IP (CCIE Professional Development): Volume 2

Routing Information Protocol

February 2022. Jeff Doyle; Jennifer Carroll (2005). CCIE Professional Development: Routing TCP/IP Volume I, Second Edition. ciscopress.com. p. 169. ISBN 9781587052026 - The Routing Information Protocol (RIP) is one of the oldest distance-vector routing protocols which employs the hop count as a routing metric. RIP prevents routing loops by implementing a limit on the number of hops allowed in a path from source to destination. The largest number of hops allowed for RIP is 15, which limits the size of networks that RIP can support.

RIP implements the split horizon, route poisoning, and holddown mechanisms to prevent incorrect routing information from being propagated.

In RIPv1 routers broadcast updates with their routing table every 30 seconds. In the early deployments, routing tables were small enough that the traffic was not significant. As networks grew in size, however, it became evident there could be a massive traffic burst every 30 seconds, even if the routers had been initialized at random times.

In most networking environments, RIP is not the preferred choice of routing protocol, as its time to converge and scalability are poor compared to EIGRP, OSPF, or IS-IS. However, it is easy to configure, because RIP does not require any parameters, unlike other protocols.

RIP uses the User Datagram Protocol (UDP) as its transport protocol, and is assigned the reserved port number 520.

Enhanced Interior Gateway Routing Protocol

Troubleshooting IP Routing Protocols (CCIE Professional Development Series). Cisco Press. 2002-05-07. ISBN 978-0-13-303467-7. CCIE Practical Studies, Volume I | Chapter - Enhanced Interior Gateway Routing Protocol (EIGRP) is an advanced distance-vector routing protocol that is used on a computer network for automating routing decisions and configuration. The protocol was designed by Cisco Systems as a proprietary protocol, available only on Cisco routers. In 2013, Cisco permitted other vendors to freely implement a limited version of EIGRP with some of its associated features such as High Availability (HA), while withholding other EIGRP features such as EIGRP stub, needed for DMVPN and large-scale campus deployment. Information needed for implementation was published with informational status as RFC 7868 in 2016, which did not advance to Internet Standards Track level, and allowed Cisco to retain control of the EIGRP protocol.

EIGRP is used on a router to share routes with other routers within the same autonomous system. Unlike other well known routing protocols, such as RIP, EIGRP only sends incremental updates, reducing the workload on the router and the amount of data that needs to be transmitted.

EIGRP replaced the Interior Gateway Routing Protocol (IGRP) in 1993. One of the major reasons for this was the change to classless IPv4 addresses in the Internet Protocol, which IGRP could not support.

Novell

(1990-05-12). "Software Giants Lotus, Novell Call Off Merger". Los Angeles Times. CCIE: Cisco Certified Internetwork Expert Study Guide: Routing and Switching. - Novell, Inc. () was an American software and services company headquartered in Provo, Utah, that existed from 1980 until 2014. Its most significant product was the multi-platform network operating system known as NetWare. Novell technology contributed to the emergence of local area networks, which displaced the dominant mainframe computing model and changed computing worldwide.

Under the leadership of chief executive Ray Noorda, NetWare became the dominant form of personal computer networking during the second half of the 1980s and first half of the 1990s. At its high point, NetWare had a 63 percent share of the market for network operating systems and by the early 1990s there were over half a million NetWare-based networks installed worldwide encompassing more than 50 million users. Novell was the second-largest maker of software for personal computers, trailing only Microsoft Corporation, and became instrumental in making Utah Valley a focus for technology and software development.

During the early to mid-1990s, Noorda attempted to compete directly with Microsoft by acquiring Digital Research, Unix System Laboratories, WordPerfect, and the Quattro Pro division of Borland. These moves did not work out, due to new technologies not fitting well with Novell's existing user base or being too late to compete with equivalent Microsoft products. NetWare began losing market share once Microsoft bundled network services with the Windows NT operating system and its successors. Despite new products such as Novell Directory Services and GroupWise, Novell entered a long period of decline. Eventually Novell acquired SUSE Linux and attempted to refocus its technology base. Despite building or acquiring several new kinds of products, Novell failed to find consistent success and never regained its past dominance.

The company was an independent corporate entity until it was acquired as a wholly owned subsidiary by The Attachmate Group in 2011. Attachmate was subsequently acquired in 2014 by Micro Focus International which was acquired in turn by OpenText in 2023. Novell products and technologies are now integrated within various OpenText divisions.