diagnostic tasks, or both maintenance and diagnostic tasks on an aircraft. For example, without limitation, such policies may identify conditions under which various maintenance tasks, diagnostic tasks, or both maintenance tasks and diagnostic tasks may or may not be performed on the aircraft. The aircraft operator may desire to ensure that such policies are followed when maintenance is performed on the aircraft. Current systems and methods for the maintenance of aircraft and other vehicles may not provide assurance that policies for performing maintenance are being complied with.

Accordingly, it would be beneficial to have a method and apparatus that take into account one or more of the issues discussed above, as well as possible other issues.

SUMMARY

An aspect of the present disclosure provides a method of performing a task on a system on a platform. The method includes receiving a task script, by a data processing system on the platform, wherein the task script identifies task steps for performing the task on the system and identifies rules for performing the task on the system including preconditions for performing the task on the system; checking a digital signature for the task script by the data processing system to determine whether the task script is authentic; determining, by the data processing system, whether the rules for performing the task on the system are satisfied; and running the task script in response to a determination that the task script is authentic and that the rules for performing the task on the system are satisfied, by the data processing system, to perform the task on the system.

Another aspect of the present disclosure provides an apparatus on a platform. The apparatus includes a receiver configured to receive a task script, wherein the task script identifies task steps for performing a task on a system on the platform and identifies rules for performing the task on the system including preconditions for performing the task on the system; a digital signature checker configured to check a digital signature for the

task script to determine whether the task script is authentic; a rules checker configured to determine whether the rules for performing the task on the system are satisfied; and a task executer configured to run the task script in response to a determination that the task script is authentic and that the rules for performing the task on the system are satisfied to perform the task on the system.

Another aspect of the present disclosure provides a method of performing a task on a system on a platform. The method includes signing a task script, by a processor unit, with a digital signature, wherein the processor unit is selected from (1) a processor unit in a portable maintenance device configured to be moved to the platform and (2) a processor unit in a remote console in communication with the platform; sending the task script with a digital signature to the platform, by the processor unit; receiving task instructions, by the processor unit, wherein the task instructions identify the task to be performed on the system on the platform; identifying the task script for the task, by the processor unit, in response to receiving the task instructions, wherein the task script is machine executable and identifies task steps for performing the task on the system and identifies rules for performing the task on the system including preconditions for performing the task on the system; and running the task script in response to a determination that the task script is authentic and that the rules for performing the task on the system are satisfied to perform the task on the system.

The features, functions, and benefits can be achieved independently in various embodiments of the present disclosure or may be combined in yet other embodiments in which further details can be seen with reference to the following description and drawings.

BRIEF DESCRIPTION OF THE DRAWINGS

The novel features believed characteristic of the illustrative embodiments are set forth in the appended claims. The illustrative embodiments, however, as well

CLAIMS

1. A method of performing a task on a system on a platform, comprising:

receiving a task script, by a data processing system on the platform, wherein the task script identifies task steps for performing the task on the system and identifies rules for performing the task on the system including preconditions for performing the task on the system;

checking a digital signature for the task script by the data processing system to determine whether the task script is authentic;

determining, by the data processing system, whether the rules for performing the task on the system are satisfied; and

running the task script in response to a determination that the task script is authentic and that the rules for performing the task on the system are satisfied, by the data processing system, to perform the task on the system.

2. The method of claim 1 further comprising:

determining, by the data processing system, whether a policy for performing the task is satisfied; and

running the task script to perform the task in response to a determination that the policy is satisfied.

3. The method of claim 1 wherein the digital signature is selected from:

a task script digital signature identifying a source of the task script;

a maintenance entity digital signature identifying a maintenance entity performing the task on the system;

a personnel digital signature identifying personnel performing the task on the system; and

a device digital signature identifying a maintenance device for performing the task on the system.

4. The method of claim 1 further comprising:

generating a report, by the data processing system, wherein the report indicates the task performed on the system;

signing the report, by the data processing system, with a digital signature for the platform; and

sending the report with the digital signature for the platform off of the platform, by the data processing system.

