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**IPv4 Service Continuity Prefix**  
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Abstract

DS-Lite, defined in [RFC 6333](#), directs IANA to reserve 192.0.0.0/29 for the B4 element. This memo directs IANA to generalize that reservation to include other cases where a non-routed IPv4 interface must be numbered as part of an IPv6 transition solution.

Status of this Memo

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## **1. Introduction**

DS-Lite [[RFC6333](#)] directs IANA to reserve 192.0.0.0/29 for the Basic Bridging BroadBand (B4) element. This memo generalizes that IANA reservation to include other cases where a non-routed IPv4 interface must be numbered in an IPv6 transition solution. IANA shall list the address block 192.0.0.0/29 reserved for IPv4 Service Continuity Prefix. The result is that 192.0.0.0/29 may be used in any system that requires IPv4 addresses for backward compatibility with IPv4 communications in an IPv6-only network, but does not emit IPv4 packets "on the wire".

This generalization does not impact the use of the IPv4 Service Continuity Prefix in a DS-Lite context.

## **2. The Case of 464XLAT**

464XLAT [[RFC6877](#)] describes an architecture for providing IPv4 communication over an IPv6-only access network. One of the methods described in [[RFC6877](#)] is for the client side translator (CLAT) to be embedded in the host, such as a smartphone or a CPE (Customer Premises Equipment). In such scenarios, the host must have an IPv4 address configured to present to the host network stack and for applications to bind IPv4 sockets.

## **3. Choosing 192.0.0.0/29**

To avoid conflicts with any other network that may communicate with the CLAT or other IPv6 transition solution, a locally unique IPv4 address must be assigned.

IANA has defined a well-known range, 192.0.0.0/29, in [[RFC6333](#)], which is dedicated for DS-Lite. As defined in [[RFC6333](#)], this subnet is only present between the B4 and the AFTR and never emits packets from this prefix "on the wire". 464XLAT has the same need for a non-routed IPv4 prefix, and this same need may be common for other similar solutions. It is most prudent and effective to generalize 192.0.0.0/29 for the use of supporting IPv4 interfaces in IPv6 transition technologies rather than reserving a prefix for every possible solution.

With this memo, 192.0.0.0/29 is now generalized across multiple IPv4 continuity solutions such as 464XLAT and DS-lite. It is important that a host never enable 2 active IPv4 continuity solutions simultaneously in a way that would cause a node to have overlapping address from 192.0.0.0/29.

## **4. Security Considerations**



No new security considerations beyond what is described [[RFC6333](#)] and [[RFC6877](#)].

## 5. IANA Considerations

This document requests IANA to update the IPv4 Special-Purpose Address Registry available at (<http://www.iana.org/assignments/iana-ipv4-special-registry/iana-ipv4-special-registry.xhtml>) as follows:

OLD:

192.0.0.0/29	DS-Lite	[ <a href="#">RFC6333</a> ]
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NEW:

192.0.0.0/29	IPv4 Service Continuity Prefix	[RFC-to-be-xxx]
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## 6. Acknowledgements

This document has been substantially improved by specific feedback from Dave Thaler, Fred Baker, Wes George, Lorenzo Colitti, and Mohamed Boucadair.

## 7. References

### 7.1. Normative References

- [RFC6333] Durand, A., Droms, R., Woodyatt, J., and Y. Lee, "Dual-Stack Lite Broadband Deployments Following IPv4 Exhaustion", [RFC6333](#), August 2011.
- [RFC6877] Mawatari, M., Kawashima, M., and C. Byrne, "464XLAT: Combination of Stateful and Stateless Translation", [RFC6877](#), April 2013.

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