

Internet Number Resource Certification

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RIPE NCC

- The authority on who is the registered holder of an Internet Number Resource in our region
 - IPv4 and IPv6 Address Blocks
 - Autonomous System Numbers
- Information is kept in the Registry
- Accuracy and completeness are key

Resource Certificates – The Goal

- Issue digital certificates along with the allocation of Internet Resources
- Two main purposes:
 - Make the Registry more robust
 - Make Internet routing more secure
- Industry self-regulation!
 - Technical community, RIRs, software and hardware vendors collaborating



Resource Certificates – Details

- State that an Internet number resource has been registered by a Regional Internet Registry
- Based on IETF standards
 - An open community of network designers, operators, vendors and researchers
- Issued to RIPE NCC members since 1 Jan 2011
- Free, opt-in member service
- Do not list any identity information
 - All further information can be found in the registry

What Certification Offers

- Validated proof of holdership
- Secure Internet Routing
 - Route Origin Authorisation
- Resource transfers
- Validation is the added value
- Make the Internet itself more secure!

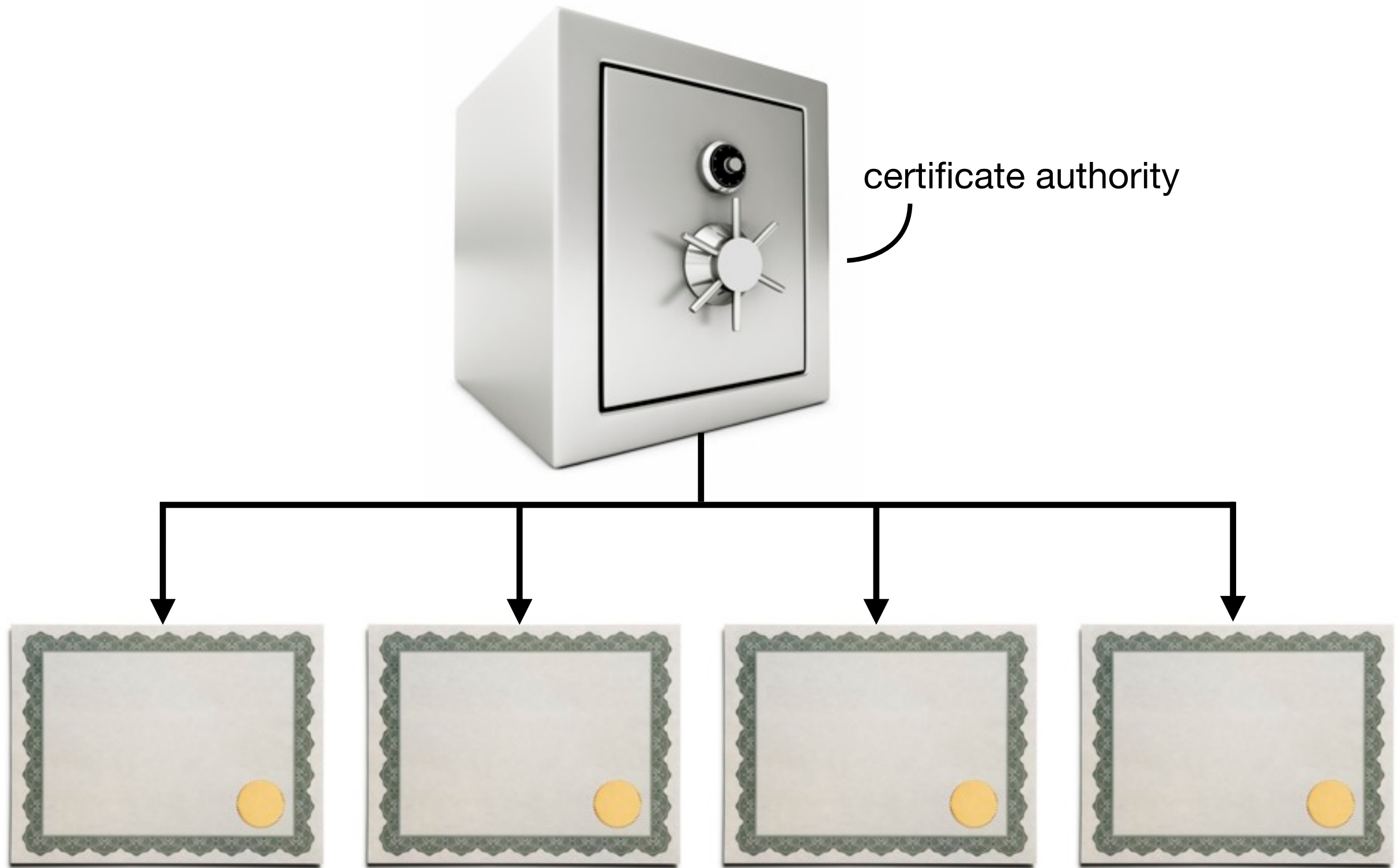


