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Decprecate Atomic Aggregate
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Abstract

This document deprecates the support for the BGP well-know discretionary attribute ATOMIC_AGGREGATE specified in RFC4271. It proposes the changes to RFC4271 to remove its support.

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 [RFC2119].

Status of This Memo

This Internet-Draft is submitted in full conformance with the provisions of BCP 78 and BCP 79.

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This Internet-Draft will expire on September 14, 2017.

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1. Introduction

The ATOMIC_AGGREGATE well-known discretionary attribute is specified in [RFC4271] in section 5.1.6. This document specifies the changes to RFC4271 in order to remove the ATOMIC_AGGREGATE attribute.

2. Changes to Section 4.3

delete the following text:

f) ATOMIC_AGGREGATE (Type Code 6)

ATOMIC_AGGREGATE is a well-known discretionary attribute of length 0.

Usage of this attribute is defined in 5.1.6.

3. Changes to Section 5 - Path Attributes

1: Section 5.0 should have the following changes (p. 24)

Old:

attribute	EBGP	IBGP
ORIGIN	mandatory	mandatory
AS_PATH	mandatory	mandatory
NEXT_HOP	mandatory	mandatory
MULTI_EXIT_DISC	discretionary	discretionary
LOCAL_PREF	see Section 5.1.5	required
ATOMIC_AGGREGATE	see Section 5.1.6 and 9.1.4	
AGGREGATOR	discretionary	discretionary

New:

attribute	EBGP	IBGP
ORIGIN	mandatory	mandatory
AS_PATH	mandatory	mandatory
NEXT_HOP	mandatory	mandatory
MULTI_EXIT_DISC	discretionary	discretionary
LOCAL_PREF	see Section 5.1.5	required
AGGREGATOR	discretionary	discretionary

2: Delete Section 5.1.6

4. Changes to Section 9

4.1. Changes to section 9.1.4

3: Changes to section 9.1.4

Old:

If a BGP speaker chooses to aggregate, then it SHOULD either include all ASes used to form the aggregate in an AS_SET, or add the ATOMIC_AGGREGATE attribute to the route.

New

If a BGP speaker chooses to aggregate, then it SHOULD either include all ASes used to form the aggregate in an AS_SET.

delete the following text:

"In particular, a route that carries the ATOMIC_AGGREGATE attribute MUST NOT be de-aggregated."

4.2. Section 9.2 Changes

Text to delete:

> ATOMIC_AGGREGATE:
> If at least one of the routes to be aggregated has ATOMIC_AGGREGATE path attribute, then the aggregated route SHALL have this attribute as well.

5. Operational Considerations

Input needed here.

6. Error Handling

An ATOMIC_AGGREGATE attribute received should be silently ignored.

7. IANA Considerations

IANA Is asked to deprecate the BGP Attribute: Atomic_Aggregate with this document as reference.

8. Security Considerations

Deprecating a BGP attribute does not change the BGP messages sent on over a secure transport.

Users of this mechanism should be aware that unless a transport that provides integrity (such as TCP-AO [RFC5925]) is used for the BGP session in question, BGP Attributes can be forged. This could become an attack vector.

Unless a transport that provides confidentiality (such as IPSec [RFC4303]) is used, BGP attributes Communication messages could be snooped by an attacker allowing access to BGP attributes. These issues are common to any BGP message but may be of greater interest in the context of this proposal since a BGP Attribute is being deleted.

9. 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>.

[RFC4303] Kent, S., "IP Encapsulating Security Payload (ESP)", RFC 4303, DOI 10.17487/RFC4303, December 2005, <http://www.rfc-editor.org/info/rfc4303>.

[RFC5925] Touch, J., Mankin, A., and R. Bonica, "The TCP Authentication Option", RFC 5925, DOI 10.17487/RFC5925, June 2010, <http://www.rfc-editor.org/info/rfc5925>.

Appendix A. Acknowledgements

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