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**Expanding the IPv6 Documentation Space**

## Abstract

The document describes the reservation of an additional IPv6 address prefix for use in documentation. The reservation of a /20 prefix allows documented examples to reflect a broader range of realistic current deployment scenarios.

## Discussion Venues

This note is to be removed before publishing as an RFC.

Discussion of this document takes place on the IPv6 Operations Working Group mailing list (v6ops@ietf.org), which is archived at <https://mailarchive.ietf.org/arch/browse/v6ops/>.

Source for this draft and an issue tracker can be found at <https://github.com/buraglio/draft-ghnb-v6ops-rfc3849-update>.

## 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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### 1. Introduction

[[RFC3849](#)] introduced 2001:db8::/32, describing the use of the IPv6 address prefix 2001:DB8::/32 as a reserved prefix for use in documentation. The rationale for this reservation was to reduce the likelihood of conflict and confusion when relating documented examples to deployed systems.

As the global deployment of IPv6 expands and evolves, individual IPv6 network deployment scenarios have also increased in size and diversity, and there is a requirement for documentation to reflect this increased diversity and scope. The original 2001:DB8::/32 reservation is inadequate to describe many realistic current deployment scenarios.

Without this additional address allocation, then documentation address prefixes are drawn from address blocks already allocated or assigned to existing organizations or to well known ISPs, or drawn from the currently unallocated address pool. Such use conflicts with existing or future allocations or assignments of IPv6 address space. The reservation of a further /20 address prefix for documentation purposes avoids such conflicts.

## 2. Current Assignment and Allocation Data

According to the allocation and assignment data published by the Regional Internet Registries, (<https://ftp.ripe.net/pub/stats/ripenncc/nro-stats/latest/nro-delegated-stats>), in August 2023 some 25.9% of all 62,770 recorded allocations and assignments are larger than a /32 in size. The most common allocation or assignment size is a /29, used in 24.8% of cases.

The four largest assignments made to end users have been /19s, but these allocations were made before the RIRs' address allocation policies moved away from the use of a fixed /48 site address prefix IPv6 address assignment policies, and in the foreseeable future it is unlikely that individual networks require more than a /20. It is believed that a reservation of a /20 would cover the documentation needs as they relate the broad range of realistic network deployments.

## 3. Conventions and Definitions

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 BCP 14 [[RFC2119](#)] [[RFC8174](#)] when, and only when, they appear in all capitals, as shown here.

## 4. Security Considerations

IPv6 addressing documents do not have any direct impact on Internet infrastructure security.

## 5. IANA Considerations

IANA is to record the reservation of TBD::

## 6. References

### 6.1. 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, <<https://www.rfc-editor.org/rfc/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/rfc/rfc8174>>.

## 6.2. Informative References

[RFC3849] Huston, G., Lord, A., and P. Smith, "IPv6 Address Prefix Reserved for Documentation", RFC 3849, DOI 10.17487/RFC3849, July 2004, <<https://www.rfc-editor.org/rfc/rfc3849>>.

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