

CLAIMS:

1. A method for distributing copies of a file across geographically distributed content servers, comprising:
 - performing a first hashing operation on a plurality of server identifiers, "IDs"
 - 5 and sorting the resulting hash values to generate a hash data structure, wherein each server ID included in the plurality of server IDs is associated with a different server included in a regional cluster of servers, wherein the regional cluster of servers is associated with a geographical region, and the hash data structure is a hash ring or a
 - 10 hash table; and
 - performing a second hashing operation based on a file ID associated with the file to generate a first hash value;
 - determining a regional master server included in the regional cluster of servers by comparing the first hash value to the hash data structure and
 - 15 selecting the content server having a hash value in the hash data structure closest to the first hash value;
 - causing the regional master server to retrieve the file from a fill source; and
 - for each local cluster of servers included in the regional cluster of servers:
 - determining a local master server included in the local cluster of servers
 - 20 by performing a filtering operation on the hash data structure to exclude from the hash data structure all servers that are not included in the local cluster of servers and selecting the next content server, by hash value, included in the filtered hash data structure to be the local master server; and
 - 25 causing the local master server to retrieve the file from the regional master server after waiting a predetermined period of time, wherein each local cluster of servers is included in one regional cluster of servers and the predetermined period of time is different for each local master server.
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2. The method of claim 1, further comprising, for each manifest cluster of servers included in the each local cluster of servers:
 - determining a manifest master server included in the manifest cluster of
 - servers; and

causing the manifest master to retrieve the file from the local master server associated with the local cluster of servers, wherein each manifest cluster of servers is included in one local cluster of servers.

5 3. The method of claim 2, further comprising causing the manifest master server to wait a second predetermined period of time before retrieving the file from the local master server.

10 4. The method of any one of the preceding claims, further comprising, for each manifest cluster of servers included in each local cluster of servers:
filtering the hash data structure based on the first hash value to determine a manifest master server included in the manifest cluster of servers; and causing the manifest master to retrieve the file from the local master server associated with the local cluster of servers.

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5. The method of any one of the preceding claims, wherein performing the first hashing operation comprises, for each server ID:
combining the server ID with a plurality of different values to generate a plurality of different server ID instances;
20 performing the first hashing operation on each of the plurality of server ID instances to generate a plurality of hash data structure values; and storing the plurality of hash data structure values in the hash data structure.

25 6. A control server, comprising:
a memory storing a control application; and
a processor coupled to the memory, wherein, when executed by the processor, the control application configures the processor to perform the method of any one of the preceding claims.

30 7. The control server of claim 6, wherein the control application further configures the processor to:
perform a third hashing operation based on a second file ID associated with a second file to generate a second hash value;

- compare the second hash value to the hash data structure to determine a second regional master server included in the regional cluster of servers, wherein the second regional master server is different to the first regional master server;
- 5 cause the second regional master sever to retrieve the second file from the fill source; and
- for each local cluster of servers included in the regional cluster of servers:
- perform a filtering operation on the hash data structure to exclude from the hash data structure all servers that are not included in the
- 10 local cluster of servers and select the next content server, by hash value, included in the filtered hash data structure to be a second local master server, wherein the second local master server is different to the first local master server; and
- cause the second local master server to retrieve the second file from the
- 15 second regional master server after waiting a second predetermined period of time, wherein the second predetermined period of time is different for each local master server.
8. The control server of claim 6 or claim 7, wherein the control application
- 20 configures the processor to perform the first hashing operation and compare the first hash value to the hash data structure in response to receiving an array of file IDs from a server included in the regional cluster of servers.
9. The control server of any one of claims 6 to 8, wherein the regional master
- 25 server is one of a plurality of regional master servers, wherein the number of regional master servers is based on a first replication factor associated with a regional master server tier, and the local master server is one of a plurality of local master servers, wherein the number of local master servers is based on a second replication factor associated with a local master server tier.
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10. A non-transitory computer-readable storage medium including instructions that, when executed by a processor, cause the processor to perform the method of any one of claims 1 to 5.