Three-Way Handshake
&
Supercomputer

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Introduction to ICT

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Abstract

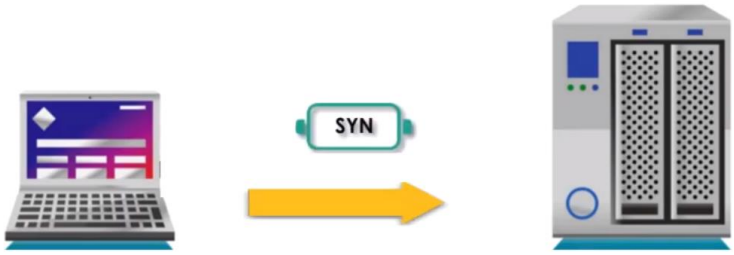
In broadcastings, a handshaking is an automatic method of concession between 2 human activity in between candidates through the conversation of data that establishes the protocols of a communication link at the beginning of the communication, before full communication begins. Signals are typically changed between 2 devices to determine a communication link. as an example, once a laptop communicates with another device like an electronic equipment, the 2 devices can signal one another that they're switched on and prepared to figure, yet on comply with that protocols are being employed.

Explanation

A three-way handshake is primarily accustomed produce a transmission control protocol socket association. It works when:

Step 1

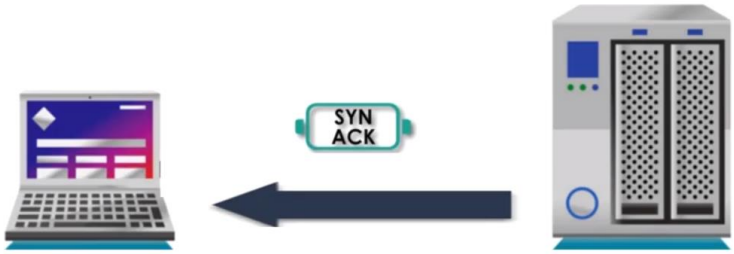
A consumer node sends a SYN information packet over an IP network to a server on an equivalent or an external network. the target of this packet is to ask/infer if the server is open for brand spanking new connections.



Step 1: The client sends a SYN segment
to the server, asking for synchronization.

Step 2

The target server should have open ports that may settle for and initiate new connections. once the server receives the SYN packet from the consumer node, it responds and returns a confirmation receipt – the ACK packet or SYN/ACK packet.



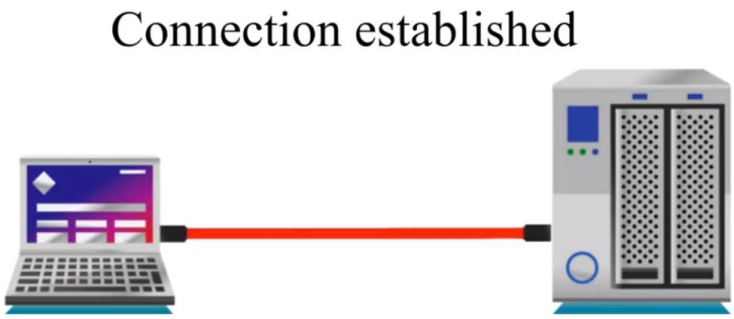
Step 2: The server replies with SYN-ACK.

Step 3

The consumer node receives the SYN/ACK from the server and responds with an ACK packet.

Step 3: The client replies with ACK, which is like “Yes.”

Upon completion of this method, the association is formed and also the host and server will communicate.



Then the two-way connection
is established between them.

References

1. P. Amer, S. Iren, P. Conrad, "The Transport Layer: ", ACM Computing Surveys, vol. 31, no. 4, Dec. 1999.
2. J. Touch, "Dynamic Internet Overlay Deployment and Management Using the X-Bone", Computer Networks, pp. 117-135, July 2001.

