

Network Working Group
Internet-Draft
Intended status: Standards Track
Expires: November 16, 2015

D. Walton
D. Dutt
Cumulus Networks
May 15, 2015

Fully Qualified Domain Name Capability for BGP
draft-walton-bgp-hostname-capability-00

Abstract

In this document we propose a BGP capability that allows the advertisement of a BGP speaker's FQDN (Fully Qualified Domain Name).

Status of This Memo

This Internet-Draft is submitted in full conformance with the provisions of [BCP 78](#) and [BCP 79](#).

Internet-Drafts are working documents of the Internet Engineering Task Force (IETF). Note that other groups may also distribute working documents as Internet-Drafts. The list of current Internet-Drafts is at <http://datatracker.ietf.org/drafts/current/>.

Internet-Drafts are draft documents valid for a maximum of six months and may be updated, replaced, or obsoleted by other documents at any time. It is inappropriate to use Internet-Drafts as reference material or to cite them other than as "work in progress."

This Internet-Draft will expire on November 16, 2015.

Copyright Notice

Copyright (c) 2015 IETF Trust and the persons identified as the document authors. All rights reserved.

This document is subject to [BCP 78](#) and the IETF Trust's Legal Provisions Relating to IETF Documents (<http://trustee.ietf.org/license-info>) in effect on the date of publication of this document. Please review these documents carefully, as they describe your rights and restrictions with respect to this document. Code Components extracted from this document must include Simplified BSD License text as described in Section 4.e of the Trust Legal Provisions and are provided without warranty as described in the Simplified BSD License.

1. Introduction

BGP can be made much easier to troubleshoot by displaying the hostname of the speaker in addition to the speaker's IP address. This is especially true for IPv6 addresses due to their length. If all BGP sessions were via global addresses then DNS could be used to resolve the hostname for each address. BGP sessions can be via IPv6 link-local addresses which will not have a DNS entry per Section 2.1 of [RFC4472]. This document defines a new BGP capability that allows the exchange of a speaker's FQDN.

2. Specification of Requirements

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].

3. FQDN Capability

The FQDN Capability is a new BGP capability [RFC5492]. The Capability Code for this capability is specified in the IANA Considerations section of this document. The Capability Length field of this capability is variable. The Capability Value field consists of the following:

```

+-----+
|  Hostname Length (1 octet)  |
+-----+
|  Hostname (variable)       |
+-----+
|  Domain Name Length (1 octet) |
+-----+
|  Domain Name (variable)     |
+-----+

```

Hostname Length:

The number of characters in the Hostname

Hostname:

The hostname encoded via UTF-8

Domain Name Length:

The number of characters in the Domain Name

Domain Name:

The domain name encoded via UTF-8

4. Operation

The FQDN Capability SHOULD only be used for displaying the hostname and/or domain name of a speaker in order to make troubleshooting easier.

5. IANA Considerations

IANA has assigned capability number TBD for the FQDN Capability described in this document. This registration is in the BGP Capability Codes registry.

6. Security Considerations

This document introduces no new security concerns to BGP or other specifications referenced in this document.

7. References

7.1. Normative References

- [RFC4472] Durand, A., Ihren, J., and P. Savola, "Operational Considerations and Issues with IPv6 DNS", [RFC 4472](#), April 2006.
- [RFC5492] Scudder, J. and R. Chandra, "Capabilities Advertisement with BGP-4", [RFC 5492](#), February 2009.
- [RFC2119] Bradner, S., "Key words for use in RFCs to Indicate Requirement Levels", [BCP 14](#), [RFC 2119](#), March 1997.

7.2. Implementation References

- [quagga] Dutt, D., "Quagga - BGP FQDN Capability", May 2015, <<https://github.com/CumulusNetworks/quagga/commit/45d4b165b9d01c0e98082e7d1e90a3b1a60b1085>>.

Authors' Addresses

Daniel Walton
Cumulus Networks
3701 NW Cary Parkway, Suite #300
Cary, NC 27513
US

Email: dwalton@cumulusnetworks.com

Dinesh Dutt
Cumulus Networks
185 E. Dana Street
Mountain View, CA 94041
US

Email: ddutt@cumulusnetworks.com