pfx-validate

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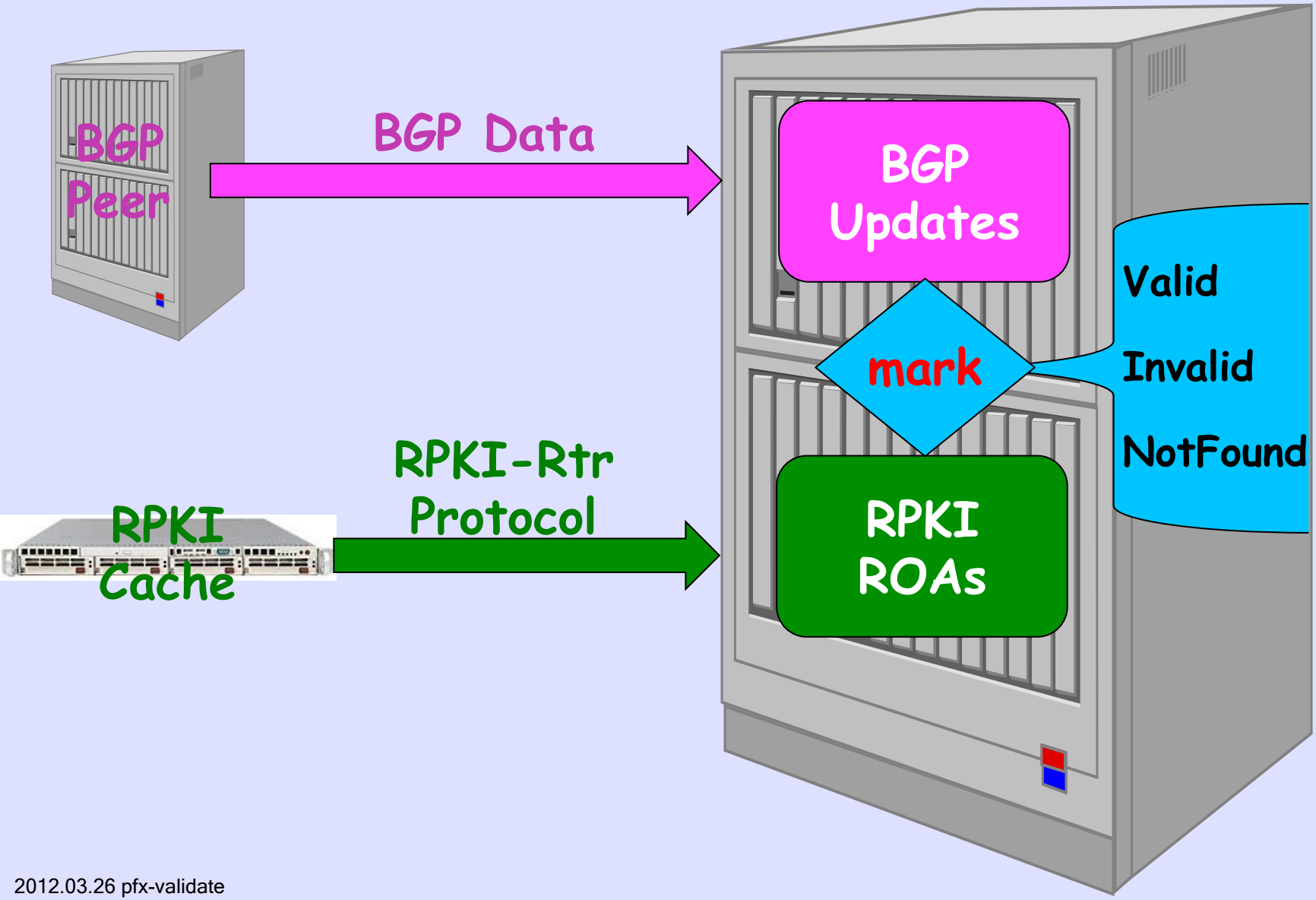
Marking BGP Updates



Result of Check

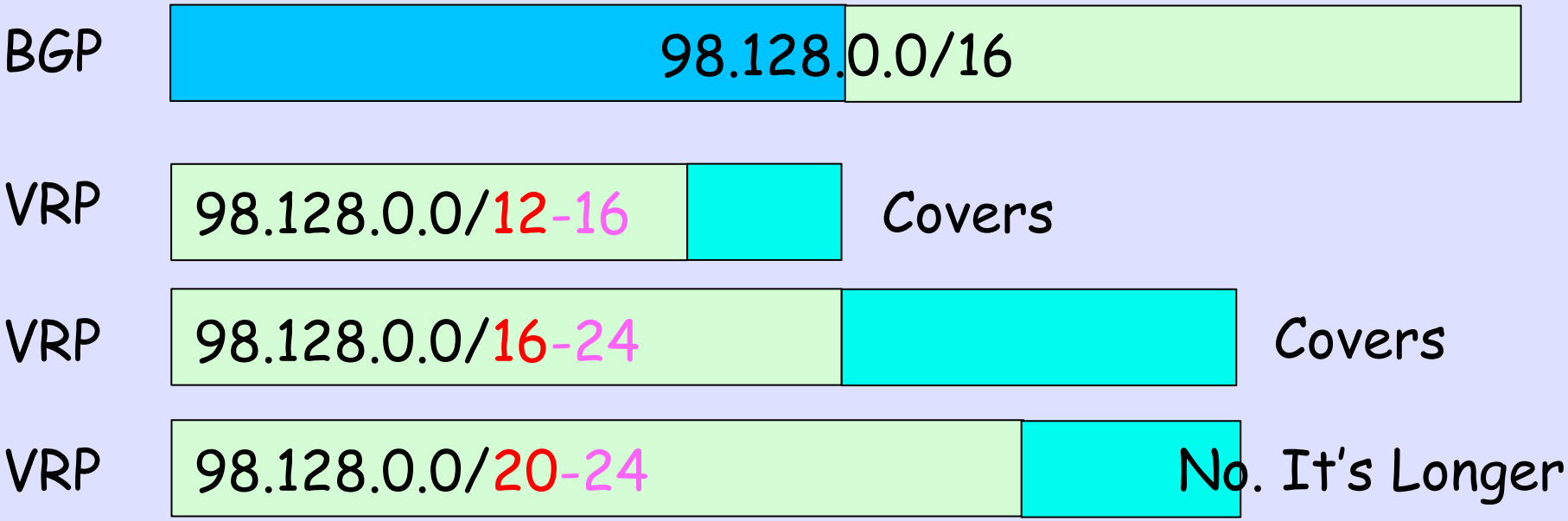
- **Valid** – A matching/covering ROA was found with a matching AS number
- **Invalid** – A matching or covering ROA was found, but AS number did not match, and there was no valid one
- **Not Found** – No matching or covering ROA was found, same as today

