VLAN

Virtual Local Area Network



CONTENTS

- What is VLAN?
- <u>Router</u>
- <u>Main goals</u>
- VLAN techniques
- VLAN configurations
- <u>Static VLANs</u>
- **Dynamic VLANs**
- Types of traffic on a VLAN
- <u>Configuring ports</u>
- Benefits of VLAN



WHAT IS VLAN?

A virtual local area network (VLAN) is a network on which users are enabled to share a more visual sense of community through high band-width connections.









MAIN GOALS

- connectivity
- security
- management





VLAN TECHNIQUES

<u>Two techniques:</u>

- Frame Filtering --examines particular information about each frame (MAC address or layer 3 protocol type)
- Frame Tagging --places a unique identifier in the header of each frame as it is forwarded throughout the network backbone.



VLAN CONFIGURATIONS

Statically	Dynamically
 Network administrators configure port-by-port Each port is associated with a specific VLAN The network administrator is responsible for keying in the mappings between the ports and VLANs 	 The ports are able to dynamically work out VLAN configuration Uses of software database of MAC address to VLAN mappings



STATIC VLANS

Static membership VLANs calls port-based and port-centric



DYNAMIC VLANS

Dynamic VLANs allow for membership based on MAC address to the device connected to the switch port.

This VLANs are created through network management software



TYPES OF TRAFFIC ON A VLAN

- Data
- Voice
- Network protocol
- Network management





CONFIGURING PORTS



BENEFITS OF VLAN

- Performance
- Formation of Virtual Workgroups
- Simplified Administration
- Reduced Cost
- Security



Thank you