The System



certificate authority

The System



Proof of Holdership



Certificate Validity – Due Diligence

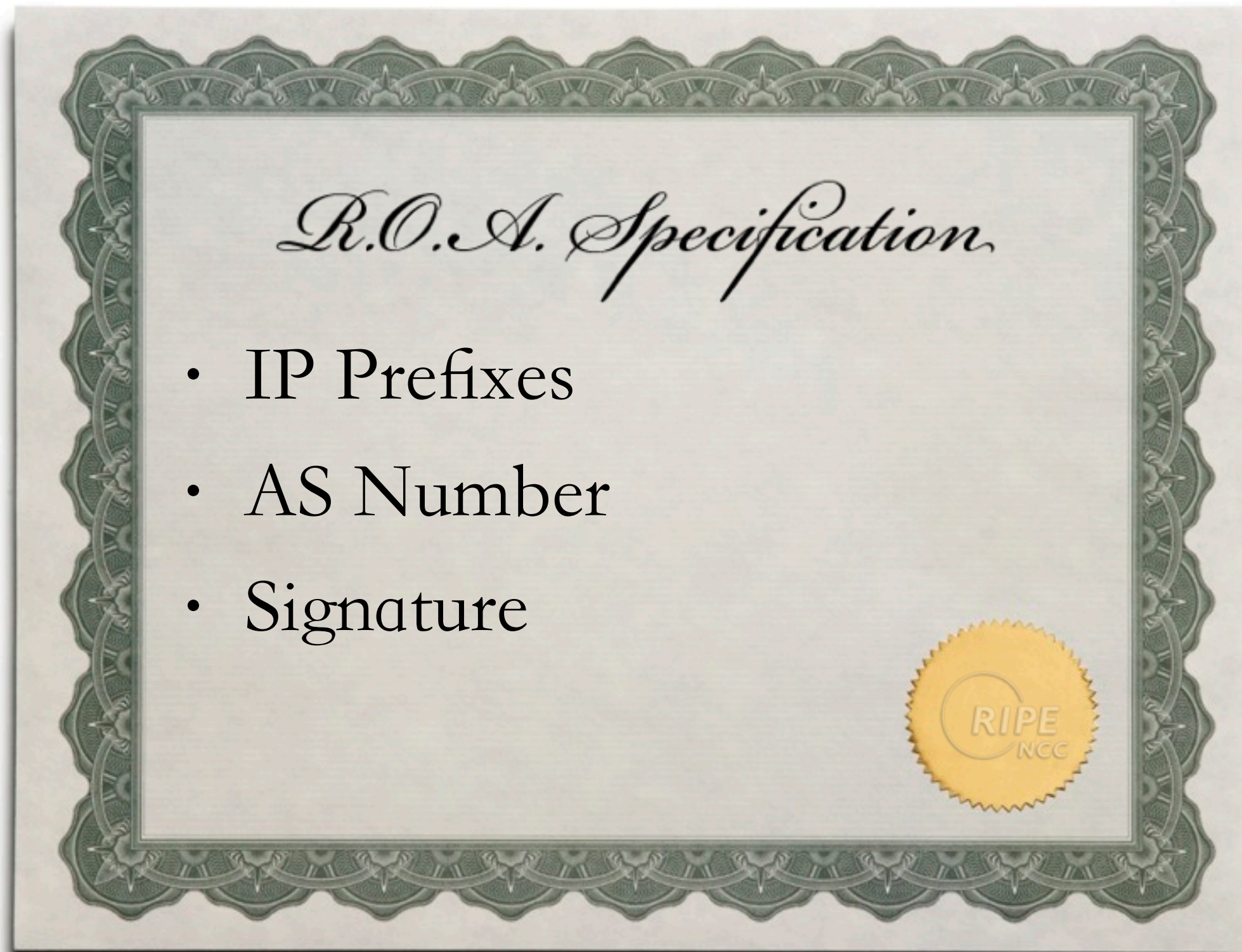
- Certificate is linked to the registration status
- Renewed every 12 months following LIR verification



Internet Routing

- Routing is non-hierarchical, open and free
- Freedom comes at a price:
 - You can announce any address block on your router
 - Accidental errors happen frequently, impact is high
 - Entire networks become unavailable
 - Malicious attacks are relatively easy
 - Mitigation requires intervention from operators
- IPv4 address depletion may intensify issue

Route Origin Authorisation (ROA)



Publication

- Each RIR has a public repository
 - Holds certificates and ROAs
- Accessed using a Validation tool
 - Software only for now
 - Hardware support by end of 2011
 - Cisco, Juniper, etc.



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Around 10 new LIRs join every single day

What This Means For You

- The legitimate holder of an Internet resource can now present a verifiable digital certificate
- Other Internet users can base decisions on this

It will be harder to use resources on the Internet that you are not the holder of

For information and announcements:
<http://ripe.net/certification>



Questions?

