


## Cisco 7200/Cisco 7500 Traffic Offload

A stylized graphic of a globe with white grid lines on a blue background, positioned on the left side of the page.

Traffic offload allows exchange carriers to offload their telephony traffic to a packet network from the Public Switched Telephone Network (PSTN). By doing so, carriers can offer differentiated services to customers, providing reduced toll charges for long-distance calls. Carriers can also reduce equipment costs by converging voice and data traffic.

Most importantly, this application provides a solution to handle calls with long holding times (such as Internet traffic). For example, with the appropriate routing configurations within end offices, exchange carriers can detour their Internet traffic to the packet network via Cisco 7200 and Cisco 7500 serving as edge gateways. Competitive local exchange carriers can position Cisco 7200 and Cisco 7500 edge gateways to receive traffic from the PSTN and detect Internet traffic (such as traffic based on the Internet service provider's directory number [DN] as the called party number). They can then offload the calls to the packet network instead of sending them over the PSTN. Following are our examples of traffic-offload scenarios (Figures 1 through 4).

**Figure 1** Traffic Offload Scenario 1: Local Exchange Carriers (H.323 Based)

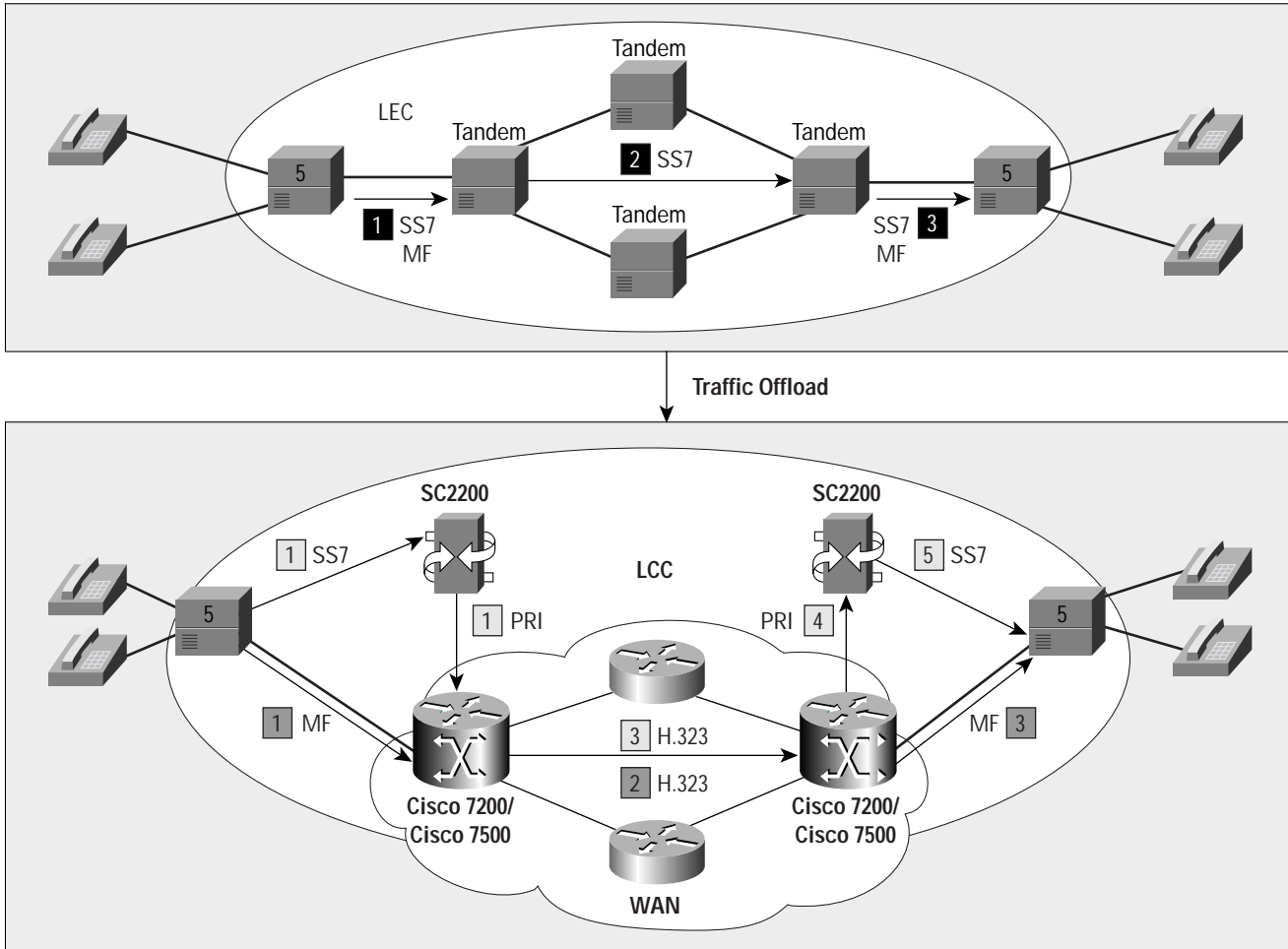


Figure 1 illustrates a scenario in which a local exchange carrier (LEC) is using the IP network instead of the time-division multiplexing (TDM)-based tandem offices. The TDM trunks, which carry the actual voice from the end offices, terminate at the Cisco 7200 and Cisco 7500. The example covers the two end-office signaling possibilities: Multi Frequency (MF) and Signaling System No. 7 (SS7)-based ISDN User Part (ISUP). In the first example, the Cisco 7200 and Cisco 7500 provide MF signaling functions toward the TDM trunks and route the call over the IP network using H.323 protocol. In the second example, the SC2200 provides the SS7 signaling functions and converts the ISUP messages into Primary Rate Interface (PRI) messages. It then sends the same to the Cisco 7200 and Cisco 7500, where the calls are routed over the IP network using H.323 protocol.



Figure 2 Traffic Offload Scenario 2 (LEC: MGCP Based)

