



B.root-servers.net renumbering in Nov. 2023

Wes Hardaker, Robert Story

USC / ISI

Carlos Martinez

LACNIC



Announced on 30 May 2023



USC/ISI is **renumbering** both its IPv4 and IPv6 addresses for **b.root-servers.net** on **2023-11-27**. Our new IPv4 address will be **170.247.170.2** and our new IPv6 address will be **2801:1b8:10::b**. USC/ISI will continue to support root service over our current IPv4 and IPv6 addresses for at least one year (until 2024-11-27) in order to provide a stable transition period while new root hints files are distributed in software and operating system packages.

We are renumbering to increase the resilience of the Root Servers System by further diversifying the number of Regional Internet Registries (RIRs) that have allocated IP addresses to Root Server Operators. Our addresses will be the first in the Root Server System to have been allocated by LACNIC and our routes will be verifiable through LACNIC's Resource Public Key Infrastructure (RPKI) Trust Anchor Location (TAL). We thank LACNIC for helping make this renumbering possible, and ARIN for supporting our prior addressing assignments.



LACNIC Announcement



The University of Southern California's Information Sciences Institute (USC/ISI) and LACNIC have signed an agreement to allow USC/ISI to renumber the IPv4 and IPv6 addresses of b.root-servers.net this coming 27 November 2023.

[...]

USC/ISI's root server is renumbering into LACNIC's numbering space to increase the resilience of the Root Server System (RSS) by further diversifying the number of Regional Internet Registries (RIRs) that have allocated IP addresses to Root Server Operators. Currently, two of the 13 root servers use European region IP addresses (RIPE NCC), one uses Asia Pacific region IP addresses (APNIC), and the remaining ten use North American region IP addresses (ARIN). With this change, b.root-servers.net's addresses will move from ARIN to Latin America and the Caribbean region (LACNIC) IP addresses space.

B.root-servers.net's newly assigned addresses will be the first in the Root Server System to have been allocated by LACNIC and verifiable through LACNIC's Resource Public Key Infrastructure (RPKI) Trust Anchor Location (TAL).

The new IPv4 address for b.root-servers.net will be 170.247.170.2, and the new IPv6 address will be 2801:1b8:10::b. USC/ISI will continue to support root service over their current IPv4 and IPv6 addresses for at least a year (until 2024-11-27) in order to provide a stable transition period while new root hints files are distributed in software and operating system packages.

We at LACNIC promote the construction of a better global Internet, which is precisely what we are trying to achieve with this agreement: to improve the resilience of the DNS Root Server System.



Key information



- Change announced on **30th of May, 2023**
- root zone will change on the **27th of November, 2023**
- New addresses are in **LACNIC** IP space
 - IPv4: **170.247.170.2**
 - IPv6: **2801:1b8:10::b**
- service on our current addresses supported for at least one year (**until 2024-11-27**)



Why renumber?



- Increase the resilience of the RSS
 - further diversifying the Regional Internet Registries (RIRs) used by Root Server Operators.
 - diversity of RPKI Trust Anchors
- RIR count change for the 13 root servers
 - RIPE NCC 2 → 2
 - APNIC 1 → 1
 - ARIN 10 → 9
 - LACNIC 0 → 1



FAQs



- *Why is USC/ISI turning off old addresses after one year?*
 - We didn't say that!
 - We have no plans to turn off service on any older addresses
- *But the announcement only committed to one year of service on old addresses!*
 - It's just a minimum commitment
 - Double the length of other root server renumberings
 - We have no plans to turn off service on older addresses



FAQs



- *OMG someone else is going to be assigned the old address and do bad things!*
 - We have no plans to return older prefixes
 - If/when we ever do, we will work with ARIN to ensure they are handled responsibly
- *Why not transfer existing allocation to LACNIC?*
 - ARIN policy prohibits transferring critical infrastructure allocations



FAQs



- *Is it operational already?*
 - Of course!
- *Has IANA been informed already?*
 - Of course!
- *Will an RPKI ROA be created for it?*
 - Already has been!



Questions?



- Contacts:
 - B-Root: b-poc [at] isi [.] edu
 - LACNIC: comunicaciones [at] lacnic [.] net
- Original announcements
 - <https://b.root-servers.org/news/2023/05/16/new-addresses.html>
 - https://www.lacnic.net/6868/1/lacnic/lacnic-asigna-recursos-de-numeracion-al-servidor-raiz-de-usc_isi



Backup slides

