherein the manager receives the information from the information agent and sends the information to an application in the second line replaceable unit.

17. The information management system of claim 16, wherein the information agent encrypts the information.

18. The information management system of claim 16, wherein the first system in the number of systems is selected from at least one of the first sensor system, a flight recorder, a flight control system, an environmental control system, and an engine system.

19. A method for collecting information in a aircraft~~vehicle~~, the method comprising:

identifying, by a processor, the information received from a first number of systems at a first line replaceable unit in the aircraft ~~vehicle~~ using a number of connections to the first number of systems, wherein the information identified is requested information that is requested by an application in a second line replaceable unit in the aircraft~~vehicle~~, and wherein a first system in the first number of systems is at least one of a first sensor system or a first control system; and

sending, by the processor, the requested information to the application in the second line replaceable unit, wherein the second line replaceable unit communicates with a second number of systems in the aircraft ~~vehicle~~ different than the first number of systems, and wherein a second system in the second number of systems is at least one of a second sensor system or a second control system.

20. The method of claim 19, wherein sending, by the processor, the requested information to the application in the second line replaceable unit comprises:

sending the requested information to the application in the second line replaceable unit using a network in a network data processing system of the aircraft~~vehicle~~.

21. The method of claim 19, wherein the processor performs the identifying step and the sending step by using an information agent located in the first line replaceable unit.

22. The method of claim 21, wherein the information agent provides access to the information received by the first line replaceable unit to other line replaceable units in a network data processing system of the aircraft~~vehicle~~.

23. The method of claim 21, wherein the information agent identifies the requested information using a subscription for the application.