

LDP Graceful Restart for Planned Outages

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The goal

- ◆ **Want to do graceful restart only when the restart is planned (e.g. when doing an upgrade).**

The problem

- ◆ Graceful restart (GR) parameters are negotiated at session initialization time.
- ◆ Changing the GR parameters require a session reset.
- ◆ So if I want to enable GR before the planned restart, my sessions will drop...

The idea

- ◆ **By default, set the GR parameters to: “no graceful restart”.**
- ◆ **When closing the session during a planned outage, send new GR parameters, along with session shutdown notification. The new parameters are “yes graceful restart”.**
- ◆ **Backwards compatible enhancement to RFC 3478.**

The change

- ◆ **New optional parameter for use in notification messages, GR Data TLV.**
- ◆ **Sent along in notifications with the Shutdown Status Code.**
- ◆ **Carries the reconnect time that will be used in the next restart.**

Operation – during the planned restart

- ◆ **When going down due to a planned restart, the restarting router sends the GR TLV along with the shutdown notification.**
- ◆ **In the GR TLV:**
 - ❖ **Reconnect-time = long enough to allow the box to come up after the planned restart.**

Operation – after the planned restart

- ◆ **Coming up after the planned restart, fill in the FT TLV in the initialization message with:**
 - ❖ **Reconnect-time = 0**
 - ❖ **Recovery-time = according to whether the state was maintained across restarts.**

The result

- ◆ **The restarting box will be granted graceful restart during the planned outage and will revert to ungraceful restart afterwards.**
- ◆ **No configuration is needed to accomplish this.**

What next?

- ◆ **Please send comments to the list.**

Thank you!