

### 3.3.2 Presence of Hubs

Suppose we have a Cisco Catalyst 3550 switch that provides 24 100Mbps ports and 2 1000Mbps ports.

Network resources (such as Web server, FTP server, etc.) could be connected to the 1000Mbps ports on the Catalyst 3550 switch, allowing 1000Mbps bandwidth to users when needed. When the switch and server ports are running full-duplex operation, the links provide 2000Mbps of throughput.

Bandwidth-intensive workstations, such as computer-aided design (CAD) users or other power users, could be connected to the switch 100Mbps ports for their own 100Mbps bandwidth access to servers. When the switch and bandwidth-intensive workstation ports are running full-duplex operation, the links provide 200Mbps of throughput.

Other workstations could be connected to 100Mbps hubs, which provide 100Mbps shared bandwidth to users with multiple workstations that require minimal network bandwidth. These workstations share the available 100Mbps of bandwidth from the switched link since hubs run only in half-duplex.

