

Explain: Five Nines (99.999%) Computer / Network Uptime Concept



Q. Some service provider guarantees 99.999% uptime for their service. Can you explain meaning of five nines?

A. The uptime and reliability of computer and communications facilities is sometimes measured in nines. Having a computer system's availability of 99.999% means the system is highly available, delivering its service to the user 99.999% of the time it is needed. In other words you get a total downtime of approximately five minutes and fifteen seconds per year with 99.999% uptime.

Availability	per day	per month	per year
99.999%	00:00:00.4	00:00:26	00:05:15
99.99%	00:00:08	00:04:22	00:52:35
99.9%	00:01:26	00:43:49	08:45:56
99%	00:14:23	07:18:17	87:39:29

A service level agreement (SLA) is a part of a service contract where the level of service is formally defined including uptime. Uptime agreements are very common metric, often used for data and network services such as hosting, servers and dedicated servers, leased lines. Common agreements include percentage of network uptime, power uptime, amount of scheduled maintenance windows etc.

To achieve true 99.999% uptime you need multiple [tier 4 data center](#) and including capacity planning. 99.999% uptime is recommended for mission-critical stuff and e-commerce