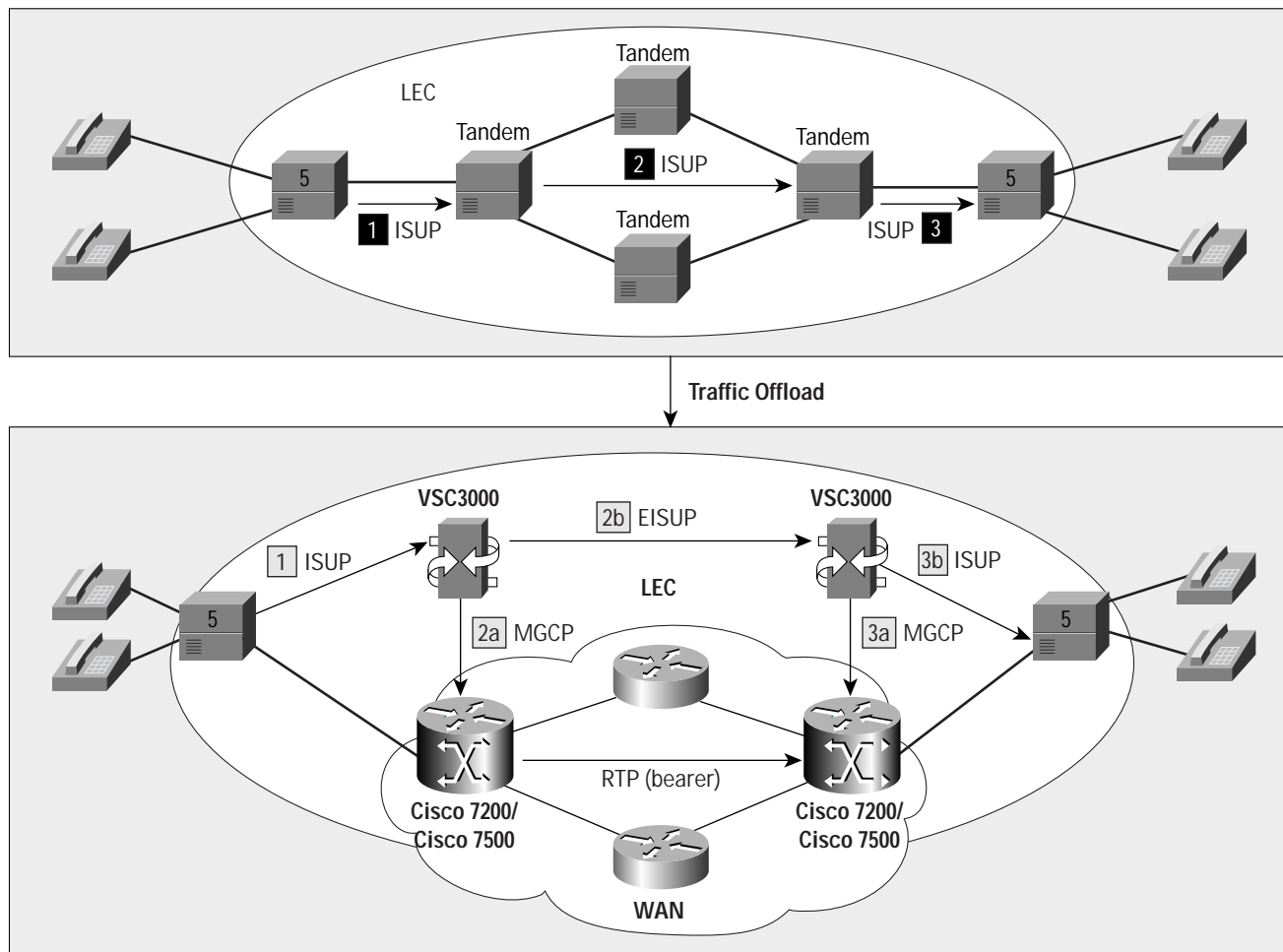


Figure 2 illustrates another scenario of a LEC using the packet network instead of the TDM-based tandem offices. The TDM trunks, which carry the actual voice from the end offices, terminate at the Cisco 7200 and Cisco 7500. In this scenario, the Call Agent provides signaling and call-control functions (such as VSC3000, as shown). The Cisco 7200 and Cisco 7500 provide the TDM-to-packet conversion of bearer information. Note that the call-control functions provided by the VSC3000 is actually independent of the type of packet network.

