



RPKI - Why does it matter?

Routing security is vital to the future and stability of the internet. To strengthen the global internet, institutions connected to the Research and Education Network are being asked to update their IP address configurations.

Resource Public Key Infrastructure (RPKI) is an opt-in service from the American Registry of Internet Numbers (ARIN) that provides security for internet routing by ensuring IP addresses are from a trusted source. Canada's National Research and Education Network (NREN) is collectively working to make all member organizations RPKI-compliant.

You must register your legacy resources (IP addresses) through the ARIN portal before December 31, 2023.

Why should Canada's research and education institutions use RPKI?

Service providers around the world (such as Google) have started to mandate that all IP addresses are correctly configured and assigned to ensure all internet traffic is from legitimate IP address holders.

To configure IP addresses for RPKI, the IP addresses themselves must first be properly registered. In Canada, IP addresses are assigned by the American Registry of Internet Numbers (ARIN). However, many legacy IP addresses are unassigned and incorrectly configured.

As a result, ARIN is taking steps to encourage holders of internet resources numbers such as IP addresses to update to the latest Registration Services Agreement (RSA) and to use ARIN tools to configure for RPKI.



How do I ensure my institution's IP addresses are correctly assigned?

To certify your IP resources, you need:

- IPv4 or IPv6 resources issued to you directly by ARIN
- A signed Registration Services Agreement/Legacy Registration Services Agreement covering the resources you wish to certify
- An ARIN online account linked to an admin, tech, or routing Point of Contact (POC) with authority to manage those resources
- A signed Route Origin Authorization (ROA) certificate

Failure to adopt RPKI and continuing to operate IP addresses that are unidentified, or identified incorrectly, could result in:



Your institution's internet traffic being dropped or blocked by service providers.



A significant increase in your annual ARIN fees after December 31, 2023.

Learn more at:

<https://www.arin.net/resources/manage/rpki/>



How does RPKI work?

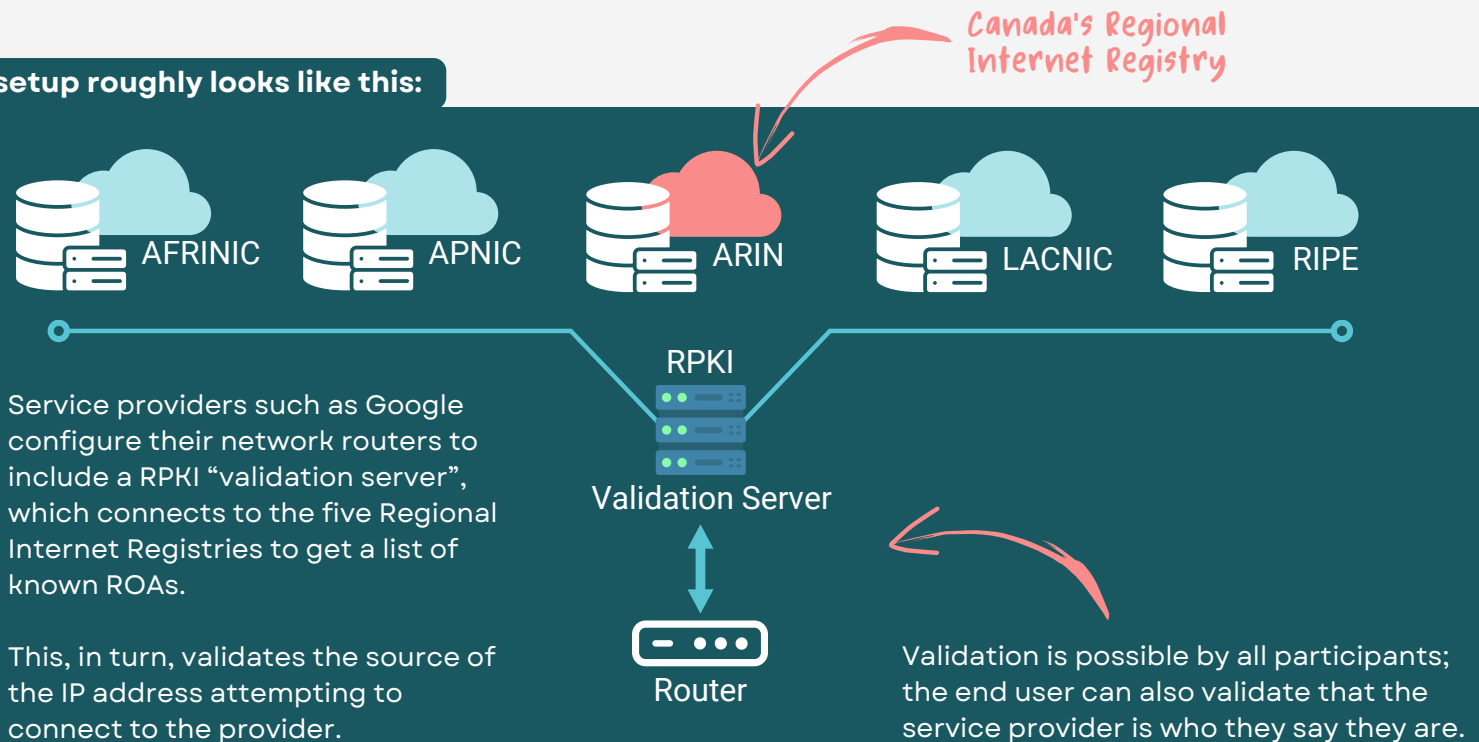
Resource Public Key Infrastructure (RPKI) is a means of offering global validation that your organization is who it says it is on the internet.

Organizations around the world use five Regional Internet Registries to assign and “vouch” for their Internet Protocol (IP) addresses. In Canada, this trusted registry is the American Registry of Internet Numbers (ARIN), which is also responsible for assigning Autonomous System Numbers (ASNs) – the unique network identity used by institutions to operate on the internet.

The RPKI offered by ARIN uses cryptographically verifiable statements to ensure that an organization’s ASN and IP address resources are certifiably linked to the stated holders of those resources. This encryption is known as a Route Origin Authorization (ROA) record, and it creates an “anchor of trust” between ARIN and the end-user.



The setup roughly looks like this:



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