

WHAT IS CLAIMED IS:

1. A method for managing servers in an online service, comprising:

storing by a central service a configuration of machines in different networks for an online service, wherein the configuration includes a location of each of the machines that includes a rack location of the machine and roles of the machines in the networks; wherein the machines are arranged within farms within each of the networks, wherein the role is used to determine one or more virtual machines to install the machines, wherein the configuration stores a goal for each of the farms and a role for each of the farms;

determining when to deploy a new farm within one or more of the networks; and

from the central service automatically starting a process to deploy the new farm within one of the networks; wherein deploying the farm comprises: backing up data for an old farm being replaced within a same network of the new farm while continuing to allow reads and writes to the data being backed up; copying the backed up data to the new farm while continuing to allow reads and writes to the data previously backed up in the old farm; updating the data copied to the new farm with any data that changed on the old farm since a time the data was backed up on the old farm; provisioning software on the machines within the farm using virtual hard disk (VHD) images, starting the machines, and directing traffic to the new farm.

2. The method of Claim 1, wherein a VHD image is used for each role within the farm, wherein each machine within the farm uses a same version of the VHD image for each role.

3. The method of Claim 2, further comprising copying the VHD images from the central service to the network that includes the new farm where the VHD images are to be installed and when a previous version of the VHD image exists on the network then copying a file that includes only the differences between the VHD image and the previous version of the VHD image.

~~4~~³. The method of Claim 1, wherein determining when to deploy the new farm comprises at least one of: determining when to upgrade the software on one or more of the farms; determining when a farm has failed; and determining when to reconfigure a configuration of a farm.

~~4.—The method of Claim 1, wherein deploying the new farm comprises backing up data for an old farm being replaced within a same network of the new farm while continuing to allow reads and writes to the data being backed up; copying the backed up data to the new farm while continuing to allow reads and writes to the data previously~~

~~backed up in the old farm; and updating the data copied to the new farm with any data that changed on the old farm since a time the data was backed up on the old farm.~~

~~5. The method of Claim 2, further comprising copying the VHD images from the central service to the network that includes the new farm where the VHD images are to be installed and when a previous version of the VHD image exists on the network then copying a file that includes only the differences between the VHD image and the previous version of the VHD image.~~

5. The method of Claim 1, wherein the data on the old farm is marked read only during a time the data is updated on the new farm.

6. The method of Claim 1, wherein deploying the new farm comprises locking down the VHD images on the machines within the network after the machines are running with the VHD images such that the images are not changeable.

7. The method of Claim 1, wherein deploying the new farm comprises automatically creating an account for running application software on the VHD images, wherein the account is static once created.

~~86.~~ The method of Claim 1, wherein the farm goals are dynamically determined by calculating machine performance for machines within the farm.

~~97.~~ A computer-readable storage medium, excluding a signal, having computer-executable instructions for deploying farms for an online service, comprising:

storing by a central service that manages an online content management services a configuration of machines in different networks for an online service, wherein the configuration includes a location of each of the machines that includes a rack location of the machine and roles of the machines in the networks; wherein the machines are arranged within farms within each of the networks, wherein the role is used to determine one or more virtual machines to install the machines, wherein the configuration stores a goal for each of the farms and a role for each of the farms;

determining when to deploy a new farm within one or more of the networks; wherein deploying the new farm replaces one of the farms within one of the networks; and ~~wherein determining when to deploy the new farm comprises at least one of: determining when to upgrade the software on one or more of the farms; determining when a farm has failed; and determining when to reconfigure a configuration of a farm;~~

from the central service automatically starting a process to deploy the new farm within one of the networks; wherein deploying the farm comprises backing up data within databases for an old farm being replaced within a same network of the new farm while

continuing to allow reads and writes to the databases being backed up; copying the backed up databases to the new farm while continuing to allow reads and writes to the data previously backed up in the old farm; updating the databases copied to the new farm with any data that changed on the databases in the old farm since a time the databases were backed up on the old farm; provisioning software on the machines within the farm using a same version of virtual hard disk (VHD) image; starting the machines; and directing traffic to the new farm.

~~8.—The computer-readable storage medium of Claim 7, wherein deploying the new farm comprises backing up data within databases for an old farm being replaced within a same network of the new farm while continuing to allow reads and writes to the databases being backed up; copying the backed up databases to the new farm while continuing to allow reads and writes to the data previously backed up in the old farm; and updating the databases copied to the new farm with any data that changed on the databases in the old farm since a time the databases were backed up on the old farm.~~

10. The computer-readable storage medium of Claim 9, wherein determining when to deploy the new farm comprises at least one of: determining when to upgrade the software on one or more of the farms; determining when a farm has failed; and determining when to reconfigure a configuration of a farm.

11. The computer-readable storage medium of Claim 10, further comprising pushing the VHD images from the central service to the network that includes the new farm where the VHD images are to be installed and when a previous version of the VHD image exists on the network then copying a file that includes only the differences between the VHD image and the previous version of the VHD image.

12. The computer-readable storage medium of Claim 9, further comprising marking the database as read only during a time the database is updated on the new farm with the changed data on the old farm.

139. The computer-readable storage medium of Claim 97, wherein deploying the new farm comprises locking down the VHD images and operating system files on the machines within the network after the machines are running with the VHD images such that the VHD images and the operating system files are not changeable.

14. The computer-readable storage medium of Claim 9, wherein deploying the new farm comprises automatically creating an account for running application software on the VHD images, wherein the account is static once created and is non-accessible from a web-based interface.

15. The computer-readable storage medium of Claim 9, wherein the farm goals are dynamically determined by calculating machine performance for machines within the farm during processing of requests for the online service.

16~~10~~. A system for deploying farms for an online service, comprising:
5 a network comprising servers and databases; wherein the servers are arranged in farms that each perform a role; wherein the farms comprise content farms, federated services farms and SQL farms;

a processor and a computer-readable storage medium;

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

software that is operative to:

store a configuration of machines in farms of different networks for the online service, wherein the configuration includes a location of each of the machines that includes a rack location of the machine and roles of the machines in
15 the networks; wherein the role is used to determine one or more virtual machines to install the machines, wherein the configuration stores a goal for each of the farms and a role for each of the farms;

determine when to deploy a new farm within one or more of the networks; and

20 automatically starting a process to deploy the new farm within one of the networks; wherein deploying the farm comprises: backing up data within databases for an old farm being replaced within a same network of the new farm while continuing to allow reads and writes to the databases being backed up copying backed up databases from an old farm to the new farm while continuing to allow reads and writes to the data previously backed up in the old farm; marking the databases as read only on the old farm while updating the database copied to the new farm with any data that changed on the databases in the old farm since a time the databases were backed up on the old farm; provisioning software on the machines within
25 the farm using a same version of virtual hard disk (VHD) images; starting the machines; and directing traffic to the new farm.

17. The system of Claim 16, further comprising pushing the VHD images from the central service to the network that includes the new farm where the VHD images are to be installed and when a previous version of the VHD image exists on the network then

copying a file that includes only the differences between the VHD image and the previous version of the VHD image and pushing scripts to the network that are used to provision the machines.