

RPKI Status

APNIC/ Xi An
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Three Pieces

- **RPKI** - Resource Public Key Infrastructure, the Certificate Infrastructure to Support the other Pieces (deployed at all RIRs)
- **Origin Validation** - Using the RPKI to detect and prevent mis-originations of someone else's prefixes (in deployment)
- **AS-Path Validation AKA BGPsec** - Prevent Path Attacks on BGP (future work)

RPKI at the Registries

- RIPE seriously deployed with a few thousand LIRs and thousands of ROAs
- APNIC is operational, 550 LIRs, and moving forward, moving to RIPE's GUI
- ARIN is doing lawyering not engineering
- LACNIC is deployed and has $O(100)$ LIRs
- AFRINIC is deployed with $O(25)$ LIRs

Per-RIR Statistics

rpki.surfnet.nl/perrir.html

Global Top 10 IPv4/6 Per AS RIR Stats RPKI routes World map Trends Alexa Top500

RIR	Total	Valid	Invalid	Unknown	Accuracy	Adoption Rate
AFRINIC	11350 (100%)	32 (0.28%)	42 (0.37%)	11276 (99.35%)	43.24%	0.65%
APNIC	116418 (100%)	90 (0.08%)	214 (0.18%)	116114 (99.74%)	29.61%	0.26%
ARIN	183744 (100%)	244 (0.13%)	31 (0.02%)	183469 (99.85%)	88.73%	0.15%
LACNIC	58361 (100%)	5506 (9.43%)	1327 (2.27%)	51528 (88.29%)	80.58%	11.71%
RIPE NCC	130584 (100%)	6707 (5.14%)	1134 (0.87%)	122743 (94%)	85.54%	6%

Much Better Than IPv6

Half are Two LIRs

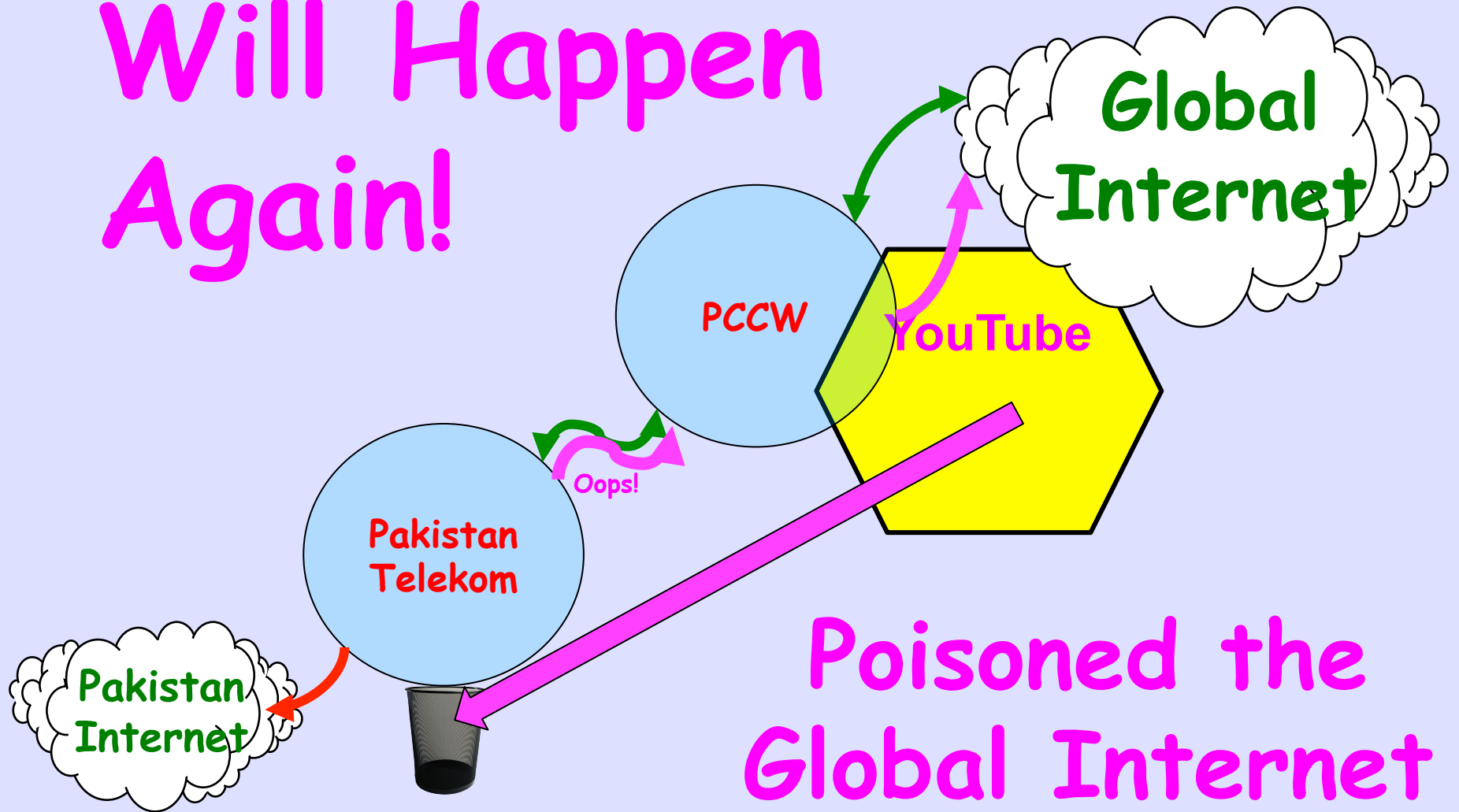
Embarrassing

Router Origin Validation

- **Cisco IOS - solid in 15.2**
- **Cisco IOS/XR - shipped in 4.3.2**
- **Juniper - shipped in 12.2**
- **AlcaLu - in development**

All the Software
You Need is
Available
Open Source
FreeBSD License

The YouTube Incident Will Happen Again!



Poisoned the
Global Internet