



## Optimizing GPRS Performance

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This chapter describes how to optimize performance on the GGSN by configuring fast switching.

For a complete description of the GPRS commands in this chapter, refer to the *Cisco IOS Mobile Wireless Command Reference*. To locate documentation of other commands that appear in this chapter, use the command reference master index or search online.

### Configuring Fast Switching for GPRS

GPRS supports fast switching to improve the performance on the Gn and Gi interfaces of the GGSN. With traditional fast switching support, GPRS uses high-speed switching caches for IP routing.



#### Note

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CEF switching is not supported in GPRS Release 1.4 in Cisco IOS Release 12.2 and earlier. However, CEF is enabled by default. Therefore, ensure that CEF is disabled by issuing the **no ip cef** command while in global configuration mode.

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To achieve the maximum performance benefits of fast switching on the GGSN, you should configure all of the following entities for fast switching:

- Virtual template interface of the GGSN
- Physical interfaces that support GTP on the SGSN (the Gn interface)
- Physical interfaces over which MSs will access the PDNs (the Gi interface)



#### Caution

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G-PDUs (GTP PDUs) with a non-zero User Datagram Protocol (UDP) checksum will be process switched, not fast switched.

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### Enabling Fast Switching on the Virtual Template Interface

Before you enable fast switching on the GGSN, be sure to configure the virtual template interface with GTP encapsulation first. For further information about the steps to configure the virtual template interface on the GGSN, see the [“Configuring the GGSN”](#) section on page 17 in the [“Configuring GGSN Services”](#) chapter.

To enable fast switching on the GGSN, issue the following commands beginning in global configuration mode:

	Command	Purpose
Step 1	<code>router(config)# <b>interface virtual-template</b> <i>number</i></code>	Creates, or accesses, a virtual template interface, where <i>number</i> identifies the virtual template interface. This command enters you into interface configuration mode.  <b>Note</b> The GGSN supports only a single virtual template for the GTP virtual interface.
Step 2	<code>router(config-if)# <b>gprs fastswitch</b></code>	Enables fast switching on the virtual template interface.

## Enabling Fast Switching on a Physical Interface

After you enable fast switching on the virtual template interface of the GGSN, you should also enable fast switching on the Gn and Gi interfaces of the GGSN to achieve maximum performance benefits.

To enable fast switching on the physical interface between the GGSN and SGSN (over the Gn interface), and between the GGSN and PDNs (over the Gi interface), issue the following commands beginning in global configuration mode:

	Command	Purpose
Step 1	<code>router(config)# <b>interface</b> <i>type slot/port</i></code>	Accesses the physical interface configuration.  <b>Note</b> The actual syntax of the <b>interface</b> command depends on the type of physical interface that you have configured for the Gn or Gi interfaces.
Step 2	<code>router(config-if)# <b>ip route-cache</b></code>	Enables fast switching on the physical interface.