**Figure 3** Traffic Offload Scenario 3 (IXCs:H323 Based)

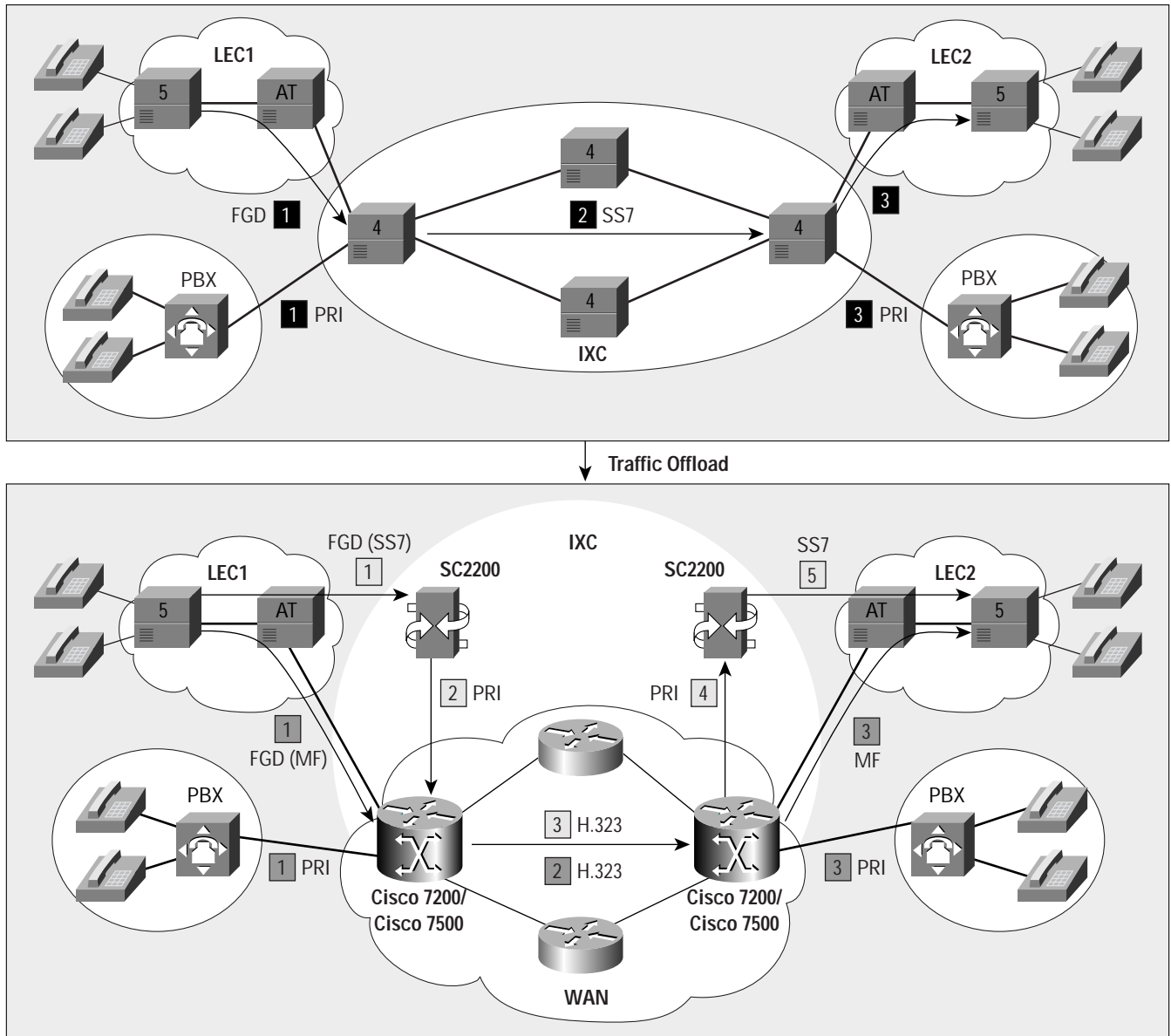


Figure 3 illustrates a scenario in which an interexchange carrier (IXC) is using the IP network instead of the TDM-based Class 4 switches. The example covers three different call-flow scenarios. The first call flow is based on MF signaling from and to the end office. The second call flow is based on SS7 signaling from and to the end-office. The third (PRI) call flow is from and to the PBXs of enterprise customers. In the MF case, the Cisco 7200 and Cisco 7500 provide MF signaling functions toward the TDM trunks and route the call over the IP network using H.323 protocol. In the SS7 case, the SC2200 provides the SS7 signaling functions and convert the ISUP messages into PRI messages. It then sends the same to the Cisco 7200 and Cisco 7500, where the calls are routed over the IP network using H.323 protocol. In the PRI case, the Cisco 7200 and Cisco 7500 receive the calls from the PBXs over the B-channels (or bearer) of the PRI and route the calls over the IP network using H.323 protocol.

