

WHAT IS CLAIMED IS:

1. A method comprising:
transmitting, by a server computing device controlling a mesh network, a dataset to a first node in the mesh network;
transmitting, by the server computing device, first notifications to respective second nodes that are neighbors to the first node in the mesh network, the first notifications informing the respective second nodes that the dataset is available for download; and
in response to determining that a third node from the respective second nodes has received the dataset, transmitting, by the server computing device, second notifications to respective fourth nodes that are neighbors to the first node in the mesh network or are neighbors to the third node in the mesh network, the second notifications informing the respective fourth nodes that the dataset is available for download from one or more neighbor nodes.
2. The method of claim 1, wherein a number of second nodes receiving the first notifications, a number of fourth nodes neighboring the first node receiving the second notifications, and a number of fifth nodes neighboring the third node receiving the second notifications, are limited to a maximum number.
3. The method of claim 2, wherein the maximum number is based on a throughput of devices implementing nodes in the mesh network.
4. The method of claim 2, wherein the maximum number is based on a number of neighbors to which a node can contemporaneously transmit the dataset.
5. The method of claim 1, wherein the dataset comprises a firmware image, a portion of a firmware image, or configuration data.

6. The method of claim 1, further comprising waiting, by the server computing device, for a duration of time prior to determining that the third node has received the dataset, wherein the duration of time is determined by the server computing device based on a network performance of the mesh network.
7. The method of claim 1, wherein the determining that the third node has received the dataset comprises:
 - transmitting a status request to the third node; and
 - receiving a confirmation that the dataset has been received from the third node.
8. The method of claim 1, wherein the first node is randomly selected by the server computing device.
9. The method of claim 1, further comprising:
 - determining, by the server computing device based on a network topology map of the mesh network, the respective second nodes to which to transmit the first notifications.
10. The method of claim 1, further comprising:
 - waiting, by the server computing device, for a duration of time prior to determining that the third node has received the dataset; and
 - in response to determining that the duration exceeds a threshold amount of time, transmitting the dataset to the third node.
11. One or more non-transitory computer-readable media storing instructions which, when executed by one or more processors of a server controlling a mesh network, cause the one or more processors to perform operations comprising:
 - sending a dataset to a first node device in the mesh network;
 - in response to receiving a confirmation of dataset reception from the first node device, sending first notifications to respective second node devices neighboring the first node device in the mesh network, the first

notifications instructing the respective second node devices to retrieve the dataset from a neighboring node device; and
in response to determining that a third node device from the respective second node devices has received the dataset, sending second notifications to respective fourth node devices that are neighbors to the first node device in the mesh network or are neighbors to the third node device in the mesh network, the second notifications instructing the respective fourth node devices to retrieve the dataset from a neighboring node device.

12. The one or more non-transitory computer-readable media of claim 11, wherein a number of second node devices receiving the first notifications, a number of fourth node devices neighboring the first node device receiving the second notifications, and a number of fifth node devices neighboring the third node device receiving the second notifications, are limited to a maximum number.

13. The one or more non-transitory computer-readable media of claim 12, wherein the maximum number is based on a throughput of node devices in the mesh network.

14. The one or more non-transitory computer-readable media of claim 12, wherein the maximum number is based on a number of neighbors to which a node can contemporaneously transmit the dataset in the mesh network.

15. The one or more non-transitory computer-readable media of claim 11, wherein the operations further comprise selecting the first node device based on a topology of the mesh network.

16. The one or more non-transitory computer-readable media of claim 11, wherein the operations further comprise:

determining, based on a topology of the mesh network, the respective second node devices to which to transmit the first notifications.

17. A network device in a mesh network, comprising:
one or more processors; and
a memory storing executable instructions that, when executed by the one or more processors, cause the one or more processors to perform operations comprising:
distributing a dataset to a first device in the mesh network;
distributing a maximum number of first notifications to respective second devices that are neighbors to the first device in the mesh network, wherein the first notifications contain information regarding availability of a dataset at neighboring devices; and
in response to determining that a third device from the respective second devices has received the dataset, distributing the maximum number of second notifications to respective fourth devices that are neighbors to the first device in the mesh network and the maximum number of third notifications to respective fifth devices that are neighbors to the third device in the mesh network, wherein the second notifications and the third notifications contain information regarding availability of the dataset at neighboring devices.
18. The network device of claim 17, wherein the dataset comprises a firmware image, a portion of a firmware image, or configuration data for devices in the mesh network.
19. The network device of claim 17, wherein the maximum number is based on at least one of a float throughput of devices in the mesh network or on a number of neighbors to which a device can contemporaneously transmit the dataset in the mesh network.
20. The network device of claim 17, wherein the first device, the respective second devices, and the respective fourth devices are within a same cluster in the mesh network.