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EVPN Vendor-Specific Route Type
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Abstract

RFC7432 defines Ethernet VPN as a BGP address family that makes use of Typed NLRIs. IANA has a registry called "EVPN Route Types" that allocates values to Route Types. The purpose of this document is to solicit IANA the registration of a route type value for a vendor specific usage, as well as the definition of the EVPN NLRI for that route.

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1. Introduction

RFC7432 creates an IANA managed registry called "EVPN Route Types" and makes the initial registrations for different NLRIs. The ability to define Typed NLRIs makes EVPN a flexible and extensible technology that can be used for multiple purposes. This document solicits the value 255 for a new Route Type that will be called "EVPN Vendor Specific" Route Type.

The intend of this new Type is to allow operators and vendors to

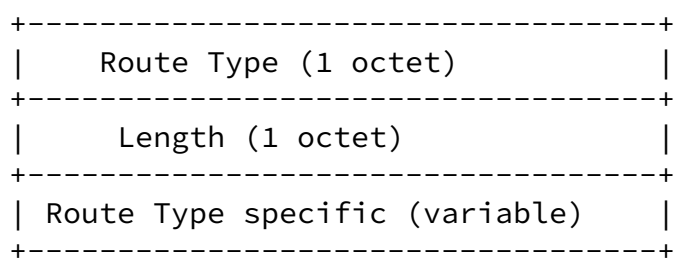
design rapidly new EVPN applications/prototypes and experiment with them in deployed networks before standardizing the specific application. Software Defined Networks (SDN) are evolving fast and the flexibility allowed by this new Route Type will contribute to the SDN control plane evolution.

Another motivation for this new Route Type is the exchange of vendor specific information that may be relevant only for the vendor using it. Other vendors may convey the information in a different way, or they simply don't need to exchange it.

In order to allow multiple applications, the new NLRI contains a Organizational Unique Identifier (OUI) field for which the IEEE registers and maintains values.

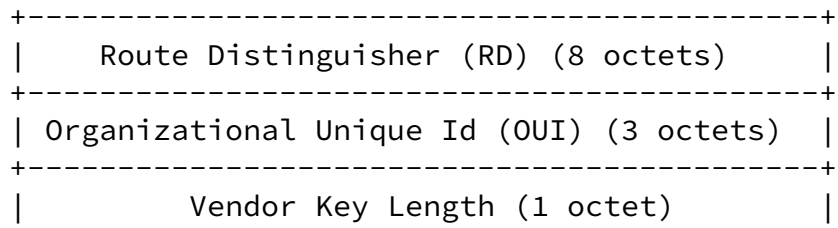
2. The EVPN Vendor-Specific Route Type

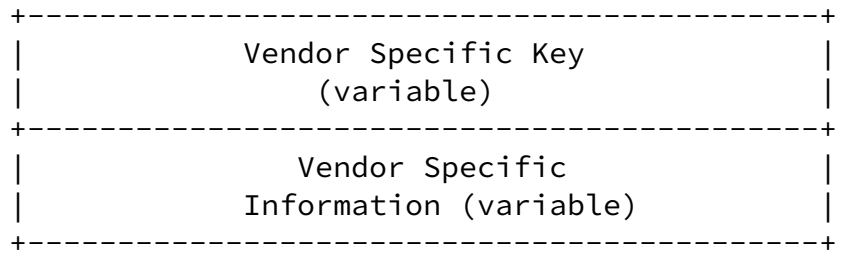
[RFC7432] defines the EVPN NLRI with the following format:



Where Route Type can be a value between 0 and 255. IANA maintains a registry called "EVPN Route Types" where the different values are assigned. This document solicits a new Route Type with value 255.

When the Route Type field includes the value 255, the Route Type specific field will include the following information:





Where OUI, Vendor Key Length and Vendor Specific Key are considered part of the route key for BGP processing. The Vendor Key Length field indicates the length in octets of the Vendor Specific Key field of

the NLRI.

The OUI values are owned and assigned by the IEEE Registration Authority.

As per [RFC7606] section 5.4, a BGP speaker advertising support for EVPN address family MUST handle routes with unrecognized NLRI types within that address family by discarding them unless the relevant specification for that address family specifies otherwise. However, a BGP speaker supporting this new Route Type MUST accept the route even if the OUI and Vendor fields are unrecognized. Specifically, a Route Reflector MUST forward this new route type to its BGP peers, even if the receiver does not understand or cannot process the route.

3. Conventions used in this document

The key words "MUST", "MUST NOT", "REQUIRED", "SHALL", "SHALL NOT", "SHOULD", "SHOULD NOT", "RECOMMENDED", "NOT RECOMMENDED", "MAY", and "OPTIONAL" in this document are to be interpreted as described in BCP14 [RFC2119] [RFC8174] when, and only when, they appear in all capitals, as shown here.

4. Security Considerations

The relevant Security Considerations described in [RFC7432] apply to the new Route Type defined in this document.

5. IANA Considerations

IANA is requested to allocate a new value in the "EVPN Route Types" registry:

255	EVPN Vendor Specific	[This document]

6. References

6.1 Normative References

[RFC7432] Sajassi, A., Ed., Aggarwal, R., Bitar, N., Isaac, A., Uttaro, J., Drake, J., and W. Henderickx, "BGP MPLS-Based Ethernet VPN", RFC 7432, DOI 10.17487/RFC7432, February 2015, <https://www.rfc-editor.org/info/rfc7432>.

[RFC7606] Chen, E., Ed., Scudder, J., Ed., Mohapatra, P., and K.

Patel, "Revised Error Handling for BGP UPDATE Messages", RFC 7606, DOI 10.17487/RFC7606, August 2015, <https://www.rfc-editor.org/info/rfc7606>.

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

[RFC8174] Leiba, B., "Ambiguity of Uppercase vs Lowercase in RFC 2119 Key Words", BCP 14, RFC 8174, DOI 10.17487/RFC8174, May 2017, <https://www.rfc-editor.org/info/rfc8174>.

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