This article examines the criteria for a data center network fabric that is scalable, controllable, fault-tolerant, and effective. It will soon be clear that the fat tree is just one example of the common multi-rooted tree architecture seen in data centers. Recent research investigates the use of DHTs to carry out forwarding on flat labels in order to decrease the state and communication costs involved with routing in large-scale networks. In the failure-free situation (fault-tolerance enhancements are discussed below), efficient broadcast is simple: the ARP is delivered to any core switch, which spreads it to all pods and then all edge switches. The switch software updates the updated PMAC address in the transmitting host's ARP cache by sending a unicast gratuitous ARP back to any transmitting host. Since we employ OpenFlow's software MAC layer rewriting capabilities to allow PMAC and AMAC translation at edge switches, the communication cannot occur at line-rate (1 Gbps). They contrasted their strategy to two earlier methods with comparable objectives, TRILL and SEATTLE, after having a thorough grasp of the PortLand architecture. The similarities and contrasts along several aspects are summarized in a table. Since TRILL and SEATTLE are applicable to generic topologies, this is the main distinction between the two methods. By adopting a multi-rooted tree topology similar to those often seen in data center settings, PortLand, on the other hand, obtains its improvements in simplicity and efficiency. The purpose of this work is to investigate the degree to which the networks of the entire data center may be seen as a single plug-and-play fabric. 100,000 hosts are not uncommon in modern data centers, which also use virtual machine multiplexing to create millions of individually addressable end hosts. With general-purpose Ethernet and IP-based protocols, there are substantial concerns about effectiveness, fault tolerance, flexibility, and management. Here, we introduce PortLand, a collection of Ethernet-compatible routing, forwarding, and address resolution protocols created especially for use in data centers. We anticipate that protocols like PortLand will help data center networks become more fault tolerant, adaptable, and effective.