Release Notes for Cisco IP Transfer Point (ITP) Cisco IOS Release 12.2(33)IR

Revised: October 2009

Current Release—12.2(33)IRD

These release notes describe the enhancements provided in Cisco IOS Release 12.2(33)IR. These release notes are updated as needed.

For a list of the software caveats that apply to Cisco IOS Release 12.2(33)IR, see the Caveats for Cisco IOS Release 12.2(33)IR, page 11.

Caution Upgrading Cisco 12.2(18)IX software releases to Cisco ITP 12.2(33)IR software releases requires a reload. This upgrade should only be performed in an off-peak maintenance window.

Contents

These release notes include the following topics:

Introduction

The Cisco IP Transfer Point (ITP) for the Cisco 7600 Series Routers is a comprehensive product for transporting Signaling System 7 (SS7) traffic over traditional time-division multiplexing (TDM) networks or advanced SS7-over-IP (SS7oIP) networks. The Cisco 7600 ITP supports traditional, advanced, and combined traditional/advanced networks.

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Cisco ITP Cisco IOS Release 12.2(33)IR runs on the Service and Application Module for IP (SAMI), a high performance service module for the Cisco 7600 series router platforms. SAMI is documented in the *Cisco Service and Application Module for IP User Guide for the Cisco 7600 Series Routers* available at: http://www.cisco.com/en/US/docs/wireless/service_application_module/sami/user/guide/overview.html

System Requirements

Caution Upgrading Cisco 12.2(18)IX software releases to Cisco ITP 12.2(33)IR software releases requires a reload. The upgrade should only be performed in an off-peak maintenance window.

This section describes the system requirements for Cisco IOS Release 12.2(33)IR and includes the following sections:

Memory Requirements

Refer to the Cisco 7600 ITP data sheet at https://www.cisco.com/en/US/products/sw/wirelssw/ps1862/index.html

Hardware Supported

Table 1 shows the supported interfaces for the Cisco ITP 7600 SAMI platform.

Table 1 Supported Interfaces for the Cisco ITP 7600 SAMI

Interface or Linecard	Part Number
Cisco 2-port Gigabit Ethernet SPA, SFP Optics, version 2	SPA-2X1GE-V2
Cisco 2-Port Clear Channel T3/E3 Shared Port Adapter	SPA-2XT3/E3
Cisco 4-Port Clear Channel T3/E3 Shared Port Adapter	SPA-4XT3/E3
Cisco 2-Port Channelized T3 (DS0) Shared Port Adapter	SPA-2XCT3/DS0
Cisco 4-Port Channelized T3 (DS0) Shared Port Adapter	SPA-4XCT3/DS0
Cisco 2-Port OC3c/STM1c ATM Shared Port Adapter	SPA-2XOC3-ATM
Cisco 4-Port OC3c/STM1c ATM Shared Port Adapter	SPA-4XOC3-ATM
Cisco 2-Port Supervisor Engine 720	WS-SUP720-3BXL/WS-SUP720-3B
Cisco 48 GE blade	WS-X6748-GE-TX
Cisco Service and Application Module for IP	WS-SVC-SAMI-BB-K9—
Cisco Service and Application Module for IP (spare)	WS-SVC-SAMI-BB-K9=—
Cisco 7600 Supervisor Engine	720-3B
Cisco 2-Port Fast Ethernet	PA-2FE-TX

Table 1 Supported Interfaces for the Cisco ITP 7600 SAMI

Interface or Linecard	Part Number
ATM Port Adapter	PA-A6-0C3
ITP SS7 Q.703 High-speed Port Adapter	PA-MCX-4TE1-Q
Cisco 2-Port FE	PA-2FE-TX
ITP SS7 Port Adapter for SS7 low-speed links	PA-MCX-8TE1-M
ATM Port Adapter for SS7 high speed links	PA-A3-8E1IMA
ATM Port Adapter for SS7 high speed links	PA-A3-8T1IMA
Cisco 7600 Supervisor Engine	720-3BXL
Enhanced FlexWAN module for the Cisco 7600 Series Router	WS-X6582-2PA

Note For details on SAMI hardware features, refer to the "Overview" chapter of the *Cisco Service and Application Module for IP User Guide for the Cisco 7600 Series Routers*.

Determining the Software Version

To determine the version of Cisco IOS software running on your Cisco ITP 7600, use the **show version** EXEC command.

Prerequisites and Restrictions

For the latest prerequisites and restrictions for Cisco ITP Release 12.2(33)IR, see the "Overview" chapter of the *Cisco Service and Application Module for IP User Guide for the Cisco 7600 Series Routers*.

New and Changed Information

New Hardware Features in Release 12.2(33)IRD

No new hardware features are supported.

New Software Features in Release 12.2(33)IRD

The following new software features are supported:

- SGMP Offload
- Inter-Carrier Accounting and Accounting Reliability Enhancement (ICARE)
- GTT Overflow Load Sharing
- GTT Weighted Load Balancing

SGMP Offload

SGMP offload enables the offloading of SGMP onto multiple linecards in a Cisco 7600 Series router. The new feature accomplishes this by supporting multiple SGMP associations. Data messages reroute from the ingress linecard to an egress linecard hosting the SGMP association. The ingress linecard can use the protocols MTP3 and/or M2PA and/or XUA. The supervisor module continues to generate the SGMP control messages. The SGMP control messages are punted to the supervisor module when received on an offloaded SGMP association.

Inter-Carrier Accounting and Accounting Reliability Enhancement (ICARE)

Inter-Carrier Accounting enables Cisco ITP to accumulate ingress and egress traffic statistics into accounts, where each account can stand for an operator or carrier. This allows the use of ITP accounting records as Signaling Data Records (SDR) for inter-carrier billing.

GTT Overflow Load Sharing

GTT Overflow Load Sharing allows Cisco ITP to send only a certain amount of GTT traffic up to a defined limit to a primary destination. Traffic that exceeds the threshold is routed to a secondary destination.

GTT Weighted Load Balancing

GTT Weighted Load Balancing adds a Weighted Round Robin (WRR) multiplicity mode for GTT application groups. In WRR mode both class 0 and class 1 traffic use weighted loadsharing for distribution to different available destinations in the GTT application group. For class 1 traffic, the messages with same signaling link selector (SLS) are sent to same destination. An SLS, CGPA-SLS or OPC-SLS can be the seed for the WRR algorithm.

40 Secondary Point codes

Prior to the 40 Secondary Point Code expansion, Cisco ITP supported a maximum of 16 secondary point codes per chassis. This feature increases the maximum number of secondary point codes per chassis to 40.

SCTP RFC 4960 Compliance

Prior to this release, Cisco ITP was compliant with SCTP RFC 2960 but not compliant with SCTP RFC 4960. Releases 12.2(33)IRD, 12.4(15)SW4 and later are compliant with SCTP RFC 4960.

New Hardware Features in Release 12.2(33)IRC

Support for the SIP 400 Line Card

Added support for the Cisco 2-port Gigabit Ethernet SPA, SFP Optics, version 2 (Product ID SPA-2X1GE-V2).

New Software Features in Release 12.2(33)IRC

The following new software features are supported:

- Probeless Monitoring
- Scalable MO Proxy SMS Not Capability
- ASP Binding Enhancement
- Enhanced SCTP Monitoring
- Support of 32 ASPs per AS
- CgPA Checking of the MO-SMS Messages
- GCP (H.248) Support
- Large MSU Support on M2PA and M3UA Associations
- Increased Local Port Numbers

Probeless Monitoring

Probeless Monitoring enables the ITP to send packets to an external server. The packets sent to this server contain copies of any MSUs received or sent by the ITP. The MSU copies in the packets are carried in an encapsulated, propriety, probeless monitoring protocol (PMP) stacked on top of the UDP protocol and transmitted over a non-reliable IP stream. This feature does not affect normal ITP performance.

