

WHAT IS CLAIMED IS:

1. A method for building virtual hard disks for deployment in an online system, comprising:

accessing a build project that specifies actions to perform to create a set of deployment ready virtual hard disks (VHDs) for remote deployment in an online service that comprises disparate networks that include machines arranged in farms;

automatically building a dependency tree from the build project to determine an order in which to build the VHDs;

detecting, by a computing device, a trigger event, comprising at least one of: a new version of software is detected, a specific date, a new farm request, a new machine request, and a new type of VM is defined;

automatically building the VHDs according to the build order determined by the dependency tree using the build project in response to the trigger event; wherein different VHDs within the build project are created based on a role of a virtual machine; and

storing the VHDs in a data store for automatic deployment; ~~and~~
~~deploying identical VHDs on machines within at least one of the farms.~~

2. The method of Claim 1, further comprising automatically starting the VHDs on machines within a network.

3. The method of Claim 2, wherein ~~automatically building the VHDs using the build project is started automatically in response to detecting a~~ trigger event is the ~~that is a~~ source code update that is used in building the VHDs.

4. The method of Claim 2, further comprising deploying identical VHDs on machines within at least one of the farms.

5. The method of Claim 1, wherein a project definition for a VHD includes a reference to a base VHD that is used as a base for building other VHDs.

6. The method of Claim 3, ~~further comprising automatically building a dependency tree from the build project to determine an order in which to build the VHDs; and~~ wherein automatically building the VHDs comprises building differencing VHDs that contain modified disk blocks of an associated parent VHD.

7. The method of Claim 6, further comprising automatically storing the differencing VHDs in local data shares in at least one of the disparate ~~different~~ networks.

8. The method of Claim 1, wherein scripts are used to perform tasks that are specified within the build project, wherein the tasks comprise a run script task, a new virtual machine task, a remove virtual machine task, a start virtual machine task, a

shutdown virtual machine task, a new VHD task, a mount VHD task, and an unmount VHD task.

97. A computer-readable storage medium, excluding a signal, having computer-executable instructions for building virtual hard disks for deployment in an online system, comprising:

accessing a build project that specifies actions to perform to create a set of virtual hard disks (VHDs) and virtual machines (VMs) for remote deployment in an online service that comprises disparate networks that include machines arranged in farms;

detecting, by a machine within a central service that deploys and manages the machines for the online service, a trigger event, comprising at least one of: a new version of software is detected, a specific date, a new farm request, a new machine request, and a new type of VM is defined;

automatically determining an order in which to build the VHDs based on dependencies from a dependency tree indicated in the build project;

automatically building the VHDs using the build project using ~~thea~~ machine within ~~thea~~ central service ~~that deploys and manages the machines for the online service, wherein automatically building the VHDs using the build project is started~~ in response to ~~the detecting a~~ trigger event;

storing the VHDs in a data store for automatic deployment; and

automatically deploying the VHDs to machines in the online service, wherein the VHDs are installed on machines in response to a command received from a remote machine in the central service.

10. The computer-readable storage medium of claim 9, further comprising automatically starting the VHDs on machines within a network.

11. The computer-readable storage medium of claim 9, wherein a project definition for a VHD includes a reference to a base VHD that is used as a base for building other VHDs.

12. The computer-readable storage medium of claim 10, wherein automatically building the VHDs comprises building differencing VHDs that contain modified disk blocks of an associated parent VHD.

13. The computer-readable storage medium of claim 12, further comprising storing the differencing VHDs locally on at least one of the disparate networks.

14. The computer-readable storage medium of claim 9, wherein scripts are used to perform tasks that are specified within the build project, wherein the tasks comprise a

run script task, a new virtual machine task, a remove virtual machine task, a start virtual machine task, a shutdown virtual machine task, a new VHD task, a mount VHD task, and an unmount VHD task.

158. A system for building virtual hard disks for deployment in an online
5 service~~system~~, comprising:

~~a processor and a computer-readable medium;~~

~~an operating environment stored on the computer-readable medium and
executing on the processor;~~

a cloud manager ~~that is~~ coupled to multiple different networks that is
10 operative to manage deployment of machines and configuration of the networks and that
automatically deploys virtual hard disks (VHDs) to machines in the online service;

a data store in each of the different networks that is used to store virtual
hard disks that are used in deployment of machines within that network; and

a build machine~~system that is configured to perform actions~~, comprising:

15 a processor and a computer-readable medium;

an operating environment stored on the computer-readable medium
and executing on the processor; and

instructions stored on the computer-readable medium that, when
executed by the processor, cause the build machine to:

20 access~~ing~~ a build project that specifies actions to perform to create a
set of virtual hard disks (VHDs) and virtual machines (VMs) for remote
deployment;

detect a trigger event, comprising at least one of: a new version of
software is detected, a specific date, a new farm request, a new machine
25 request, and a new type of VM is defined;

automatically determine an order in which to build the VHDs based
on dependencies from a dependency tree indicated in the build project;

automatically build~~ing~~ the VHDs using the build project in response
to the trigger event; and

30 store~~ing~~ the VHDs in a data store for automatic deployment.

169. The system of Claim 158, further comprising automatically starting
~~building a dependency tree from the build project to determine an order in which to build~~
the VHDs on machines within a network~~and using the dependency tree to determine VMs~~
~~to build in parallel.~~

~~17~~¹⁰. The system of Claim ~~15~~⁸, wherein scripts are used to perform tasks that are specified within the build project, wherein the tasks comprise a run script task, a new virtual machine task, a remove virtual machine task, a start virtual machine task, a shutdown virtual machine task, a new VHD task, a mount VHD task, and an unmount

5 VHD task.