

CLAIMS

What is claimed is:

1. A computing system configured to perform OS (operating system) imaging using JIT (Just in Time) file delivery, the computing system comprising:
 - 5 a hard drive having a stored hard drive copy of an OS, including a plurality of OS files;
 - a file system that is configured to store the OS files;
 - one or more file system filter drivers configured to receive access requests to the OS files;
 - 10 one or more processors; and
 - stored computer-executable instructions which are executable by the one or more processors to cause the computing system to perform OS imaging using JIT file delivery, the method comprising:
 - identifying a minimum set of OS data that is required to create an OS image that
15 is bootable with a predetermined set of OS functionality;
 - identifying a remaining set of OS data that is determined to not be required to at least create the OS image that is bootable with the predetermined set of OS functionality;
 - for the minimum set of OS data that is required, creating a copied set of OS files in the file system from the stored hard drive copy of the OS that contain the minimum set of
20 OS data;
 - for the remaining set of OS data that is determined to not be required, creating placeholder files comprising unhydrated and/or only partially hydrated copies of associated OS files found in the stored hard drive copy of the OS;
 - presenting the placeholder files inaccurately, as completely hydrated files of the
25 file system, to one or more OS components; and
 - incrementally hydrating the placeholder files after booting the OS.
2. The system of claim 1, wherein the method further includes:
 - in response to detecting a read request for particular data associated with a placeholder file that is not in the placeholder file, accessing and copying the particular data
30 from the stored hard drive copy of the OS into one or more of the unhydrated and/or only partially hydrated copies.
3. The system of claim 1, wherein the method further includes:
 - in response to detecting a read request for particular data associated with a placeholder file that is in the placeholder file, refraining from accessing and copying the

particular data from the stored hard drive copy of the OS into one or more of the unhydrated and/or only partially hydrated copies until a request is made for additional data associated with the placeholder file that is not yet copied into the placeholder file.

4. The system of any preceding claim, wherein the method further includes:
5 detecting available processing bandwidth of the computing system; and
in response to detecting available processing bandwidth of the computing system, automatically performing incremental hydration of the placeholder files by accessing and copying data from the stored hard drive copy of the OS into one or more of the unhydrated and/or only partially hydrated copies.
- 10 5. The system of any of claims 1 to 3, wherein the method further includes:
performing the method in response to detecting a request to reimage the OS;
identifying a set of preferences or priorities for particular data that has not yet
been requested of or by the OS since the request to reimage the OS; and
15 automatically performing incremental hydration of the placeholder files
according to the set of preferences or priorities by accessing and copying data from the stored
hard drive copy of the OS that is determined to be more highly preferred or associated with a
more relatively high priority than relatively lower priority data into one or more of the
unhydrated and/or only partially hydrated copies.
- 20 6. The system of claim 5, wherein the set of preferences or priorities is based on a
historical log of frequency and/or recency of the data that is being copied having been accessed
by the OS prior to the request to reimage the OS.
7. The system of any preceding claim, wherein the one or more file system filter
drivers presents the placeholder files as completely hydrated files to the one or more OS
components.
- 25 8. The system of claim 2 or claim 5, wherein the accessing and copying the
particular data from the stored hard drive copy results in completely hydrating at least one
previously unhydrated and/or only partially hydrated copy.
9. The system of any preceding claim, wherein the presenting of the placeholder
files inaccurately as completely hydrated files includes identifying a minimum set of file
30 attributes that are required to established and presented by the placeholder files in the file
system to cause the one or more OS components to view the placeholder files as fully hydrated
files.

10. The system of claim 9, wherein the placeholder files are distinguished from sparse files and are not detectable as sparse files by the OS components.

11. The system of any preceding claim, wherein the minimum set of OS data comprises a minimum set of files rather than only limited and incomplete portions of files.

5 12. The system of any preceding claim, wherein the method further includes accessing at least some remote OS data from a remote store to at least partially hydrate at least one of the placeholder files with the remote OS data.

13. The system of any preceding claim, wherein identifying the minimum set of OS data that is required to create an OS image that is bootable with a predetermined set of OS
10 functionality comprises identifying at least a set of one or more applications and application functionality that has been used by one or more users of the computing system recently and/or frequently and prior to receiving a request to reimage the OS.

14. The system of any preceding claim, wherein the minimum set of OS data that is required is less than 50% of the minimum set of OS data is determined not to be required.

15 15. A computer-implemented method for performing OS (operating system) imaging using JIT (Just in Time) file delivery, the method comprising:

identifying a minimum set of OS data that is required to create an OS image that is bootable with a predetermined set of OS functionality for the computing system;

16 identifying a remaining set of OS data that is determined to not be required to
20 at least create the OS image that is bootable with the predetermined set of OS functionality;

creating a copied set of OS files in a file system of the computing system from a stored hard drive copy of the OS that contain the minimum set of OS data;

25 for the remaining set of OS data that is determined to not be required, creating placeholder files comprising unhydrated and/or only partially hydrated copies of associated OS files found in the stored hard drive copy of the OS;

presenting the placeholder files inaccurately, as completely hydrated files of the file system, to one or more OS components; and

incrementally hydrating the placeholder files after booting the OS.