Scalable MO Proxy SMS Not Capability

SMS MO Proxy offload allows you to configure ITP so that the incoming SMS-MO and SMSNot proxy transactions terminate on the SAMI card's processor through offload. The incoming requests will be distributed among offload enabled processors using a weighted round robin (WRR) algorithm.

ASP Binding Enhancement

This feature enhances ASP binding functionality by eliminating the dynamic creation and maintenance of a unique data structure per ASP binding. This greatly reduces the ITP CPU load, SGMP management traffic, and SUP/LC updates in ITPs forwarding M3UA/SUA traffic with large CIC or SLS ranges using loadshare bindings traffic mode. Instead, ASP bindings are loadshared using a deterministic ranking of ASPs in the AS combined with local and remote ASP state.

Enhanced SCTP Monitoring

This feature provides detection of abnormal SCTP conditions that have not caused the association to fail.

Support of 32 ASPs per AS

This feature provides support for up to 32 ASPs per AS for M3UA and SUA.

CgPA Checking of the MO-SMS Messages

This feature checks the originating MSC/VLR address (SCCP CgPA) of a MO-SMS message against the response of the SRI-SM from the HLR. This prevents SMS MO spoofing and only applies to MO Proxy.

GCP (H.248) Support

This feature adds ITP support for the Gateway Control Protocol (GCP), also known as H.248.1 and Megaco, to be carried over M2PA and M3UA. It also allows the configuration of GCP, BISUP, AAL2 and Satellite ISUP as SI in M3UA AS. It also allows DPC and DPC+SI based M3UA routing.

Large MSU Support on M2PA and M3UA Associations

This feature enables the M2PA and M3UA associations to carry signaling messages with payload sizes of up to 4096 octets. Currently, HSL is the only SS7 link type in ITP that supports sending of 4096 bytes.

Increased Local Port Numbers

This feature increases the number of SCTP ports supported by the platform from 100 to 1,000. This range matches the number of SCTP associations supported by the total platform. The restrictions of 100 SCTP associations and ports per a single processor remains.

New Hardware Features in Release 12.2(33)IRB

No new hardware features are supported.

New Software Features in Release 12.2(33)IRB

The following new software features are supported:

- **MLR Concatenated SMS Option**
- **MLR MAP Error Return**
- **GSM MAP Version Check In**
- **MLR Update Location for IMSI Blacklist**
- **MLR Instance Conversion**
- **Circular Route Detection**
- **SMS MO Proxy Offload**
- **Support for the cs7 xua-err-diag-fmt Command**

MLR Concatenated SMS Option

MLR supports directly routing SMS-MO messages that are concatenated at the SMS layer.

MLR MAP Error Return

MLR supports the option of returning a MAP error, instead of silently discarding an MSU message when a block rule is matched. You can configure a specific return cause with the MLR rule.

GSM MAP Version Check In

MLR supports checking the GSM MAP version of the MSU and deciding whether it matches the MAP version specified in a triggered MLR rule. You can specify one or several MAP versions in the MLR rule.

MLR Update Location for IMSI Blacklist

MLR supports performing specific actions, such as returning a MAP error, for UpdateLocation MSUs from specific subscribers. These specific subscribers are identified by the originator IMSI. This feature can be used to block fraudulent activity.

MLR Instance Conversion

MLR converts an MSU instance to another instance.

Circular Route Detection

Circular Route Detection (CRD) detects circular routing and disables problematic routes. Circular routing is when an MSU flows through an SS7 network and ends up back at the originating point code (OPC). Circular routes can quickly lead to congestion of links and degrade network performance.

SMS MO Proxy Offload

SMS MO Proxy offload allows you to configure ITP to distribute the SMS MO Proxy and SMS Not Proxy applications to the FlexWAN CPUs. When this feature is not enabled, these applications are sent to the Supervisor Engine (SUP).

Support for the cs7 xua-err-diag-fmt Command

The **cs7 xua-err-diag-fm**t command modifies the format of the diagnostic info parameter in outbound M3UA and SUA ERR messages.

New Hardware Features in Release 12.2(33)IRA

12.2(33)IRA is the initial release of 12.2(33)IR and supports the hardware listed in the "Hardware Supported" section on page 2.

New Software Features in Release 12.2(33)IRA

12.2(33)IRA is the initial release of 12.2(33)IR and supports the Initial Software Features in Release 12.2(33)IR.

Initial Software Features in Release 12.2(33)IR

The Cisco ITP software for Cisco IOS Release 12.2(33)IR supports the software feature set of Cisco ITP software for Cisco IOS Release 12.2(18)IXF, which does not support SAMI. The software feature set includes but is not limited to the features in the following table.

SS7 routing	SCCP, GTT, and MTP3 any-to-any routing between all link types including OPC/DPC based routing using MLR
Quality of service	QoS per SCTP association with classification based on: • Service indicator • Destination Point Code, Global Title Address, M3UA/SUA routing key • Input link set • Service (translation type) • Access lists • M3UA/SUA routing key
Global Title Translation (GTT) support	• Full traditional SCCP and GTT support including ANSI GTI2 and ITU/China GTI 2 and 4 • Address translation and variant/instance conversion
Gateway screening	ITP Gateway Screening is an advanced STP screening capability. At any stage during the screening process, the message can be routed to its destination, sent to MLR for application level handling or be discarded. This functionality supports combinations of the following MSU parameters: MTP3 layer, SCCP layer, ISUP message type, byte pattern and byte offset. In addition to Gateway Screening, the ITP also supports Multi-layer Routing (MLR) screening features. More information on the MLR feature is described below.
SS7 load sharing	Advanced MTP3 and SCCP load sharing for links, link sets, and combined link sets for any link types
Multiple point codes	Primary, secondary, and capability point codes and M3UA/SUA routing keys. With multiple instances feature, up to 256 TDM links to adjacent nodes
Multiple instances	The Multiple Instance feature enables multiple variant and network-indicator combinations to run concurrently on one Cisco 7600 ITP. You can configure up to eight instances. Each instance is a separate domain with a defined variant, network indicator, Cisco 7600 ITP point code, optional capability point code, and optional secondary point code. • Instance translation: The Cisco 7600 ITP Instance Translation feature enables the conversion of packets between instances of the same variant. • Instance conversion: The Cisco 7600 ITP Instance Conversion feature enables conversion between ITU and ANSI instances for point code and global title.

MLR	The Cisco 7600 ITP MLR feature enables intelligent routing and screening of all SS7 messages at the MTP, SCCP, TCAP, and MAP-user layer based on a flexible schema including, but not limited to, OPC/DPC/SI and CdPA parameters, CgPA parameters, and any TCAP-layer operation code. This provides granular control of specific message flows. For SMS-specific operation codes, such as mobile-originated/mobile-terminated (MO/MT) messages, MLR allows for routing on additional MAP-user-layer parameters such as sending short message entity (SME), destination SME, originating IMSI, and MAP-layer service center address. MLR supports IS-41 SMS message routing, next to full operation code routing for GSM.
MO Proxy	Enables the routing of segmented GSM MAPv2 and higher messages based on application-layer parameters by terminating the MO dialogue. This capability helps ensure that the SMS MO dialogues for a given B-address are handled by the same Short Message Service Center (SMSC).
SMS notification proxy	The purpose of the IS-41 SMS Notification Proxy feature is to perform a broadcast of incoming ANSI-41 SMS Notifications to a group of SMSCs and to provide a reply to the Home Location Register (HLR) after receiving the first positive acknowledgement message from any of the SMSCs in the distribution.
Network management and monitoring	Simple Network Management Protocol (SNMP)-based network management for nodes, links, and routes (using a GUI); interoperates with CiscoWorks, CiscoView, HP OpenView products. For additional information, please refer to the Mobile Wireless Transport Manager Product section further below.

Caveats for Cisco IOS Release 12.2(33)IR

Caveats describe unexpected behavior in Cisco IOS software releases.

Note If you have an account with Cisco.com, you can also use the Bug Toolkit to find select caveats of any severity. To reach the Bug Toolkit, **log in** to Cisco.com and click **Service and Support: Technical Assistance Center: Select & Download Software: Jump to a software resource: Software Bug Toolkit/Bug Watcher**. Another option is to go to http://www.cisco.com/cgi-bin/Support/Bugtool/launch_bugtool.pl.

Open Caveats—Cisco IOS Release 12.2(33)IRD

There are no open caveats for this release.

Moderate

- CSCtc12522

Symptom Software upgrades are unsucessful. The Cisco 7600 may not load the expected Cisco IOS image upon the next bootup.

Conditions The issue occurs when there are too many line cards which occupy the SLOTCACHE variable.

On a Cisco 7600 loaded with multiple FlexWan linecards and port adapters, the SLOTCACHE variable increases in size until there is no more space in the ROMMON and the BOOT variable cannot properly set. The Cisco 7600 is not allowing the configuration of the boot variable, or accepts it and silently fails to synch the RP and SP BOOTVAR.

Workaround Delete some unused variables or, set the BOOT variable as bootdisk and place only one image in the bootdisk.

Resolved Caveats—Cisco IOS Release 12.2(33)IRD

All the caveats listed in this section are resolved in Cisco IOS Release 12.2(33)IRD. Caveats are organized by the level of severity.

Severe

- CSCtb08449

Symptom The Cisco ITP reloads when the **show cs7 gtt configuration** command is configured.

Conditions The system operator is showing the gtt configuration.

- The console goes into a '-More-' state.

- The configured gtt application group is removed.
- As a result, when the system operator hits enter, then the viewing gtt application might be removed. The pointer is referring to a invalid memory location which causes the system reload.

Workaround There is no known workaround.

- CSCtb69818

Symptom The NSO switches over and high traffic is running on the ATM Flexwan PA. All the ATM HSL links may flap, and the FlexWAN may reload. The FlexWAN module reloads because it doesn't respond to keep alive polling.

Conditions This only happens when a switch-over with high traffic is running on an ATM FlexWAN PA.

Workaround There is no known workaround.

Moderate

- CSCsy42756

Symptom The active supervisor module reloads unexpectedly. It gives the following error message:

```
Address Error (load or instruction fetch) exception, CPU signal 10, PC = 0x4021304C
-Traceback= 4021304C 42475658 41802F84 41803130 41A4F730 41CD6C5C
```

Conditions A changeover is occurring on the ATM link.

Workaround There is no known workaround.

- CSCsz94754

Symptom The MLR reroutes to a backup PC failure.

Conditions You have configured an MLR result group to wrr mode and the congestion-mode is set to defer-to-backup. If the DPC whose weight is larger than 0 comes into congestion, the traffic is rerouted to an available DPC whose weight equals 0. But if this DPC is XUA DPC, the rerouting fails.

Workaround The customer can use the AS name to trigger MLR result.

- CSCsz94790

Symptom The ITP forwards the MSU to peer with error OPC, the OPC A-B-C will change to A-B-A.

Conditions In an ANSI network, when the MSU routes on C-LINK or routes to an AS, the OPC change. There is no such issue in ITU network.

Workaround There is no known workaround.

- CSCsy73811

Symptom The following two issues occur on ITP when it is configured with AS and C-link:

- When C-link and AS are both available, the C-link route status is displayed as restricted. The expected C-link status is available.
- When the AS becomes active/inactive, the C-link route status cannot be updated.

Conditions These issues occur, when ITP is configured with AS and C-link, and the **national-options TFR** command is configured.

Workaround There is no known workaround.

- CSCsy79105

Symptom The FlexWAN keeps reloading during the syncing of the MLR/GWS table when inserted into a powered-on ITP. The following traceback occurs:

```
-Traceback= 4063C1C8 40634CE0 40638DCC 4069F8D0 40532C3C 4053B01C 4053B2F0 4053BD5C
4053BD9C 401DE150 401DE1F4 401ED91C 404BAB60 404BAB4C
```

Conditions The issue only occurs once when the FlexWAN is inserted into a powered-on 7600 ITP with a GWS/MLR table configured.

Workaround There are two workarounds:

  - Use the ITP online insertion and removal procedure for the FLEXWAN.
  - Reload the ITP.

- CSCta30365

Symptom The ITP IMA HSL linkset is not up.

Conditions When an SAAL packet is received, a 4 byte header is padded by the ATM driver before it is delivered to the application layer. The 4 byte header is not expected by the application layer code.

Workaround There is no known workaround.

- CSCta44187

Symptom The ITP doesn't send out SHUTDOWN-ACK when it receives SHUTDOWN in SHUTDOWN_RCVD state.

Conditions This problem happens in SHUTDOWN_RCVD state only. When the ITP receives a shutdown chunk with cumulative tsn ack less than the tsn number ITP sends out, the ITP doesn't respond with shutdown ack. The remote side then sends out a shutdown chunk with cumulative tsn ack equal to the tsn number ITP send out. The ITP still doesn't respond with the shutdown ack.

Workaround There is no known workaround.

- CSCta59767

Symptom The outbound network indicator value may change from the inbound network indicator value, if the received m3ua packet contains a message priority out of range (i.e. not 0 to -3).

Conditions An incoming message priority greater than or equal to 4 is received from m3ua.

Workaround Sending AS should send the correct Message Priority value.

- CSCtb29561

Symptom DUPU is sent to an AS that has the same DPC as the affected PC. To filter this kind of DUPU, you should configure the cs7 xua-ssnm-filtering.

Conditions The issue only occurs when the destination AS has the same DPC as the affected PC.

Workaround There is no known workaround.

- CSCtb69898

Symptom If the ASP association is restarted from a remote node when the ASP is in active state, the TOS value for ASP/SCTP is reset to default.

Conditions The issue only occurs when the destination AS has the same DPC as the affected PC.

Workaround There is no known workaround.

- CSCtb78835

Symptom On reloading the ITP or GTT, the reload fails due to the missing MAP entries. As the GTT load halts on reaching the error, this can result in the majority of the GTT configuration missing which leads to a major network outage. ITP software needs to be updated to prevent the removal of MAP entries which are still required by application groups and/or gta entries.

Conditions When loading an application group 'PC' or GTA with a routing indicator of 'pcssn', it is necessary to have pre-loaded at least one MAP entry for that point code. The ITP software enforces this requirement. It is subsequently possible to delete these MAP entries, even though the gta and/or application groups are defined.

Workaround Manually ensure the MAP entries are not removed if they are still required by application groups and/or GTA entries.

- CSCsy65977

Symptom A route is configured to transport messages through C-LINK. If the indirect route is AS and it doesn't come up, the C-LINK route displays 'unavailable' even when the AS became active later.

Conditions When configuring an indirect route, but the indirect route is AS and unavailable, the C-Link route always displays unavailable.

Workaround Make the AS active and then shut and no shut C-link.

- CSCsy89971

Symptom ITP selects the second IP address for the primary path of the M3UA/SUA.

Conditions The issue occurs when an INIT packet from the remote side has a different order of IP addresses from the ITP M3UA/SUA configuration. ITP selects the primary IP address in the INIT packet.

Workaround Ask the remote side to send INIT packet with the same IP address order as the ITP M3UA/SUA configuration.

- CSCsz30865

Symptom You cannot query the cmlrInstTable with SNMP, when you use GWS to trigger MLR.

Conditions The issue occurs when you use GWS to trigger MLR.

Workaround There is no known workaround.

- CSCsz50535

Symptom When there is a query from MWTM, the CISCO-ITP-MSU-RATES-MIB can't be visited.

Conditions When you configure the cs7 msu-rate threshold-proc xxx on ITP, then reload the ITP router, the avl tree of the CISCO-ITP-MSU-RATES-MIB has a problem. It will return an error when it gets an SNMP query.

Workaround There is no known workaround.

- CSCta00588

Symptom ITP fails to match the IMSI of an sms rule with the HLR returned IMSI.

Conditions The issue occurs when ITP uses the obtain-orig-imsi next-rule as the result of the sms rule, and the ITP uses the imsi to match the following rules.

Workaround There is no known workaround.

- CSCtb56781

Symptom The FlexWan may reload during the NSO when the FlexWAN is running a high rate of CPUs.

Conditions The issue may occur, when the ITP is operating under a high traffic load. This drives the egress FlexWAN CPU utilization up to 99%. A NSO is also happening on the ITP.

Workaround There is no known workaround. It is better to balance the traffic to avoid a high CPU cost.

- CSCtb05377

Symptom The low speed link flaps during congestion.

Conditions This issue occurs when a low speed link is carrying a high volume of traffic and is congested.

Workaround There is no known workaround.

- CSCta92417

Symptom A PPC reload with following trace back:

```
16:28:40 UTC Tue Jul 21 2009: Unexpected exception to CPU: vector 1400, PC = 0x4530B1B0,
LR = 0x4530B170 -Traceback= 4530B1B0 452E3F80 4530C2A8 455326B4 45533328 4530BBEC 4530C7A8
452EA97C 452EA154 452EAD98 4530CF8C 452EA4E0 452EAD98 45533CC4 45326B6C 45493C98
```

Conditions This problem occurs when there is no swidb for a packet in a specific condition. One of the scenarios that can trigger the problem is a continuous M2PA traffic changeover.

Workaround There is no known workaround.

- CSCtb66905

Symptom A FlexWan reloads under a high CPU load during a switchover. The traceback that appears shows that the CS7 instance header link list is corrupted.

```
Pool: I/O Free: 4285168 Cause: Memory fragmentation Alternate Pool: None Free: 0 Cause: No
Alternate pool -Process= "CWPA sctp commands", ipl= 5, pid= 59 -Traceback= 403D6AE4
403D7028 404D9E74 404E08AC 40415E88 404163CC 40416AA0 40729F58 4072D7B4 4072DCEC 4072E090
40705920 40705CDC 40706630 405E5E34 405E5EC0
```

Conditions The issue occurs when there is a switchover while the FlexWan is operating under a high CPU load.

Workaround There is no known workaround.

Cosmetic

- CSCtc02153

Symptom The **show interface** command for Fast Ethernet may show unrealistically high values. It may show output like the following:

```
Input queue: 0/4096/0/0 (size/max/drops/flushes);* Total output drops: 23637669
The issue occurs when there is a switchover while the FlexWan is operating under a high
CPU load.
```

Conditions This is a cosmetic issue and does not affect the operation. This issue occurs when the outgoing link resides on a different linecard than the incoming link, and the drops counter is incremented in the egress linecard.

Workaround There is no known workaround.

Open Caveats—Cisco IOS Release 12.2(33)IRC

This section documents possible unexpected behavior by Cisco IOS Release 12.2(33)IRC and organizes caveats by the level of severity.

Moderate

- CSCsy79105

Symptom The FlexWAN keeps reloading during the synching of the MLR/GWS table when inserted into a powered-on ITP, the following traceback occurs:

```
-Traceback= 4063C1C8 40634CE0 40638DCC 4069F8D0 40532C3C 4053B01C 4053B2F0 4053BD5C
4053BD9C 401DE150 401DE1F4 401ED91C 404BAB60 404BAB4C
```

Conditions The issue only occurs once when the FlexWAN is inserted into a powered-on 7600 ITP with a GWS/MLR table configured.

Workaround There are two workarounds:

- OIR FlexWAN

  - Reload ITP

- CSCsy73811

Symptom The following two issues occur on ITP which is configured with AS and C-link:

- When C-link and AS are both available, the C-link route status is displayed as restricted. The expected C-link status is available.
- When the AS becomes active/inactive, the C-link route status can not be updated.

Conditions These issues occur, when ITP is configured with AS and C-link, and **national-options TFR** is configured.

Workaround There is no known workaround.

- CSCsx25179

Symptom Changing the configuration for a GWS table or MLR address table, line card (FlexWAN, SAMI) which is running a high CPU load might cause a reload.

Conditions This issue might occur when the following conditions occur simultaneously:

- The configuration for GWS table/MLR address table is changed.
- The line Card is running at a high CPU rate.
- There are more than 10K entries in the table.

Workaround Do not change the configuration while the Line Card CPU is running at a high CPU rate, or configure less entries in the GWS/MLR table.

- CSCsy81579

Symptom The SAMI card crashes when large MSUs are used with SGMP.

Conditions SGMP is rerouting large MSUs.

Workaround SGMP with large MSUs is not supported by the SAMI card.

Resolved Caveats—Cisco IOS Release 12.2(33)IRC

All the caveats listed in this section are resolved in Cisco IOS Release 12.2(33)IRC. Caveats are organized by the level of severity

Severe

- CSCsv49949

Symptom An ITP Signaling Gateway may reload due to an invalid memory address:

```
Address Error (load or instruction fetch) exception, CPU signal 10, PC = 0x41DD69B0
```

Conditions An ITP reload occurs in the following scenario:

- cs7 is configured with mapua clients.
- SMPP sends unbind message to MAPUA while HLR return message. ITP will free the SMPP client data structure immediately without freeing the HLR transaction until a timer (1second) process is called. MAPUA will use the transaction to refer the invalid SMPP client, then ITP reloads.

Workaround There is no known workaround.

- CSCsy31609

Symptom The FlexWAN reloads with the following traceback:

```
%SYS-2-CHUNKSIBLINGS: Attempted to destroy chunk with siblings, chunk 47476860. -Process=
"RFSS worker process", ipl= 0, pid= 108
-Traceback= 403C1310 403C1854 404F9200 404F9304 40C5C0C4 40BE6B28 40BEC52C 40BEC818
401CB414 401CC458 40B8A1F8 40B8A2F4 40B8A970 40535D44 4052E2E0 405D4920
```

Conditions The issue occurs when replacing the MLR config with an SMS address-table while there is no traffic.

Workaround There is no known workaround.

Moderate

- CSCsv01772

Symptom When you configure then unconfigure snmp trap host desitinations on ITP, inconsistency in SNMP-TARGET-MIB occurs.

Conditions The SNMP-TRAGET-MIT inconsistency occurs when configure then unconfigure snmp host on ITP with following steps:

- Add a new snmp host on the router:

  Router(config)#**snmp-server host 10.1.1.1 traps version 2c public**
- walk 'snmpTargetAddrTable', verified row 10.1.1.1 exists in this table
- walk 'snmpTargetParamsTable', verified row 10.1.1.1 exists in this table
- remove the above snmp host on the router:

  Router(config)#**no snmp-server host 10.1.1.1 traps version 2c public**
- walk 'snmpTargetAddrTable', verified row 10.1.1.1 is removed in this table
- walk 'snmpTargetParamsTable', noticed row 10.1.1.1 still exist in this table

Workaround Reload ITP

- CSCsv95510

Symptom ITP eventually reloads when the SCTP local receive window for an association decreases to zero.

Conditions If ITP is forced to hold packets in its receive queue because of out of order packets, the local receive window decreases for each packet that is held. If the remote node continues to send new packets instead of the missing packets (which is causing the ITP to hold packets), the local receive window will eventually decrease to zero. Once the ITP local receive window decreases to zero and the remote node continues to send new packets, the ITP tries to handle the newly arrived packets and eventually crashes.

Workaround There is no known workaround.

- CSCsw20012

Symptom Packet loss may occur during an M2PA link changeover, even at low MSU rates.

Conditions An M2PA link fails that is part of a multi-link linkset, for which normal MTP3 changeover should succeed. The MSU rate of traffic carried over the failed link does not exceed 40% of the maximum supported data rate given the protocol, processor, release and supported features such as GTT, MLR, GWS, etc.

Workaround There is no known workaround.

- CSCsw20980

Symptom The following MIB issues were found for HSL, M2PA link types:

- Link level MIB measurements are pulled from incorrect memory locations for HSL and M2PA link types.
- The following link level measurements are not implemented for HSL link type.
  - rx_cong_onset (rx congestion onset count)
  - tx_cong_level1 (tx congestion level1 count)
  - tx_cong_level2 (tx congestion level2 count)
  - tx_cong_level3 (tx congestion level3 count)
  - tx_cong_level4 (tx congestion level4 count)
  - retx_pkts_count (retransmit packet count)
  - retx_byte_count (retransmit packet byte count)
  - align_proving_fail_cnt (total alignment and proving failure count)
  - proving_fail_cnt (proving failure count (T2 timeout))
  - tx_pkts_retrieved (tx packet retrieved during changeover)
  - MTP2 link level retransmission MIB counts were incorrect.
- MTP2 clear commands also cleared bytes, msus, lssus etc.
- Retransmission mib measurements were not preserved after a clear command.

Conditions These issues apply to ITP usage with HSL MTP2 link types.

Workaround There is no known workaround.

- CSCsw23706

Symptom ITP sent incorrect AS traffic-mode parameters in the SNMP data to the SNMP server.

Conditions In AS submode, if the end user configures traffic-mode as the following value, then incorrect traffic-mode value is sent to the SNMP server via the SNMP data:

- traffic-mode loadshare bindings CIC
- traffic-mode loadshare bindings SLS
- traffic-mode loadshare bindings redistribute-active
- traffic-mode loadshare bindings CIC redistribute-active
- traffic-mode loadshare bindings SLS redistribute-active

Workaround There is no known workaround.

- CSCsw31173

Symptom ITP routes the MSU back to the same linkset when receiving TFP from XUA point code.

Conditions When the ITP begins routing to a destination over a linkset, it sends a TFP concerning that destination over the linkset to prevent circualr routing. If the adjacent node ignores the TFP and sends traffic for that destination to the ITP over that linkset, the ITP should drop the MSUs instead of routing them back out the same linkset.

If the OPC is an XUA point code, the ITP does not drop the MSU but routes it back out the same linkset.

Workaround There is no known workaround.

- CSCsx71762

Symptom The **cs7 gtt map sp available** command is not applicable for changing the M3UA/SUA point code state.

Conditions N/A

Workaround Disable this command from M3UA/SUA to avoid the confusion from user.

- CSCsu59853

Symptom When rebooting the ITP IOS 12.2(33)IRB image, the standby SUP will sometimes enter a "---more---" status, you cannot input any commands, and the sync gtt table will fail.

Conditions The issue occurs on the 7600 platform with then IOS 12.2(33)IRB image when there are more than 20 warnings in a loaded gtt file

Workaround There are three workarounds:

- In the GTT file, remove the configuration that causes the warning message.

- Keep the GTT file on both the active side and standby side synchronized, and save the GTT table everytime after you change GTT configuration.
- In standby side, issue the **terminal length 0** command, then save GTT table in active side.

- CSCsy31047

Symptom C-link is configured between ITPA and ITPB. ITPA and ITPB both configure AS point to the same SP1.

- Shutdown AS for SP1 in ITPA, ITPA send TFP to ITPB over C-link to indicate the Restriction of C-link
- After ITPB T10 expires, ITPB sends RST to ITPA.
- ITPA returns TFA to ITPB, hence in ITPB, route status to SP1 via c-link is available.

This behavior is not correct, according to the ITU Q.704 section:13.5.4. ITPA should not return any message to ITPB for RST because ITPA has no other available route to SP1 except via C-link.

Conditions The issue occurs when the c-link is configured between two ITPs and the **cs7 instance X national-options TFR** is enabled.

Workaround The TFA against RST in C-link is disabled with the command **cs7 instance X national-options TFR**

- CSCsy61021

Symptom Sometime, the FlexWAN card crashes with the system taking no action.

Conditions The reload might occur when the FlexWAN debundles packets in the following scenario:

- The data in the bundled packet has fallen on a particle boundary.
- The packet corrupt, dataLen is bigger than total data length contained in a particle list.

Workaround There is no known workaround.

- CSCsy70742

Symptom The M2PA link on the FlexWAN cannot recover after multiple NSO switchovers and OIR.

Conditions The issue might occur after multiple switchovers and line card OIR.

Workaround The M2PA link can be put into service after you **shut** and **no shut** the interface.

Open Caveats—Cisco IOS Release 12.2(33)IRB

This section documents possible unexpected behavior by Cisco IOS Release 12.2(33)IRB and organizes caveats by the level of severity.

Moderate

- CSCsu45269

Symptom The statistics for an SMS ruleset or address-table are always displayed as zero on the supervisor module (SUP).

Conditions ITP is in sms offload mode.

Workaround Add the **execute-on** command to the beginning of the show command to execute the show commands on the line card.

For example, if sms is offloaded to module 1 bay 0, then you can see the corrects statistics by using the show command in this form.

execute-on 1 0 show cs7 sms ruleset name <ruleset>

- CSCsu02291

Symptom After system boot, a subset of key Cisco IOS CLI commands may be misssing from the exec command list, and the commands are rejected if entered.

Conditions This occurs when the console is detached from the ITP, a telnet session is used to reload, and then the console is attached to the ITP when the system comes up.

Workaround There are three workarounds:

- Log out and then log back in using the console.
- Telnet instead of using the console.
- Inititate a reload using the console connection not the telnet session.

Resolved Caveats—Cisco IOS Release 12.2(33)IRB

All the caveats listed in this section are resolved in Cisco IOS Release 12.2(33)IRB. Caveats are organized by the level of severity

Severe

- CSCsm76956

Symptom Some packets become hung on internal work queues within the ITP and are never delivered.

Conditions Some packets may become queued and never processed during periods of heavy system stress and/or congestion.

Workaround If this condition is detected by the user, issuing a **shut** then **no shut** command on each affected link clears the condition.

- CSCso92582

Symptom When configuring the ATM IMA E1 port adapter, the **national reserve** command is not effective after a Line Card reload or OIR.

Conditions This issue only occurs for the **national reserve** command when the linecard is reloaded or OIR.

Workaround The **national reserve** command becomes effective by removing the **national reserve** command and then reconfiguring the **national reserve** command.

- CSCsq34722

Symptom An ITP Signaling Gateway may reload due to the following watchdog event:

```
%SYS-2-WATCHDOG: Process aborted on watchdog timeout, process = CS7 SCCP Process.
```

Conditions ITP is configured as a Signalling Gateway with active M3UA or SUA ASPs, and one or more ASP's SCTP associations are changing state. The probability for hitting the reload increases with the increase of ASP SCTP association state transitions, but the reload scenario is extremely rare.

Workaround There is no known workaround.

- CSCsq36322

Symptom On a 7600 ITP, a FlexWAN2 line card may become disabled if a NSO switchover occurs while the linecard is reloading.

Conditions This issue has been observed only when a linecard such as FlexWAN2 or SAMI processor, is reloading and an NSO switchover occurs. After switchover completes, output of the 'show cs7 mtp3 offload' command shows the linecard processors in a 'DisabledSys' state, and is not reinitialized by the active SUP.

Workaround The linecard may be manually reset using the hw-module module reset command.

- CSCsq97726

Symptom M2PA links fail to activate after a **hw-module reset** of the enhanced FlexWan.

Conditions Running the ITP 76xx with M2PA links defined such that the first local-ip address resides on different processor from location of local-peer.

Workaround Remove the links and associated local-peer statement and ensure that the first local-ip address statement resides on the same processor as the location that is indicated by local peer statement.

- CSCsr54357

Symptom A memory leak on the ingress linecard for M3UA/sua traffic is caused by closing the SGMP association.

Conditions This occurs with the following conditions:

- ITP is forwarding offloaded M3UA/sua traffic to AS's configured with traffic mode = loadshare bindings.
- SGMP is enabled.
- The concerned ITP is not the ASP binding manager.

Workaround You can prevent the problem with one of the following actions:

- Stop all the M3UA/SUA traffic before closing the SGMP association.
- Disable the SGMP.
- Change the AS traffic mode to loadshare roundrobin.

- CSCsu22093

Symptom MTP2 links fail and do not recover.

Conditions At least one MTP2 link is configured on a T1 controller, but the controller state is down and link(s) are not shutdown. In addition, some number of MTP2 links must also be configured on the same PA, active on another T1 controller and running traffic at 50% link occupancy. Link failures began after about 1 hour, and links do not recover.

Workaround There is no known workaround.

Moderate

- CSCso05935

Symptom ITP PA-MCX-8TE1-M and PA-MCX-4TE1-Q E1 controller ports configured with clock source bits primary are in the down state following a reload on the Cisco 7600 platform.

Conditions After a reload, the **show controller** output for the affected E1 controller ports indicates 'Receiver has remote alarm'. The state of the remote controller ports on the remote device is in the up state with no alarm indication.

Workaround Execute the **shut** command on the affected controller, followed by the **no shut** command or remove and insert the cable connected to the affected port.

- CSCso13465

Symptom MLR may not route an MSU to the specified point code (PC) destination when using a post GTT trigger. For PostGTT MLR, If the matched rule is result to PC, mlr won't be able route the packet to that pc, instead MLR will change the dpc in the packet to that pc and use gtt table route the packet out.

Conditions When MLR is configured to trigger in a post GTT gateway screening table and the expected MLR result is a PC, the MSU will not be routed properly if one of these two conditions also exist:

- The GTT translation specified an M3UA or SUA AS name as the destination.
- The GTT translation performed instance conversion.

Workaround Change the configuration to allow MLR to trigger before the GTT translation is performed.

- CSCso39717

Symptom Traceback occurs when sending SCCP MSUs to a broadcast Application Server (AS) on a Cisco 2600 platform.

```
%CS7MTP3-7-INTERR: Internal Software Error
```

Conditions When sending SCCP MSUs to an AS, which is configured with broadcast traffic mode, there is a traceback.

Workaround There is no known workaround.

- CSCso43444

Symptom On the 7600 platform, MSU routing may fail to an M3UA or SUA Application Server (AS) that is locally *down*, but *active* on the SGMP mate. The AS state displayed on the linecard is *down* instead of *dwn-re*.

Conditions This occurs under the following conditions:

- ITP is configured with a mated SG.
- The AS is inactive but is active on the SGMP mate.
- ITP is configured with M3UA and SUA local instances.

- If rerouting AS is M3UA, FlexWANs that show incorrect AS state must have one or more SUA instances offloaded to them, and SUA instances only (no M3UA). Conversely, if rerouting AS is SUA, FlexWANs that show incorrect AS state must have one or more M3UA instances offloaded to them, and M3UA instances only (no SUA).

Workaround There are two possible workarounds. You can unconfigure all M3UA and SUA offload instances from linecards that are ingress interfaces for outbound M3UA and SUA traffic, or ensure that all such ingress linecards have at least one M3UA and one sua instance offloaded to them.

- CSCso78286

Symptom During the configuration of ITP on the Cisco 7600 platform, the system allows the user to exceed the maximum number of supported serial interfaces and MTP2 serial links for a PA-MCX-8TE1-M.

Conditions ITP on the 7600 platform only supports a maximum of 126 MTP2 links on a single PA-MCX-8TE1-M. However, configuration allows 127.

Workaround The user should limit the configuration of serial interfaces and MTP2 links to a maximum of 126 for each PA-MCX-8TE1-M.

- CSCso79569

Symptom All linksets become unavailable after an NSO switchover, but the linksets recover shortly afterwards.

Conditions The problem only occurs if a linecard reload is in progress when the switchover is initiated.

Workaround There is no known workaround.

- CSCso85835

Symptom Global Title Translation (GTT) tries to route packets to an Application Server (AS) Point Code (PC) that should not have been used since the M3UA/SUA AS is unavailable. The following GTT error messages are seen in the log and indicate that the routing to the PC failed.

```
%CS7SCCP-5-SCCPGNRL: SCCP error sending via M3UA/SUA.
```

Conditions The issue occurs if a virtual summary route exists via another instance which matches the PC of the AS routing key. In this case, the SCCP audit sets the GTT map state of the PC to available since a summary route exists. However, routing will not allow the use of summary routes when using an XUA pc routing key.

Workaround Configure the GTT directly routed to the AS name rather than the PC.

- CSCsq02307

Symptom The **show gws linkset** command fails and gives the following error message:

```
%Error: Linkset Name can not exceed length of 19
```

Workaround Reduce the length of the linkset name to under 19 characters.

- CSCsq14771

Symptom The ITP attempts to route messages after GTT to an unavailable AS PC. GTT error messages similar to the following are observed on the console:

```
*May 7 20:10:46.671 MSK: %CS7SCCP-5-SCCPGNRL: May 7 2008 20:10:46 : SCCP error sending via
M3UA/SUA. Instance: 0 MsgType udt LS: VirtualLS7-6 OPC: 0.0.18 CgPA: tt 9 gta 99881234 ssn
32 DPC: 0.62.71 CdPA: tt 1 gta 12345670 ssn 32
```

Conditions The problem can occur if all of the following conditions hold:

- The GTT to an AS PC is configured.
- The AS PC is unavailable.
- A default route is configured where the AS PC is a member of the default route.

Workaround Update the GTT configuration to route to the AS name rather than the AS PC.

- CSCsq26326

Symptom When using the Multi-Layer Routing (MLR) feature of the ITP, routing toward selected Point Code (PC) members of an MLR result group may occur when the destination PC is congested.

Conditions - MLR result group PC member is selected and congested to a level where MSUs should be dropped when routing toward the MSU.

This problem is more likely to occur on a single processor router platform, such as the Cisco 2811, Cisco 7301, or Cisco 7200 series.

Workaround There is no known workaround.

- CSCsm66950

Symptom ITP HSL links may fail and recover during an NSO switchover.

Conditions HSL link failures may occur during NSO Switchover when the amount of traffic exceeds 6000 MSU/sec in each direction (60% of the maximum throughput).

Workaround Traffic over HSL links should be engineered below 60% of the maximum stated throughput for the target platform and release.

- CSCsq61641

Symptom There are two possible symptoms. The first symptom is that the linecard I/O Memory becomes depleted after an NSO switchover or linecard OIR. In this case, the **show cs7 asp bindings** command output on a linecard shows multiple ASP bindings stuck in pending state.

The second symptom is that the linecard I/O Memory becomes depleted during normal M3UA operations. In this case, the **show cs7 offload queues** output on a linecard shows a high cs7_info_count.

Conditions The first symptom only occurs when using SGMP. The amount of I/O memory depleted is dependent on the number of M3UA/SUA associations on the LC, the number of bindings, and the traffic rate when the switchover occurs. In the worst case where high traffic is occurring and 100+ ASPs are offloaded to a single processor, and 1000s of bindings exist, the I/O memory leak can consume all of the memory on the card.

The second symptom is restricted to M3UA traffic where the ISUP/TUP/BICC payload size leaves insufficient space to add M3UA headers to the internal packet buffer.

Workaround There are two workarounds for the first symptom. The first is to not use SGMP, but instead use a C-link alternate route for xua destinations. The second is to modify the AS traffic mode to use loadshare roundrobin. To clear the ASP bindings stuck in a pending state, **shut** then **no shut** the affected ASPs.

There is no known workaround for the second symptom.

- CSCsq77114

Symptom The **cs7 save mlr all** command cannot save the updated MLR address-tables to a slave disk.

Workaround Manually save the address table instead of using **cs7 save mlr all** command.

- CSCsq84291

Symptom ITP failed to transmit an XUDT message and displayed the following error message:

```
SCCP encoding error, badly formated or unsupported part
```

Conditions The received XUDT message's optional portion is placed before the data portion, and the total XUDT message length is larger than 273 bytes.

Workaround Reduce the XUDT message data portion length to less than 255 bytes.

- CSCsr01623

Symptom The MTP2 links remain shutdown after a **shutdown** and then a **no shutdown** was issued for the linkset.

Conditions On a Cisco 2811 platform, a **shut** is issued on a linkset that has MTP2 links. Then the Cisco 2811 reloads and a **no shut** is issued on the linkset. MTP2 links do not come up because the serial interfaces are still down.

On any ITP supported platform, a **shut** is issued on a linkset that has MTP2 links and an existing MTP2 link is deleted. The deleted link is added to the down linkset then a **no shut** is issued on the linkset. The link does not come up because the serial interface is still down.

Workaround The link can be put back into service after a **no shut** is issued for the serial interface

- CSCsr09619

Symptom After a reload of ITP, a series of TFP/TFA messages are exchanged between two ITPs over an xUA C-link regarding an unavailable AS PC.

Conditions This occurs with the following conditions:

- The Japan TTC variant is configured.
- An xUA C-link route is configured on both ITPs.
- The AS is unavailable on both ITPs.

Workaround There is no known workaround.

- CSCsr58145

Symptom For up to several minutes after an SGMP SCTP association fails, the 7600 Supervisor CPU is processing at almost 100% capacity.

Conditions The problem occurs under the following conditions:

- SGMP is configured between two ITPs.
- A loadshare bindings AS is configured on both ITPs.
- Over a thousand ASP bindings exist on the ITPs.

Workaround There are two possible workarounds:

- Use xUA C-link routes rather than SGMP for redundancy.
- Configure **loadshare roundrobin** rather than **loadshare bindings** for the AS traffic-mode.

Minor

- CSCsr25825

Symptom An M3UA/SUA PC is incorrectly displayed as active after the reload of an ITP in a mated pair configuration.

Conditions The problem occurs under the following conditions:

- A variant that does not support TFR messages is configured.
- An M3UA/SUA AS is configured on two ITPs and is not active on either ITP.
- A C-link route for the M3UA/SUA AS PC is configured on both ITPs.
- Both ITP nodes are isolated (i.e. no links except for the C-link are available on both ITPs). After reloading one of the ITPs in the mated-pair, the M3UA/SUA AS PC is incorrectly displayed as active on both ITPs.

Workaround You can work around the problem by configuring the cs7 national-options TFR command and ensuring that at least one of the ITPs is not isolated. For example, the ITP has an available link other than the C-link.

Open Caveats—Cisco IOS Release 12.2(33)IRA

This section documents possible unexpected behavior by Cisco IOS Release 12.2(18)IRA and describes only severity 1 and 2 caveats and select severity 3 caveats.

- CSCsd73254

  On the ITP 7600 platform, if a specific software error on the active RP causes the active RP to fail, the standby SUP may not detect the failure. Instead, the active SUP may reload the ITP to restore ITP manageability.

  This has only been observed in specific lab tests that force a specific software failure on the active RP.

  There is no known workaround.

- CSCso33607

  A FlexWAN may drop one or more low priority messages intended for the active SUP or RP processor. Under such conditions, an SBETH-3-TOOBIG: EOBC0/0 message will be generated on the SUP or RP processor console to inform the user this event has occurred. No other impact to the system occurs, however

  This failure occurs when the max MTU size for communication between Flexwan and SUP or RP processor has been exceeded. The only conditions under which this failure has been observed are periods of heavy stress on the SUP and/or Flexwan. For example, a Flexwan with a large number of links and heavy traffic may incur this error if an supporting interface on board the Flexwan begins to flap.

  There is no known workaround.

- CSCso42614

  Loadshare distribution of traffic over a combined linkset may not work properly after deleting a route using the same combined linkset on a distributed ITP platform.

  This problem occurs on a distributed Cisco ITP platform, when two or more routes exist that use the same combined linkset. The individual linksets are specified in the reverse order, and the last route using a particular individual linkset order is deleted.

  Delete one of the individual linkset definitions in ALL routes using the combined linkset, then add the individual linkset back.

- CSCso00287

  The SUP processor on a distributed Cisco ITP platform or the RP on a single processor Cisco ITP platform exceeds the normal CPU operating range even with light traffic.

  This problem occurs when the Enhanced Gateway Screening (GWS) console logging is turned on for all received/sent packets.

  Turn off GWS console logging. File logging may be used as an alternative.

- CSCso45349

  The 7600 ITP may send a TFC to an adjacent node with a DPC set to the Cisco ITP's local point code.

  On the Cisco 7600 router, when traffic is sent to the ITP for GTT, and the result is route-on-global title to a destination that uses a congested link, the ITP sends a TFC with DPC set to the ITP's point code.

  There is no known workaround.

