

Global Routing Operations  
Internet-Draft  
Intended status: Standards Track  
Expires: September 28, 2017

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March 27, 2017

Default EBGW Route Propagation Behavior Without Policies  
draft-ietf-grow-bgp-reject-04

## Abstract

This document defines the default behavior of a BGP speaker when there is no import or export policy associated with an External BGP session.

## Requirements Language

The key words "MUST", "MUST NOT", "REQUIRED", "SHALL", "SHALL NOT", "SHOULD", "SHOULD NOT", "RECOMMENDED", "MAY", and "OPTIONAL" in this document are to be interpreted as described in [RFC 2119](#) [[RFC2119](#)].

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Internet-Draft

BGP Default Reject

March 2017

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## Table of Contents

<a href="#">1.</a>	Introduction . . . . .	<a href="#">2</a>
<a href="#">2.</a>	Solution Requirements . . . . .	<a href="#">3</a>
<a href="#">3.</a>	Acknowledgments . . . . .	<a href="#">3</a>
<a href="#">4.</a>	Security Considerations . . . . .	<a href="#">3</a>
<a href="#">5.</a>	IANA Considerations . . . . .	<a href="#">3</a>
<a href="#">6.</a>	Contributors . . . . .	<a href="#">3</a>
<a href="#">7.</a>	References . . . . .	<a href="#">4</a>
<a href="#">7.1.</a>	Normative References . . . . .	<a href="#">4</a>
<a href="#">7.2.</a>	Informative References . . . . .	<a href="#">4</a>
	Authors' Addresses . . . . .	<a href="#">4</a>

## [1.](#) Introduction

There are BGP routing security issues that need to be addressed to make the Internet more stable. Route leaks [[RFC7908](#)] are part of the problem, but software defects or operator misconfigurations can contribute too. This document provides guidance to BGP [[RFC4271](#)] implementers to improve the default level of Internet routing security.

Many deployed BGP speakers send and accept any and all route announcements between their BGP neighbors by default. This practice dates back to the early days of the Internet, where operators were permissive in sending routing information to allow all networks to reach each other. As the Internet has become more densely interconnected, the risk of a misbehaving BGP speaker poses significant risks to Internet routing.

This specification intends to improve this situation by requiring the explicit configuration of a BGP import and export policy for any External BGP (EBGP) session such as customers, peers, or confederation boundaries for all enabled address families. When this solution is implemented, BGP speakers do not accept or send routes

without policies configured on EBGp sessions.

Mauch, et al.

Expires September 28, 2017

[Page 2]

---

Internet-Draft

BGP Default Reject

March 2017

## [2.](#) Solution Requirements

The following requirements apply to the solution described in this document:

- o Software **MUST** consider any routes ineligible for route selection ([section 9.1.1 \[RFC4271\]](#)), if no import policy was configured for the EBGp peer.
- o Software **MUST NOT** advertise any routes to an EBGp peer, if no export policy was configured.
- o Software **SHOULD** fall back to an "import nothing" and "export nothing" mode following failure of internal components, such as a policy engine.
- o Software **MUST** operate in this mode by default.
- o Software **MAY** provide a configuration option to disable this security capability.

## [3.](#) Acknowledgments

The authors would like to thank the following people for their comments, support and review: Shane Amante, Christopher Morrow, Robert Raszuk, Greg Skinner, Adam Chappell, Sriram Kotikalapudi, Brian Dickson, Jeffrey Haas, John Heasley, Ignas Bagdonas and Donald Smith.

## [4.](#) Security Considerations

This document addresses a basic routing security issue caused by permissive default routing policy configurations. Operators need implementers to address this problem with more secure defaults to mitigate collateral damage on Internet routing. Inadvertent or adversarial advertisements cause business impact that can be

mitigated by a secure default behavior.

## 5. IANA Considerations

This document has no actions for IANA.

## 6. Contributors

The following people contributed to successful deployment of solution described in this document:

Mauch, et al.

Expires September 28, 2017

[Page 3]

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Internet-Draft

BGP Default Reject

March 2017

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## 7. References

### 7.1. Normative References

[RFC2119] Bradner, S., "Key words for use in RFCs to Indicate Requirement Levels", [BCP 14](#), [RFC 2119](#), DOI 10.17487/RFC2119, March 1997, <<http://www.rfc-editor.org/info/rfc2119>>.

[RFC4271] Rekhter, Y., Ed., Li, T., Ed., and S. Hares, Ed., "A Border Gateway Protocol 4 (BGP-4)", [RFC 4271](#), DOI 10.17487/RFC4271, January 2006, <<http://www.rfc-editor.org/info/rfc4271>>.

### 7.2. Informative References

[RFC7908] Sriram, K., Montgomery, D., McPherson, D., Osterweil, E., and B. Dickson, "Problem Definition and Classification of BGP Route Leaks", [RFC 7908](#), DOI 10.17487/RFC7908, June

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Mauch, et al.

Expires September 28, 2017

[Page 4]

---

Internet-Draft

BGP Default Reject

March 2017

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