



Release Notes for Interface Cards for the Cisco 2000 Series Connected Grid Routers

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These release notes document important information about the interface cards supported on the Cisco 2010 Connected Grid Router (CGR 2010, or router) and the Cisco IOS software required to use the cards with the router. This document contains the latest information about limitations, restrictions, and caveats that apply to using the interface cards with supported platforms.

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Accessing Supporting Cisco IOS Software Release Notes

This document must be used in conjunction with the Cisco IOS Cross-Platform Release Notes for the Cisco IOS release that supports the interface cards on the CGR 2010.

This document includes only the information and caveats that are specific to using the interface card on the router. The cross-platform release notes contain complete information and a list of caveats for the Cisco IOS release that supports the interface cards and the router.

Interface Card Model	Link to Cross-Platform Release Notes
Connected Grid 2G/3G/4G Multimode LTE Interface Card	Cross-Platform Release Notes for Cisco IOS Release 15.1M&T
Connected Grid ISDN Basic Rate Interface (BRI) S/T Grid Router WAN Interface Card (GRWIC)	Cross-Platform Release Notes for Cisco IOS Release 15.2M&T
Connected Grid ISDN BRI U GRWIC	
Connected Grid 2-Pair Symmetric High-Bit-Rate Digital Subscriber Line (G.2SHDSL) GRWIC	
Connected Grid Multimode ADSL/ADSL2/ADSL2+/VDSL2 (Annex A) GRWIC	
Connected Grid Multimode ADSL/ADSL2/ADSL2+/VDSL2 (Annex B) GRWIC	
Connected Grid Multimode ADSL/ADSL2/ADSL2+/VDSL2 (Annex M) GRWIC	



Caution

You must read the regulatory compliance and safety information for the router before installing the interface card in the router. This information shipped with the router and is also available online at www.cisco.com/go/cgr2000-docs.

Additional Documentation

Access all support documentation for the router and the interface cards at these links:

- **CGR 2010 Router**—For available models, installation and safety instructions, and configuration information, see www.cisco.com/go/cgr2000-docs.
- **CG 2G/3G/4G Multimode Interface Card**—For available models, installation and safety instructions, and configuration information, see www.cisco.com/go/cg-modules.
- **ISDN BRI S/T and ISDN BRI U GRWICs**—For hardware installation information and links to software configuration information, see www.cisco.com/go/cg-modules.
- **G.2SHDSL, ADSL/ADSL2/ADSL2+/VDSL2 (Annexes A, B, and M) GRWICs**—For hardware installation information and links to software configuration information, see www.cisco.com/go/cg-modules.

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System Requirements

This section includes the following topics:

- [Supported Hardware and Software, page 3](#)
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Supported Hardware and Software

This section describes the supported platforms and minimum software release required to use the interface cards with the router.

Table 1 **Supported Hardware and Software**

Connected Grid Interface Card	Connected Grid Platform	Minimum Software Release
Connected Grid 2G/3G/4G Multimode LTE Interface Card	Cisco 2010 Connected Grid Router	Cisco IOS Release 15.1(4)M4
Connected Grid ISDN BRI S/T and ISDN BRI U (GRWICs)	Cisco 2010 Connected Grid Router	Cisco IOS Release 15.2(3)T
Connected Grid G.2SHDSL, ADSL/ADSL2/ADSL2+/VDSL2 (Annexes A, B, and M) GRWICs		

Upgrading the Router Software

Registered Cisco.com users can download the latest software for the router from the following link:
<http://www.cisco.com/cisco/web/download/index.html>

For instructions on how to upgrade the router operating software, refer to [Upgrading to a New Release](#) in the Cisco IOS Cross-Platform Release Notes.

Finding the Software Version and Feature Set

To determine the router software version, refer to [Determining Your Software Version](#) in the Cisco IOS Cross-Platform Release Notes.

New Software Features

For information about all new features available in the current interface card software release, refer to the Cisco IOS Cross-Platform Release Notes.



Tip

This document must be used with the appropriate Cisco IOS Cross-Platform Release Notes for the interface card. This document includes only the information and caveats that are specific to using the interface cards on supported routers. The cross-platform release notes contain complete information and list of caveats for the software release supported on the router and the interface cards.

Interface Card Model	Link to Cross-Platform Release Notes
Connected Grid 2G/3G/4G Multimode LTE Interface Card	Cross-Platform Release Notes for Cisco IOS Release 15.1M&T
Connected Grid ISDN BRI S/T and ISDN BRI U (GRWICs)	Cross-Platform Release Notes for Cisco IOS Release 15.2.M&T
Connected Grid G.2SHDSL, ADSL/ADSL2/ADSL2+/VDSL2 (Annexes A, B, and M) GRWICs	

Limitations and Restrictions

This section only outlines known limitations for the interfaces cards noted. Some features might not work as documented, and some features could be affected by recent changes to hardware or software.



Note

For all known limitations for the software releases that support the interface cards, refer to the appropriate Cisco IOS Cross-Platform Release Notes for the interface card (see software links in [New Software Features](#)).

Connected Grid DSL GRWICs

The Connected Grid ADSL/ADSL2/ADSL2+/VDSL2 (Annexes A, B, and M) GRWICs require a firmware update as noted below.

