



## Network Elements Managed by DFM

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These topics describe the Cisco network elements discovered and managed by DFM. By default, DFM manages all Cisco network elements contained in the inventory and all ports that connect to Cisco network elements in the inventory. Elements and their components are categorized into the following groups:

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### Note

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The network element descriptions in these topics are based on concepts and element classifications defined by the Distributed Management Task Force (DMTF) Common Information Model (CIM). For more information, see [www.dmtf.org](http://www.dmtf.org).

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### Note

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If you remove and reattach an element (such as a switch), the element's status will not be updated until the next scheduled inventory collection. You should manually rediscover the element, as described in the [“Performing Manual Inventory Collection” section on page 6-10](#).

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# Containers

A container is a physical package that contains or hosts other components.

- **Card**—A card is a physical module or blade of a networking device.
- **Chassis**—A chassis encloses other elements and provides definable functionality, such as desktop, processing node, UPS, disk or tape storage, or a combination of these.

# Systems

A system is a logically complete group of elements that provide services to users or other systems.

- **Bridge**—A bridge is a protocol-independent network element that connects two LAN segments.
- **Host**—A host is a general purpose computer, such as a workstation or server.
- **Hub**—A hub is a relay element that connects multiple physical segments. Active hubs are multiport repeaters, which means they repeat signals received on any port to all the other ports.
- **Probe**—A probe is a system that monitors networks or other systems. An example is a Remote Monitoring (RMON) probe.
- **Router**—A router is a device or, in some cases, software in a computer that determines the next network point to which a packet should be forwarded as it travels toward its destination. A router is connected to at least two networks and decides which way to send each information packet based on its current understanding of the state of the networks it is connected to.
- **Router Switch Module (RSM)**—An RSM is a router installed as a card in a switch to perform routing between Virtual Local Area Networks (VLANs).
- **Switch**—A switch is a network element that switches packets, typically at wire speeds, between physically separate network segments.
- **Terminal Server**—A specialized system that connects terminals to a network.

- **Uncertified**—An uncertified element identifies a Cisco system that has not yet been certified by the DFM inventory collection process. Uncertified elements are probed for standard MIB-II information but are not managed.
- **Undiscovered**—An undiscovered element identifies a system that was included in the DFM inventory but could not be probed because an error occurred during its inventory collection.
- **Unsupported**—An unsupported element identifies a non-Cisco device. Unsupported elements are not managed or polled. DFM receives and forwards traps received from unsupported elements, but does not display notifications or perform fault analysis on them.

## Logical Devices

A logical device is a component of a system that can be at fault. DFM monitors logical devices to diagnose Power Supply, Resource, and Temperature Exceptions.

- **Fan**—A fan is a cooling device that blows air through the chassis of a system to cool its circuitry. A system can have one or more fans. DFM monitors a fan's status to determine whether a fan is functioning properly.
- **Temperature Sensor**—A temperature sensor is a device associated with a fan that measures the ambient temperature inside a chassis. DFM monitors a temperature sensor's status to determine whether or not the ambient temperature inside a chassis is normal. Some systems' temperature sensors (for example, those used in certain Cisco routers) also provide the current temperature and the acceptable temperature range. When a system supports this information via the MIB, DFM monitors it and alerts you when a system's temperature is out of range.
- **Processor**—A processor, or central processing unit (CPU), controls the operation of a system. A system can have one or more CPUs. DFM monitors a CPU to measure its utilization whenever a system's CPU usage is an issue. CPU usage is not an issue when a system performs a hardware-driven function only. For example, the CPU on a Catalyst Switch would not be monitored because this system functions purely as a switching engine.

- **Memory**—Memory is the working space associated with a system's processor that is used to run programs and process data (for example, the Random Access Memory (RAM) on a PC). DFM monitors a processor's memory as well as any other memory pools that the system supports (for example, a pool of I/O memory).
- **Power Supply**—A power supply provides power to a system. A system can have one or more power supplies. DFM monitors the power supply's status to determine whether a system's power supply is functioning properly.
- **Voltage Sensor**—A voltage sensor is a device that measures the voltage value coming out of the power supply.

## Network Adapters

A network adapter is a logical or physical component of a network device that connects the device to a network. Ports and interfaces are examples of network adapters.

- **Port**—A port is a specific place at which a connection to a network segment can be made. A network adapter connects to a port to gain access to its network segment. For example, an Ethernet segment is connected to an Ethernet Switch at one of the switch's ports. A port has a MAC address but no IP address associated with it.
- **Interface**—An interface is the location for the attachment of any device to a connector or to another device. An interface is a connection to a network that may have a MAC address, an IP address, or both. For example, a host uses an Ethernet interface to connect to an Ethernet segment.

# Logical Links

A logical link represents a connection between nodes. The communication between nodes is governed by the protocol rules of the network layer in which the link exists (for example, an Ethernet segment in the link layer, or a Telnet session in the OSI application layer). VLANs are logical links managed by DFM.

- **VLAN**—A Virtual Local Area Network (VLAN) is a logical subgroup within a local area network that is created by software rather than by manually moving cables in the wiring closet. It combines user stations and network elements into a single unit regardless of the physical LAN segment they are attached to. A VLAN allows traffic to flow more efficiently within populations of mutual interest.