The Operator Tests the Marks and then Applies Local Policy

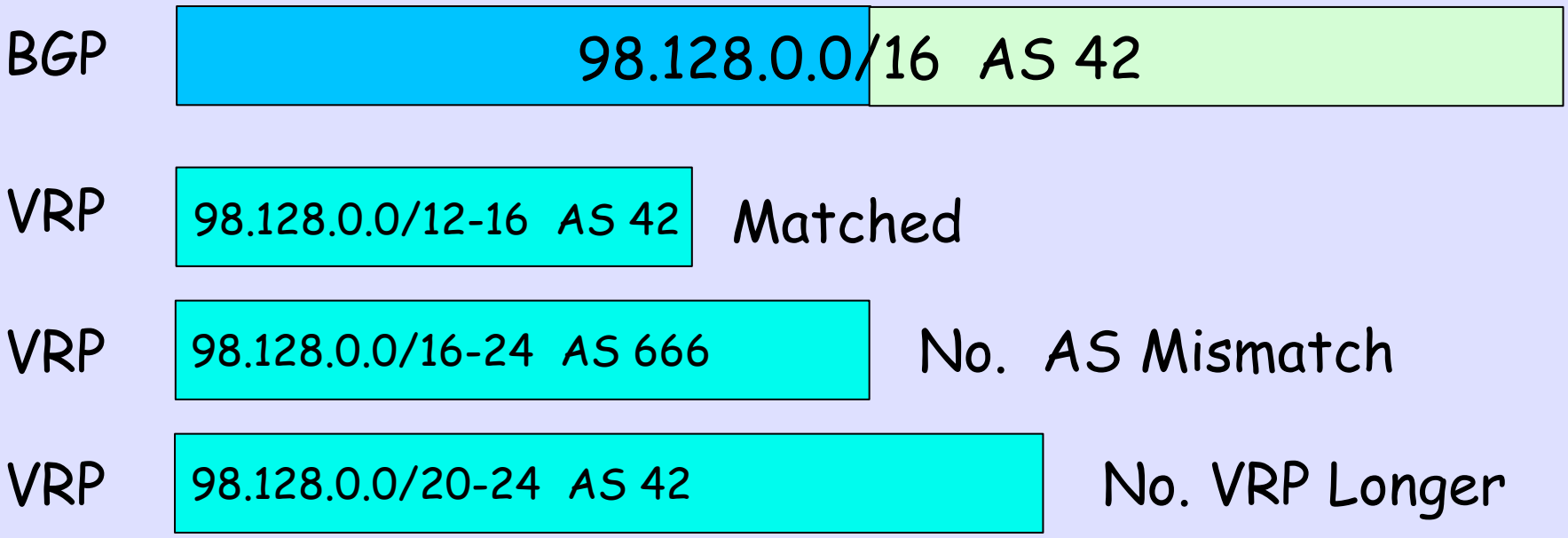
What are the BGP / VRP[1] Matching Rules?

[1] Validated ROA Payload

A Prefix is **Covered** by a VRP when the VRP prefix length is less than or equal to the Route prefix length



Prefix is **Matched** by a VRP when the Prefix is Covered by that VRP , prefix length is less than or equal to the VRP max-len, and the Route Origin AS is equal to the VRP's AS



Matching and Validity

VRP_0	98.128.0.0/16-24 AS 6
VRP_1	98.128.0.0/16-20 AS 42

BGP	98.128.0.0/12	AS 42	NotFound, shorter than VRPs
BGP	98.128.0.0/16	AS 42	Valid, Matches VRP_1
BGP	98.128.0.0/20	AS 42	Valid, Matches VRP_1
BGP	98.128.0.0/24	AS 42	Invalid, longer than VRP_1 with AS 42
BGP	98.128.0.0/24	AS 6	Valid, Matches VRP_0

Open Issues

- Should updates learned via iBGP be marked?
- Should updates injected into BGP on this router be marked?
- My bottom line:
  - Yes, to support incremental deployment
  - I do not want to find out I am announcing garbage when my neighbor's NOC calls