VDSL Firmware Upgrade Required

Upgrade the VDSL firmware version on the Connected Grid ADSL/ADSL2/ADSL2+/VDSL2 (Annexes A, B, and M) GRWICs to A2pv6C035j by doing the following:

1. Download the VDSL firmware file from Cisco.com or TAC Support:
<http://www.cisco.com/cisco/software/release.html?mdfid=283122091&flowid=&softwareid=282821780&os=null&release=A2pv6C035j&relind=null&rellifecycle=null&reltype=null>
2. Copy the new firmware into router flash and rename it as *vdsl.bin*.
3. Reload the router.
 The router automatically references the new VDSL firmware during boot-up.
4. To verify that the new firmware is in use, enter the **show controller vdsl** command.

Connected Grid 2G/3G/4G Multimode LTE Interface Card

This section outlines the following topics for the interface card:

- [Operational Limitations](#)
- [Required Scripts](#)
- [Downloading the Scripts and Supporting Documents](#)

Operational Limitations

- Cellular networks support only outgoing calls on the interface card. The interface card cannot receive calls over the cellular network.
- The throughput rate on the interface card varies, and is affected by:
 - Number of active users on the cellular network
 - Cellular network congestion
- This release does not support 4G Simple Network Management Protocol (SNMP) MIB.
- Public Land Mobile Network (PLMN) commands are not supported on Verizon implementations.

Required Scripts

You must download, install, and execute the scripts described in this section to use the CG LTE interface card with the CGR 2010 and Cisco IOS Release 15.1(4)M4. The scripts address the following known issues that can occur with the interface card:

- **Access Point Name (APN)**—To use the interface card on Verizon cellular networks, the interface card APN must be changed. Cisco provides a script to automate the APN change for the interface card 3G and 4G wireless profiles. For detailed information about this issue, and how the script resolves the issue, refer to the documentation bundled with the scripts.
- **LTE Modem Out-of-Sync State**—In some cases, the card's cellular interface appears to be up, but no longer sends or receives data. Cisco provides a script that configures Embedded Event Manager (EEM) on the router to automatically recover the interface when this issue occurs. For detailed information about this issue, and how the script resolves the issue, refer to the documentation bundled with the scripts. The section [Open Caveats, page 6](#) lists the bug ID numbers for this issue.

Downloading the Scripts and Supporting Documents

Download the scripts from the Cisco Software Download Center with this link:

www.cisco.com/cisco/software/release.html?mdfid=281295442&flowid=6999&softwareid=284194160&release=SCRIPTS_V1.0&relind=AVAILABLE&rellifecycle=&reltype=latest

Documentation for the scripts is bundled with the software download, and includes instructions for installing, configuring, and executing the scripts on the router.

Open Caveats

This section lists the open caveats for the interface cards.



Note

For additional open caveats for the Cisco IOS releases that support the interface cards, refer to the [New Software Features](#) section for the appropriate software release.

Connected Grid 2G/3G/4G Multimode LTE Interface Card

- **CSCto12629**

Symptom: The LTE LED is on (solid green) even if there is no cellular signal available. The LTE LED should be off when there is no available cellular signal.

Conditions: This issue occurs when interface card network connectivity is interrupted, for example when the antenna is removed from the interface card.

Workaround: There is no workaround for this issue.

- **CSCtw60472**

Symptom: The cellular interface fails and the RSSI reports 125 dBm.

Conditions: This issue occurs when system remains in an idle state for several days, and then the cellular interface attempts to place a call.

Workaround: Enter the **test cellular 0/x/0 modem-power-cycle** EXEC command to resolve the issue. To prevent this issue, use the script described in [Downloading the Scripts and Supporting Documents, page 6](#) to configure Cisco Embedded Event Manager (EEM) to automatically recover the interface when it fails.

- **CSCtx06333**

Symptom: The interface card modem resets, and the interface state changes from up to down. Data calls cannot be established after the interface state change.

Conditions: This issue occurs after a network outage or when the RSSI drops to -125 dBm or lower.

Workaround: Enter the **test cellular 0/x/0 modem-power-cycle** EXEC command to resolve the issue. To prevent this issue, use the script described in [Downloading the Scripts and Supporting Documents, page 6](#) to configure Cisco Embedded Event Manager (EEM) to automatically recover the interface when it fails.

- **CSCtx81919**

Symptom: Firmware upgrade for the interface card modem fails.

Conditions: This issue occurs when attempting to upgrade the firmware with the **microcode reload** global configuration command.

Workaround: Use a third-party upgrade utility to upgrade the firmware over the interface card mini-USB port.

- **CSCty39273**

Symptom: In some cases the **show cellular** command output might show incorrect data. The Current Service Status might be displayed as “No Service.” The value for Mobile Country Code (MCC) and Mobile Network Code (MNC) might be displayed as 0.

Conditions: This issue might occur after power cycling or resetting the router.

Workaround: There is no workaround for this issue.

Connected Grid DSL GRWICs

See [Limitations and Restrictions](#).

Connected Grid ISDN GRWICs

No open caveats.

Resolved Caveats

There are no resolved caveats for the interface cards.

Related Documentation

Use these release notes with the following documentation for the interface cards and the router:

- [Connected Grid 2G/3G/4G Multimode LTE GRWIC Installation and Configuration Guide](#)
- [Cisco Connected Grid DSL GRWICs Hardware Installation Guide](#)
- [Cisco Connected Grid ISDN GRWICs Hardware Installation Guide](#)
- [Cisco 2010 Connected Grid Router Hardware Installation Guide](#)
- [Cisco 2010 Connected Grid Router software configuration guides](#)

This document is to be used in conjunction with the documents listed in the [Related Documentation](#) section.

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