**Figure 4** Traffic Offload Scenario 4 (IXCs: MGCP Based)

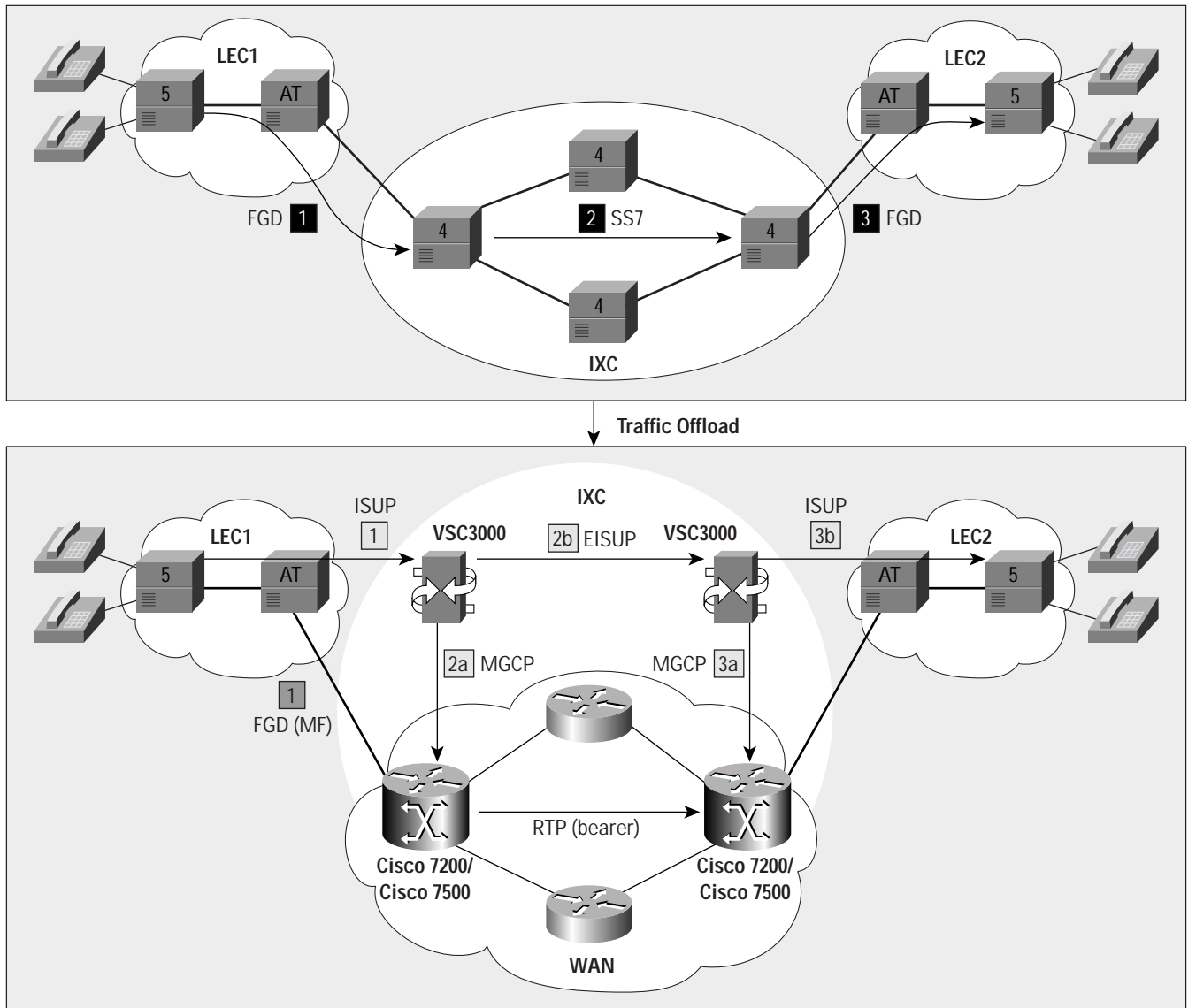


Figure 4 illustrates another scenario in which an interexchange carrier (IXC) is using the packet network instead of the TDM-based Class 4 switches. The TDM trunks, which carry the actual voice from the end offices, terminate at the Cisco 7200 and Cisco 7500. In this scenario, the Call Agent provides signaling and call-control functions (such as VSC3000 as shown). The Cisco 7200 and Cisco 7500 provide the TDM-to-packet conversion of bearer information. Note that the call-control functions provided by the VSC3000 is actually independent of the type of packet network.



Corporate Headquarters  
Cisco Systems, Inc.  
170 West Tasman Drive  
San Jose, CA 95134-1706  
USA  
[www.cisco.com](http://www.cisco.com)  
Tel: 408 526-4000  
800 553-NETS (6387)  
Fax: 408 526-4100

European Headquarters  
Cisco Systems Europe  
11, Rue Camille Desmoulins  
92782 Issy Les Moulineaux  
Cedex 9  
France  
[www.cisco.com](http://www.cisco.com)  
Tel: 33 1 58 04 60 00  
Fax: 33 1 58 04 61 00

Americas Headquarters  
Cisco Systems, Inc.  
170 West Tasman Drive  
San Jose, CA 95134-1706  
USA  
[www.cisco.com](http://www.cisco.com)  
Tel: 408 526-7660  
Fax: 408 527-0883

Asia Pacific Headquarters  
Cisco Systems Australia, Pty., Ltd  
Level 17, 99 Walker Street  
North Sydney  
NSW 2059 Australia  
[www.cisco.com](http://www.cisco.com)  
Tel: +61 2 8448 7100  
Fax: +61 2 9957 4350

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