

BGP: Beryllium: Release Review

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Features

The major features of Beryllium release:

BMP:

- BGP Monitoring Protocol (**new ODL SB plugin**)

BGP:

- Carrying Label Information in BGP-4
- BGP Link-State extensions for Segment Routing
- Segment Routing Egress Peer Engineering BGP-LS Extensions
- Distribution of MPLS Traffic Engineering (TE) LSP State using BGP
- Dissemination of Flow Specification Rules for IPv6
- BGP Model for Service Provider Networks

PCEP:

- Optimizations of Label Switched Path State Synchronization Procedures for a Stateful PCE

Non-Code Aspects (user docs, examples, tutorials, articles)

- [Release Notes](#)
- [Installation Guide](#)
- [User Guide](#)
- [Developer Guide](#)
- [Operations Guide](#)
- [How-To's/Tutorials](#)

ASCII doc commits:

- [BGP](#)
- [PCEP](#)
- [BMP](#)

Architectural Issues

No architectural issues found

Security Considerations

None Known - all protocol implementations The TCP Authentication Option (TCP MD5)

Quality Assurance (test coverage, etc)

- Java Unit test coverage reported by SonarQube ~81%
- 47 Issues reported by SonarQube (Technical Debt 2d 4h)
- System tests:

[User features test](#)

[PCEP performance and scale tests](#)

[BGP Application peer performance and scale tests](#)

[BGP performance and scale test](#)

End-of-life (API/Features EOled in Release)

- ietf-stateful02 - draft-ietf-pce-stateful-pce-02 implementation

Bugzilla (summary of bug situation)

Unresolved Beryllium bugs:

- [BUG-4488](#)
- [BUG-5171](#)
- [BUG-5185](#)
- [BGP-4865](#)

Standards (summary of standard compliance)

- [RFC4271](#) - A Border Gateway Protocol 4 (BGP-4)
- [RFC4760](#) - Multiprotocol Extensions for BGP-4
- [RFC1997](#) - BGP Communities Attribute
- [RFC4360](#) - BGP Extended Communities Attribute
- [RFC4486](#) - Subcodes for BGP Cease Notification Message
- [RFC5004](#) - Avoid BGP Best Path Transitions from One External to Another
- [draft-ietf-idr-ls-distribution-04](#) - North-Bound Distribution of Link-State and TE Information using BGP
- [RFC5440](#) - Path Computation Element (PCE) Communication Protocol (PCEP)
- [RFC5541](#) - Encoding of Objective Functions in the Path Computation Element Communication Protocol (PCEP)
- [RFC5455](#) - Diffserv-Aware Class-Type Object for the Path Computation Element Communication Protocol
- [RFC5492](#) - Capabilities Advertisement with BGP-4
- [RFC5521](#) - Extensions to the Path Computation Element Communication Protocol (PCEP) for Route Exclusions
- [RFC5557](#) - Path Computation Element Communication Protocol (PCEP) Requirements and Protocol Extensions in Support of Global Concurrent Optimization
- [RFC5575](#) - Flow Specification
- [RFC5886](#) - A Set of Monitoring Tools for Path Computation Element (PCE)-Based Architecture
- [RFC6286](#) - Autonomous-System-Wide Unique BGP Identifier for BGP-4
- [RFC6793](#) - BGP Support for Four-Octet Autonomous System (AS) Number Space
- [RFC7311](#) - The Accumulated IGP Metric Attribute for BGP
- [RFC7674](#) - Clarification of the Flowspec Redirect Extended Community
- [RFC5668](#) - 4-Octet AS Specific BGP Extended Community
- [RFC3107](#) - Carrying Label Information in BGP-4
- [draft-ietf-pce-pceps](#) - Secure Transport for PCEP
- [draft-gredler-idr-bgp-ls-segment-routing-ext-00](#) - BGP Link-State extensions for Segment Routing
- [draft-ietf-idr-bgp-ls-segment-routing-epe-01](#) - Segment Routing Egress Peer Engineering BGP-LS Extensions
- [draft-ietf-idr-te-lsp-distribution-03](#) - Distribution of MPLS Traffic Engineering (TE) LSP State using BGP
- [draft-ietf-idr-flow-spec-v6-06](#) - Dissemination of Flow Specification Rules for IPv6
- [draft-ietf-idr-flowspec-redirect-ip-01](#) - BGP Flow-Spec Redirect to IP Action
- Stateful extensions to the Path Computation Element Protocol, December 2013
 - [draft-ietf-pce-stateful-pce-07](#) - PCEP Extensions for Stateful PCE
 - [draft-ietf-pce-pce-initiated-lsp-00](#) - PCEP Extensions for PCE-initiated LSP Setup in a Stateful PCE Model
- Segment routing extension to the Path Computation Element Protocol, October 2014
 - [draft-ietf-pce-segment-routing-01](#) - PCEP Extension for segment routing
 - [draft-ietf-pce-lsp-setup-type-01](#) - PCEP Extension for path setup type
- [draft-ietf-pce-stateful-sync-optimizations-03](#) - Optimizations of Label Switched Path State Synchronization Procedures for a Stateful PCE
- [draft-sivabalan-pce-binding-label-sid-00](#) - Carrying Binding Label/Segment-ID in PCE-based Networks
- [draft-ietf-grow-bmp-15](#) - BGP Monitoring Protocol

Schedule (initial schedule and changes over the release cycle)

Original schedule was followed, except of [BUG-105](#) - implementation was aborted and will not be done in future.