Abstract

A supercomputer could be a pc with a high level of performance compared to an all-purpose computer. The performance of a mainframe computer is often measured in floating-point operations per second (FLOPS) rather than million instructions per second (MIPS). Since November 2017, all of the world's quickest five hundred supercomputers run Linux-based operating systems. further analysis is being conducted in China, the u. s., the EU Union, Taiwan and Japan to make even quicker, a lot of powerful and technologically superior exactable supercomputers.

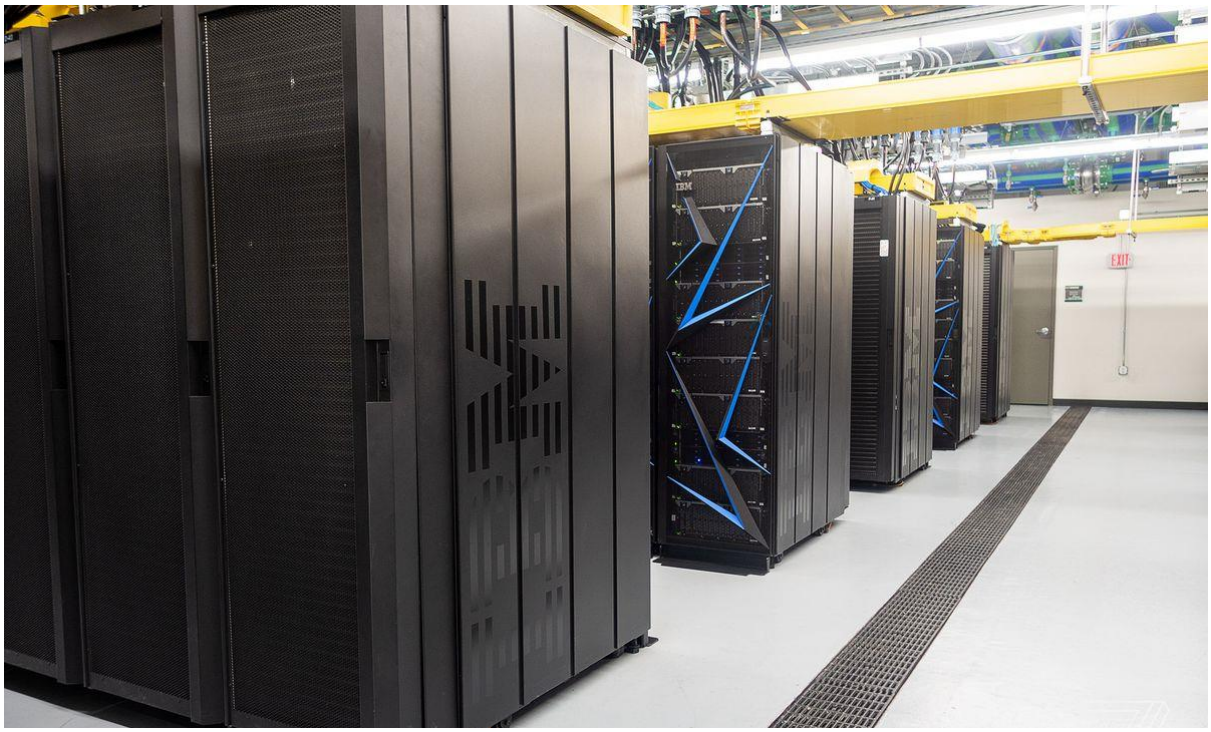
Explanation

Source: Summit IBM

IBM Supercomputer Summit

Sponsors U.S. Department of Energy

Operators IBM

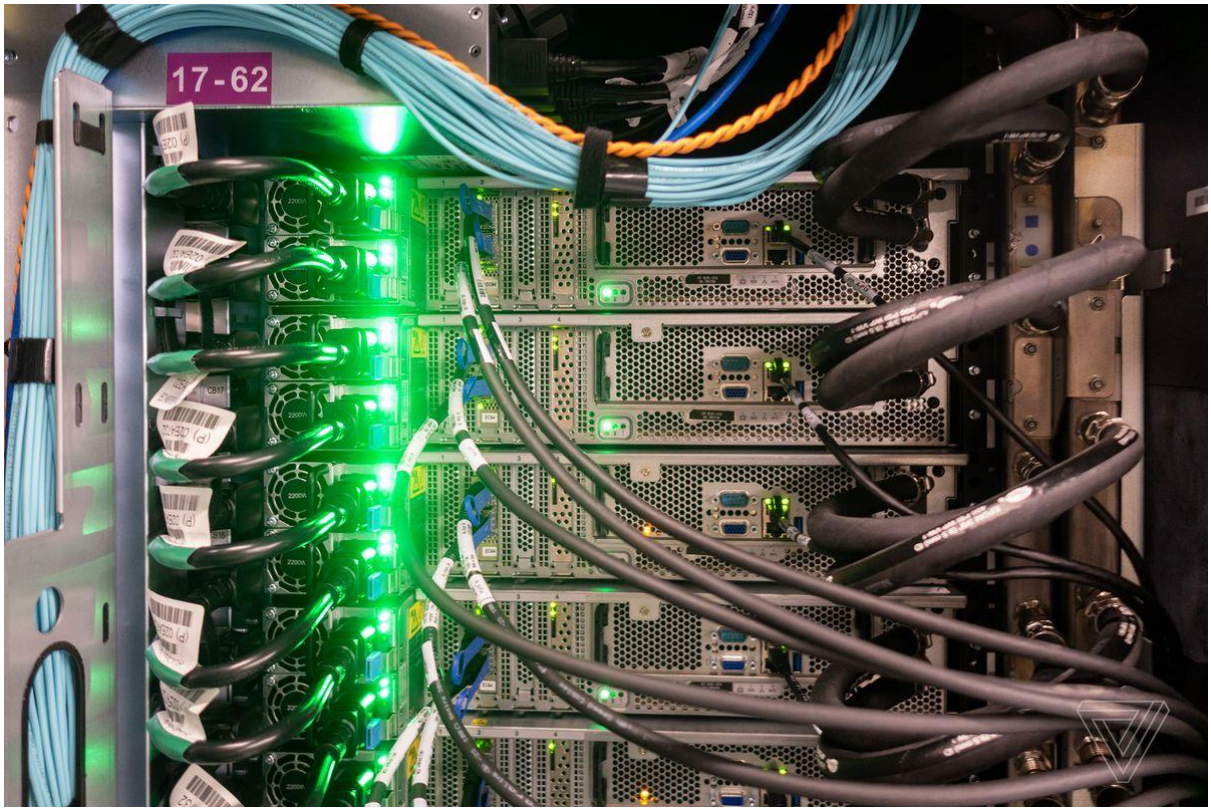


SUPERCOMPUTER

Architecture 9,216 POWER9 22-core CPUs

27,648 Nvidia Tesla V100 GPUs

Power 13 MW



Storage 250 PB

SUPERCOMPUTER

Speed 200 petaflops (peak)

Purpose Scientific research

Comparison of my PC with Supercomputer

Specifications	HP EliteBook 840	SUMMIT IBM
Storage	1 TB	250 PB
Speed	Intel Core i5-4300U	200 petaflops (peak)
Power	12 V	13 MV
Architecture	CPU 1.90 GHz 2.50 GHz	9,216 POWER9 22-core CPUs 27,648 Nvidia Tesla V100 GPUs

References

1. A. H. Baker, D. M. Hammerling, M. N. Levy, H. Xu, J. M. Dennis, B. E. Eaton, J. Edwards, C. Hannay, S. A. Mickelson, R. B.. 2015. A New Ensemble-Based Consistency Test for the Community Earth System Model (pyCECT v1.0). Geoscientific Model Development 8, 9 (2015), 2829--2840.
2. D. J. Milroy, A. H. Baker, D. M. Hammerling, and E. R. Jessup. 2017. Geoscientific Model Development Discussions 2017 (2017), 1--22.