

3, 5, and 6, because traffic for the red VLAN has been pruned on the links indicated on switches 2 and 4.

Here is the **vtp** command:

```
vtp [server | transparent] [domain domain-name] [trap {enable | disable}]
    [password password] [pruning {enable | disable}]
```

- *domain-name* can be specified or learned.
- **vtp trap** generates NMP messages.
- *password* can be set for the VTP management domain. The password entered should be the same for all switches in the domain.
- **pruning** propagates the change throughout the domain.

VTP trunk Command

The **trunk** command sets a Fast Ethernet port to trunk mode. This command turns trunking on or off and sets the negotiation state:

```
trunk [on | off | desirable | auto | nonegotiate]
```

- **desirable**—The port turns on trunking if the connected device is in the On, Desirable, or Auto state.
- **auto**—Enables trunking if the connected device is set to On or Desirable.
- **nonegotiate**—The port is set to the permanent ISL trunk.

Here is the procedure for configuring VTP:

```
RouterA(config)#vtp transparent domain springfield trap enable password
cisco pruning enable
RouterA(config)#int fa0/26
RouterA(config-if)#trunk on desirable
RouterA(config-if)#exit
RouterA(config)#address-violation {s | d | i}
RouterA(config)#exit
RouterA#show vtp
RouterA#show trunk A
```

On the Catalyst 1900, the two Fast Ethernet ports are interfaces fa0/26 and fa0/27.

Here is the procedure for configuring a VLAN:

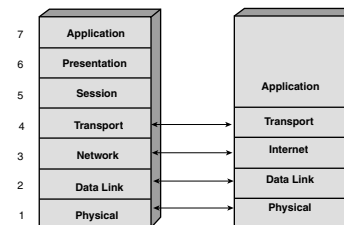
```
RouterA#config t
RouterA(config)#vlan 7 name springfield
RouterA(config)#int fa0/26
RouterA(config-if)#vlan-membership static 7
```

```
RouterA(config-if)#exit
RouterA(config)#exit
RouterA#show vlan7
RouterA#show vlan-membership
RouterA#show spantree 1
```

Configuring a VLAN Summary

- VTP advertises and synchronizes VLAN configuration information.
- The three VTP modes are server (the default), client, and transparent.
- VTP messages include a configuration revision number. When a switch receives a higher configuration number, it overwrites its configuration with the newly advertised one.
- VTP pruning restricts flooded traffic to some trunk lines.
- VLAN 1 is the default VLAN configuration on the Catalyst 1900 switch.
- To configure a VLAN, you must enable VTP, enable trunking, create a VLAN, and assign that VLAN to a port.

TCP/IP Overview



The *Transmission Control Protocol/Internet Protocol* (TCP/IP) suite of protocols is used to communicate across any set of interconnected networks. These protocols, initially developed by Defense Advanced Research Projects Agency (DARPA), are well-suited for communication across both LANs and WANs.

The protocol suite includes Layer 3 and 4 specifications, as well as specifications for

higher-layer applications such as e-mail and file transfer.

The TCP/IP protocol stack closely follows the OSI Reference Model. All standard Layer 1 and 2 protocols are supported (called the network interface layer in TCP/IP).

TCP/IP Datagrams

TCP/IP information is sent through datagrams. One message can be broken up into a series of datagrams that must be reassembled at the destination. Three layers are associated with the TCP/IP protocol stack: