iWAG SSO Support for GTP

Effective from Cisco IOS XE Release 3.10S, the per-session Stateful Switchover (SSO)/In Service Software Upgrade (ISSU) feature supports iWAG mobility sessions that are tunneled to MNO using GTP. The SSO feature takes advantage of Route Processor (RP) redundancy by establishing one of the RPs as the active processor, while the other RP is designated as the standby processor, and then synchronizing the critical state information between them. When a failover occurs, the standby device seamlessly takes over, starts performing traffic-forwarding services, and maintains a dynamic routing table.

Finding Feature Information

Your software release may not support all the features documented in this module. For the latest caveats and feature information, see Bug Search Tool and the release notes for your platform and software release. To find information about the features documented in this module, and to see a list of the releases in which each feature is supported, see the feature information table at the end of this module.

Use Cisco Feature Navigator to find information about platform support and Cisco software image support. To access Cisco Feature Navigator, go to www.cisco.com/go/cfn. An account on Cisco.com is not required.

Information About iWAG SSO Support for GTP

The SSO/ISSU feature supports only the Cisco ASR 1000 Series Aggregation Services Routers intrachassis (RP-to-RP) SSO, but not the interchassis (Cisco ASR1K-to-Cisco ASR1K) SSO. The First Sign Of Life (FSOL) triggers that are supported on SSO include DHCP proxy (where the iWAG acts as the DHCP proxy server) and DHCP proxy plus unclassified MAC.

For more information about ISSU, see the "Overview of ISSU on the Cisco ASR 1000 Series Routers" section of the Cisco ASR 1000 Series Aggregation Services Routers Software Configuration Guide.

The process as part of iWAG SSO handling GTP checkpoints to the standby RP the information that is necessary to create a copy of the session on the standby RP. Such an inactive copy of the session becomes active when the standby RP becomes active.

When an iWAG mobility session with GTP tunneling is enabled using the SSO/ISSU feature, the Cluster Control Manager on the active RP needs to wait for a few more components, including the GTP, to become ready before checkpoint data collection, and polls these additional components for checkpoint data during data collection. A very similar operation is performed on the standby RP as well. Although such additional CPU consumption is per session, it is not expected to be too heavy since processing in each of these components should include the time spent on a few data structure lookups and memory-copying operations.

During ISSU SIP and SPA upgrade, there is traffic interruption. To avoid session disconnect because of dropped echo messages during such traffic interruption, a user has the following options:

- Option 1 (preferred):

1. Disable the echo messages on the iWAG and GGSN for the duration of the ISSU.
2. Re-enable the echo messages after ISSU is completed on the iWAG and GGSN.

- Option 2: Extend the t3 and n3 configurations to exceed the expected traffic interruption. The traffic interruption characterized in the Cisco IOS XE Release 3.10S is 127 seconds. Hence, we recommend the following t3 and n3 settings (t3_response: 1 and n3_request: 7, resulting in 127 seconds on both the iWAG and GGSN) but the duration of the traffic interruption may depend on the types of SIPs and SPAs and how loaded the router is. If traffic interruption exceeds the configured t3 and n3 limits, the session is disconnected.

Enabling SSO Support for the GTP

This section describes how to enable SSO support for the GTP on the Cisco ASR 1000 Series Aggregation Services Routers.

SUMMARY STEPS

1. **enable**
2. **configure terminal**
3. **redundancy**
4. **mode SSO**

DETAILED STEPS

	Command or Action	Purpose
Step 1	**enable** **Example:** `Router> enable`	Enables the privileged EXEC mode. Enter your password, if prompted.

	Command or Action	Purpose
Step 2	**configure terminal** **Example:** `Router# configure terminal`	Enters the global configuration mode.
Step 3	**redundancy** **Example:** `Router(config)# redundancy`	Enters the redundancy configuration mode.
Step 4	**mode SSO** **Example:** `Router(config-redundan)# mode SSO`	Configures the SSO redundancy mode of operation.

Additional References

Related Documents

Related Topic	Document Title
Cisco IOS commands	Cisco IOS Master Commands List, All Releases
iWAG commands	Cisco IOS Intelligent Wireless Access Gateway Command Reference

MIBs

MIB	MIBs Link
No new or modified MIBs are supported by this feature.	To locate and download MIBs for selected platforms, Cisco software releases, and feature sets, use Cisco MIB Locator found at the following URL: http://www.cisco.com/go/mibs

Technical Assistance

Description	Link
The Cisco Support website provides extensive online resources, including documentation and tools for troubleshooting and resolving technical issues with Cisco products and technologies. To receive security and technical information about your products, you can subscribe to various services, such as the Product Alert Tool (accessed from Field Notices), the Cisco Technical Services Newsletter, and Really Simple Syndication (RSS) Feeds. Access to most tools on the Cisco Support website requires a Cisco.com user ID and password.	http://www.cisco.com/cisco/web/support/index.html

Feature Information for iWAG SSO Support for GTP

The following table provides release information about the feature or features described in this module. This table lists only the software release that introduced support for a given feature in a given software release train. Unless noted otherwise, subsequent releases of that software release train also support that feature.

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Table 1: Feature Information for iWAG SSO Support for GTP

Feature Name	Releases	Feature Information
iWAG SSO Support for GTP	Cisco IOS XE Release 3.10	In Cisco IOS XE Release 3.10S, this feature was implemented on the Cisco ASR 1000 Series Aggregation Services Routers.