Resolved Caveats—Cisco IOS Release 12.2(33)IRB

All the caveats listed in this section are resolved in Cisco IOS Release 12.2(33)IRB. This section describes only severity 1 and 2 caveats and select severity 3 caveats.

- CSCsg58153

  The PA has crashed and is unresponsive

  Bad circuits on uplink links cause all the SS7 links to go down and flap continuously.

  The workaround is to bring the PA up once it has crashed.

- CSCsk79377

  The **remove** option specified in a GTT address conversion table is not applied when performing GTT address conversion.

  This only occurs when the GTT address conversion table is used for SCCP conversion across instances when cs7 multi-instance is configured.

  There is no known workaround.

- CSCsl08358

  SUA Application Server Processes (ASPs) may reject SCCP segmented messages from an ITP SUA Signaling Gateway (SG).

  The segmentation parameter in SUA CLDT messages is populated incorrectly when the sequence delivery option is set to '1'b (Class 1) in the received SCCP XUDT segmentation parameter. In this case, bit 7 within the first/remain field of the SUA segmentation parameter is also set, which may cause the ASP to interpret the number of remaining segments to be greater than 15.

  There is no know workaround.

- CSCsl17157

  When using the multi-pvc feature on either ATM-OC3 or ATM-IMA PA, the IP PVC are not carrying the IP traffic properly. IP traffic, either locally terminated or through switched may fail.

  On a Cisco 7600 router, multi-pvc is configured, that is "atm nni" on the main interface and sub-interface with IP enabled and configured.

  When dealing with IP traffic:

  - There is no workaround for the locally terminated IP traffic
  - For the traffic going through the box, as long as the network is using static routing, traffic will forward without problems.

  When dealing with SS7 traffic:

  - SS7 through-traffic to the remote nodes (either LSL or M3UA) works.
  - Local **cs7 ping** does not work, the path FW->SUP seems broken.

- CSCsl70663

  The same ASP binding may exist for two different ASPs on SGMP mated ITPs.

  SGMP enabled and traffic mode = loadshare bindings.

  There is no known workaround.

- CSCsl70708

  The Application Server (AS) state on a linecard shows "dwn-re" when the state on a Supervisor processor shows "down".

SGMP is enabled on the 7600 ITP platform.

There is no known workaround.

- CSCsl93462

  No linkUp and linkDown SNMP traps are generated when the remote end is down for the controller. No linkUp trap generated when controller is brought up by **no shutdown** CLI

  Problem is specific to PA-MCX-8TE1-M and PA-MCX-4TE1-Q port adaptors.

  There is no known workaround.

- CSCsl88843

  Crash when updating time zone with extra long string.

  Issuing a lengthy configuration command similar to the following. clock timezone 12345678901234567890123456789O -23 59

  Input the correct length for the timezone parameter.

- CSCsm47893

  A User Part Unavailable (UPU) message destined for an M3UA AS in a different MTP3 instance is not converted to a DUPU message.

  This problem occurs on the Cisco 7600 router when inter-instance conversion is being used. Traffic initiated by an M3UA AS in one instance is sent to an unavailable user part in a different instance, triggering a response mode UPU.

  There is no known workaround.

- CSCsm62597

  The ITP may choose the wrong clock source when more than one PA with "clock source line secondary" is configured.

  If you have more than clock source line secondary defined on the same PA, the first port with this definition will be the primary clock source. In other words, the priority field after the key word secondary is ignored. If you have clock source line primary and 1 or more clock source line secondary defined on the same PA, the first port with one of these definitions will be primary clock source.

  There is no known workaround.

- CSCsm76092

  If the default conversion is removed with the real and alias instance swapped in the command, then reentered, the FlexWan is not updated, and the PC is not converted.

  For example:

```
(config)#cs7 instance 1 pc-conversion default 0
(config)#no cs7 instance 0 pc-conversion default 1
(config)#cs7 instance 0 pc-conversion default 1
%Error: Default conversion already defined for instance 0

(config)#cs7 instance 1 pc-conversion default 0
%Error: Alias PC 0.0.0:0 already in use
```

  This occurs when ITP has multiple instances configured and default instance conversion configured.

  You can workaround the problem by entering the default conversion with the **no-route** option:

```
(config)#cs7 instance 0 pc-conversion default 1 no-route
```

- CSCsm85233

  All through-switched ISUP traffic is punted to the SUP. This results in higher CPU utilization on the SUP when running ISUP traffic. This occurs for all incoming link types (MTP2, M2PA, HSL).

  If the ISUP traffic is less than 44 bytes and came in over an ATM HSL link, the bytes are added to the end of the packet to make it 44 bytes. So for example, if the ISUP packet is 30 bytes coming in, the outgoing packet is 44 bytes, with the original 30 bytes followed by 14 bytes set to 0.

  The problems only occurs if no M3UA is configured on the ITP.

  To work around the problem, configure a local M3UA instance.

- CSCso01412

  One of ATM IMA port link may not activate after a reload.

```
RMTC-ITP#sh cs7 linkset msc-server
lsn=msc-server apc=16258 state=avail avail/links=1/2
SLC Interface Service PeerState Inhib
00 ATM13/1/7 avail --------- -----
*01 ATM13/1/2 FAILED ---------
```

  This occurs when an ATM link does not activate after reload.

  The link comes up after executing a **shut** than **no shut** commands or unplugging and plugging the cable.

- CSCso12698

  When a set of links are quickly shut and then removed, as with a cut and paste of a prepared script into the console terminal, the ITP software can crash. The crash traceback is not predictable or fixed.

  A cut and paste of a script similar to the one below can result in a crash:

```
Router(config)#cs7 linkset linksetname
Router(config-cs7-ls)#link 1
Router(config-cs7-ls-link)#shut
Router(config-cs7-ls-link)#no link 1
Router(config-cs7-ls-link)#link 2
Router(config-cs7-ls-link)#shut
Router(config-cs7-ls-link)#no link 2
...
Router(config-cs7-ls-link)#end
```

  To workaround this problem, do not remove links using a cut and paste of a script. Wait 4 to 5 seconds after shutting a link and before issuing the **no link** command.

- CSCsl59128

  Cisco ITP does not reject m3ua/sua messages without a Routing Context parameter when the ASP is active in multiple AS's.

  Sending ASP is active in multiple AS's.

  There is no known workaround.

- CSCsl20383

  When using ATM configuration and the ATM, IMA E1 or T1 port adapters, the user may need to re-enter ATM related commands after the Cisco 7600 router reloads.

  This resolution of CSCsl20383 also resolves CSCse13374.

  The workaround is to re-enter the commands after the Cisco 7600 router reloads.

SAMI Software for Cisco IOS Release 12.2(33)IRA - Open Caveats

The following list identifies Open caveats in the SAMI software that impact the ITP software for Cisco IOS Release 12.2(33)IRA.

- CSCsg94209—The **show** command on a CPU3-8 redirected to the Supervisor Engine produces a 0-byte file

  From processor 3-8, a pipe redirect when using rcp to the Supervisor Engine can result in errors, or can cause the processor to reload. For example, the following command might result in a 0-byte file:

  ```
  Router-3> sh tech | redirect rcp://127.0.0.81/shtech
  ```

  Workaround: Do not use the redirect feature when using rcp to the Supervisor Engine.

SAMI Software for Cisco IOS Release 12.2(33)IRA - Closed Caveats

There are no Closed caveats in the SAMI software that impact the ITP software for Cisco IOS Release 12.2(33)IRA.