

This video goes over how to use traceroute, how it works and how to troubleshoot it. Traceroute is briefly explained going over that it is a tool that can show route the routers take to get to a destination ip. For each hop, a TTL is attached to the packet and when it reaches a certain hop, it will send a time exceeded back to the source, identifying that hop in the path. An important thing for traceroute is knowing the geographical location of the hop, and that is identified through the DNS router name. Some of these include location identifiers like: IATA Airport Codes, CLLI Codes, and Abbreviations. For example, San Jose could be SJC. To further identify types of routers, they usually have certain roles like core routers, peering routers, and customer routers which all have some common names associated with them like: Core, Border, Edge, Aggr, Cust, etc. The reason why traceroute can take long is because of serialization, which encodes data on the wire, the delay is calculated by the packet size / link speed. Propagation delay can also account for delay in traceroute, which is time spent on the wire. There can also be multiple paths in a hop, where a TTL timeout can be received from multiple routers on one hop. Overall this video went in depth of what traceroute is, why it is so useful, and what to specifically look for when using the tool.