What is Virtual LAN?

Computer Network Computer Engineering MCA

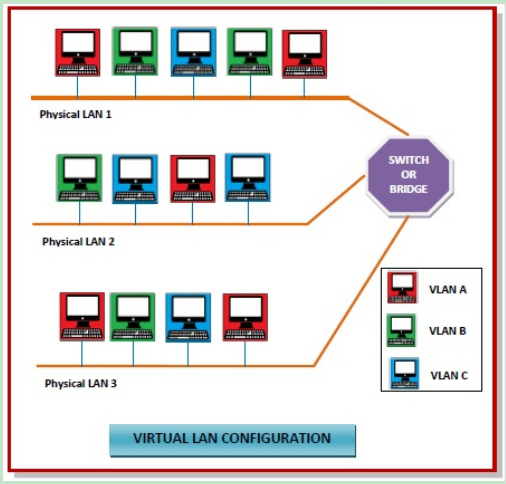
Related Questions & Answers

- What is JVM, Java virtual machine?
- What is Java Virtual Machine (JVM)?
- What is a Virtual Circuit Identifier (VCID)?
- What is a virtual base class in C++?
- Wireless LAN Protocols
- What are the IEEE 802.11 Wireless LAN Standards?
- What happens when a virtual function is called inside a non-virtual function in C++
- What is the difference between Augmented Reality and Virtual Reality?
- What is the difference between virtual and abstract functions in C#?
- What are virtual functions in C#?
- Wireless LAN and IEEE 802.11
- Difference between LAN and VLAN
- Difference between LAN and WAN
- Difference between LAN and MAN
- Difference between Ethernet and LAN

Selected Reading

- UPSC IAS Exams Notes
- Developer's Best Practices
- Questions and Answers
- Effective Resume Writing
- HR Interview Questions
- Computer Glossary
- Who is Who

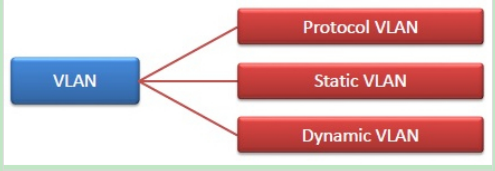
Virtual Local Area Networks or Virtual LANs (VLANs) are a logical group of computers that appear to be on the same LAN irrespective of the configuration of the underlying physical network. Network administrators partition the networks to match the functional requirements of the VLANs so that each VLAN comprise of a subset of ports on a single or multiple switches or bridges. This allows computers and devices in a VLAN to communicate in the simulated environment as if it is a separate LAN.



Features of VLANs

- A VLAN forms sub-network grouping together devices on separate physical LANs.
- VLAN's help the network manager to segment LANs logically into different broadcast domains.
- VLANs function at layer 2, i.e. Data Link Layer of the OSI model.
- There may be one or more network bridges or switches to form multiple, independent VLANs.
- Using VLANs, network administrators can easily partition a single switched network into multiple networks depending upon the functional and security requirements of their systems.
- VLANs eliminate the requirement to run new cables or reconfiguring physical connections in the present network infrastructure.
- VLANs help large organizations to re-partition devices aiming improved traffic management.
- VLANs also provide better security management allowing partitioning of devices according to their security criteria and also by ensuring a higher degree of control connected devices.
- VLANs are more flexible than physical LANs since they are formed by logical connections. This aids is quicker and cheaper reconfiguration of devices when the logical partitioning needs to be changed.

Types of VLANs



- **Protocol VLAN** − Here, the traffic is handled based on the protocol used. A switch or bridge segregates, forwards or discards frames the come to it based upon the traffics protocol.
- **Port-based VLAN** − This is also called static VLAN. Here, the network administrator assigns the ports on the switch / bridge to form a virtual network.
- **Dynamic VLAN** − Here, the network administrator simply defines network membership according to device characteristics.

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