DYNAMICALLY ALLOCATING NETWORK ADDRESSES

CROSS REFERENCE TO RELATED APPLICATION

[0001] The following application claims priority to, and the benefit of, U.S. Patent Application entitled "DYNAMICALLY ALLOCATING NETWORK ADDRESSES" filed on September 18, 2012 having application number 13/621,891, which is incorporated herein by reference in its entirety.

BACKGROUND

[0002] Network devices may be associated with one or more network addresses per network interface. Network addresses facilitate routing of data to and from network devices. Internet protocol (IP) network addresses are associated with subnet masks, which indicate the portion of the network address that corresponds to a routing prefix and the portion of the network address that corresponds to a host identifier for a subnet. A subnet is a logically visible subdivision of an IP network. Subnets may be arranged logically in a hierarchical architecture, thereby partitioning network address space into a tree-like routing structure. Network address exhaustion is a potential problem for IP version 4, given that the network addresses are just 32 bits in length. IP version 6 uses 128-bit addresses and thus is not as easily susceptible to address exhaustion. Nonetheless, in spite of the address exhaustion issues, IP version 4 remains in common use.

SUMMARY OF INVENTION

[0002a] According to a first aspect of the present invention, there is provided a system, comprising: at least one computing device; and an address allocation service executable by the at least one computing device, the address allocation service being configured to: initially assign a first network address allocation to a subdivision of a network, the subdivision including a plurality of computing devices; configure a router for the subdivision to implement the first network address allocation; obtain data indicating a reconfiguration of the computing devices;

subsequently assign a second network address allocation to the subdivision of the network based at least in part on the reconfiguration of the computing devices; and reconfigure the router for the subdivision to implement the second network address allocation.

[0002b] According to a second aspect of the present invention, there is provided a method, comprising: obtaining, by at least one computing device, data indicating a reconfiguration of at least one of a plurality of computing devices included in a subdivision of a network, the subdivision being assigned a network address allocation; determining, by the at least one computing device, whether to release an assignment of a first subset of the network address allocation based at least in part on the reconfiguration of the at least one of the computing devices; releasing, by the at least one computing device, the assignment of the first subset of the network address allocation in response to the determining; and reconfiguring, by the at least one computing device, a router for the subdivision to advertise a second subset of the network address allocation instead of the network address allocation.

BRIEF DESCRIPTION OF THE DRAWINGS

[0003] Many aspects of the present disclosure can be better understood with reference to the following drawings. The components in the drawings are not necessarily to scale, with emphasis instead being placed upon clearly illustrating the principles of the disclosure. Moreover, in the drawings, like reference numerals designate corresponding parts throughout the several views.

[0004] FIG. 1 is a drawing of a networked environment according to various embodiments of the present disclosure.

[0005] FIG. 2 is a drawing of one example of a hosted computing environment employed in the networked environment of FIG. 1 according to various embodiments of the present disclosure.