5. The method of claim 4 further comprising a selected one of:

identifying, by the data processing system, personnel performing the task on the system and wherein generating the report comprises indicating the personnel in the report; and

identifying, by the data processing system, a maintenance device used for performing the task on the system and wherein generating the report comprises indicating the maintenance device in the report.

6. The method of claim 4 further comprising:

identifying, by the data processing system, options for performing the task;

receiving option selections, by the data processing system, wherein the option selections identify options selected from the options for performing the task; and

wherein generating the report comprises indicating the options selected in the report.

7. The method of claim 4 further comprising:

signing the report with a system digital signature identifying the system.

8. The method of claim 1, wherein:

the platform is an aircraft;

the data processing system is an aircraft network data processing system on the aircraft;

receiving the task script comprises receiving the task script on the aircraft when the aircraft is on the ground; and further comprising:

removing the task script from the aircraft before the aircraft is in flight following receiving the task script on the aircraft and performing the task on the aircraft.

9. An apparatus on a platform, comprising:

a receiver configured to receive a task script, wherein the task script identifies task steps for performing a task on a system on the platform and identifies rules for performing the task on the system including preconditions for performing the task on the system;

a digital signature checker configured to check a digital signature for the task script to determine whether the task script is authentic;

a rules checker configured to determine whether the rules for performing the task on the system are satisfied; and

a task executer configured to run the task script in response to a determination that the task script is authentic and that the rules for performing the task on the system are satisfied to perform the task on the system.

10. The apparatus of claim 9 wherein:

the rules checker is configured to determine whether a policy for performing the task is satisfied; and

wherein the task executer is configured to run the task script to perform the task in response to a determination that the policy is satisfied.

11. The apparatus of claim 9 wherein the digital signature is selected from:

a task script digital signature identifying a source of the task script;

a maintenance entity digital signature identifying a maintenance entity performing the task on the system;

a personnel digital signature identifying personnel performing the task on the system; and

a device digital signature identifying a maintenance device for performing the task on the system.

12. The apparatus of claim 9 further comprising:

a report generator configured to generate a report indicating the task performed on the system;

a signer configured to sign the report with a digital signature for the platform; and

a sender configured to send the report with the digital signature for the platform off of the platform.

13. The apparatus of claim 12 further comprising:

a personnel identifier configured to identify personnel performing the task on the system; and

wherein the report generator is configured to indicate the personnel and a maintenance device used for performing the task in the report.

14. The apparatus of claim 12 further comprising:

an options selector configured to receive option selections identifying options selected from options for performing the task; and

wherein the report generator is configured to indicate the options selected in the report.

15. The apparatus of claim 12, wherein the signer is configured to sign the report with a system digital signature identifying the system.

16. The apparatus of claim 9, wherein:

the platform is an aircraft;

the receiver is configured to receive the task script on the aircraft when the aircraft is on the ground; and further comprising:

a task script remover configured to remove the task script from the aircraft before the aircraft is in flight following receiving the task script on the aircraft and performing the task on the aircraft.

17. A method of performing a task on a system on a platform, comprising:

signing a task script, by a processor unit, with a digital signature, wherein the processor unit is selected from (1) a processor unit in a portable maintenance device configured to be moved to the platform and (2) a processor unit in a remote console in communication with the platform;

sending the task script with a digital signature to the platform, by the processor unit;

receiving task instructions, by the processor unit, wherein the task instructions identify the task to be performed on the system on the platform;

identifying the task script for the task, by the processor unit, in response to receiving the task instructions, wherein the task script is machine executable and identifies task steps for performing the task on the system and identifies rules for performing the task on the system including preconditions for performing the task on the system; and

running the task script in response to a determination that the task script is authentic and that the rules for performing the task on the system are satisfied to perform the task on the system.

18. The method of claim 17, wherein:

the platform is an aircraft.

19. The method of claim 1, wherein the platform comprises a building, an oil rig, or a vehicle.