

IP Addressing with References (IPREF)

draft-augustyn-intarea-ipref-00
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Addresses with References

- Reference
 - an opaque unsigned integer: 134276
- IPREF Address



- IPv4 or IPv6
 - 192.0.2.123 + 3427
 - 2001:DB8::123 + 2371
- actually, any network address + reference

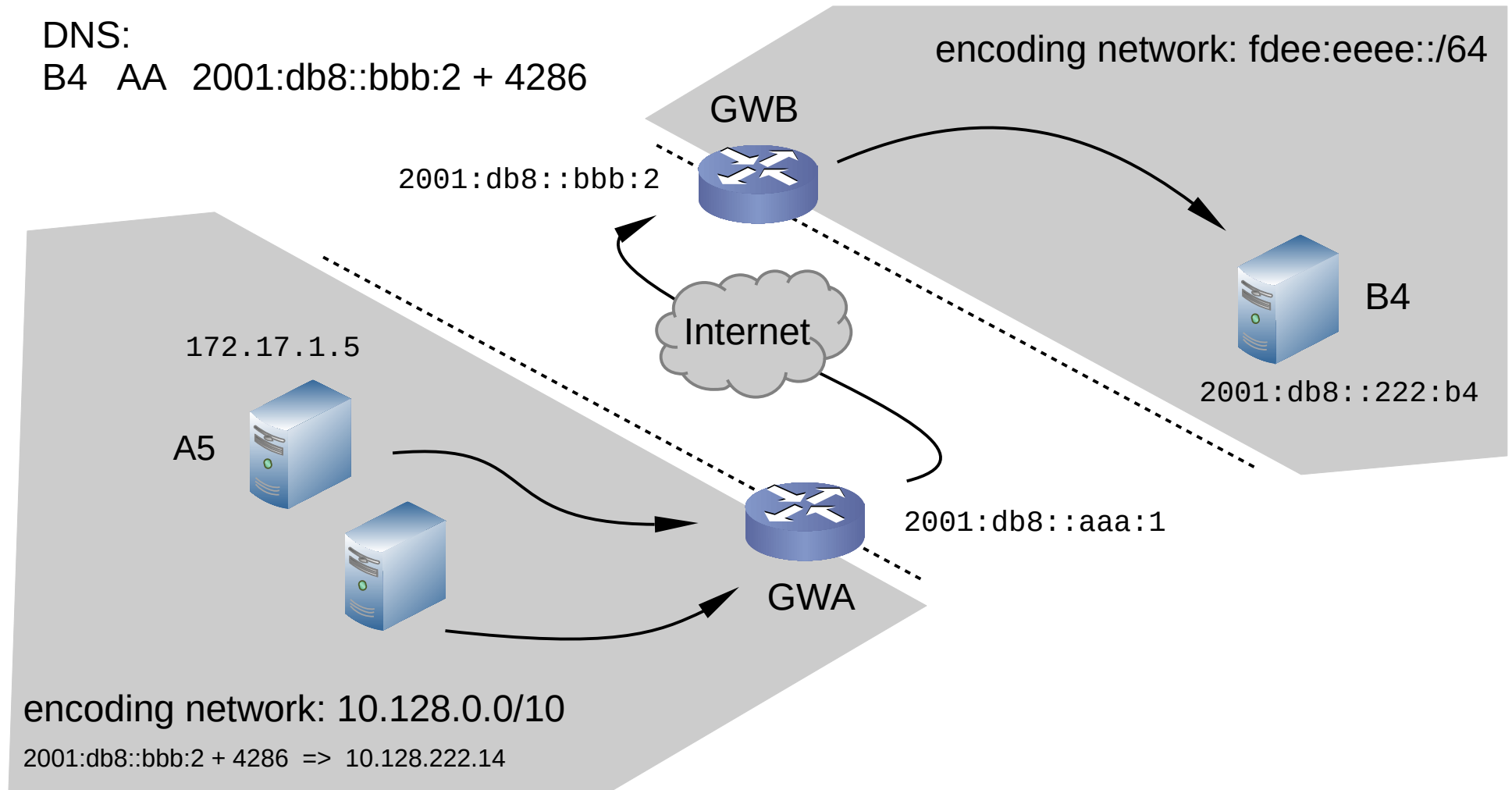
Only Private Networks

- IPREF is for *private* networks
- *private* – to – *private* only
- ...but notice, ‘public’ addresses are merely exposing hosts located on *private* networks.

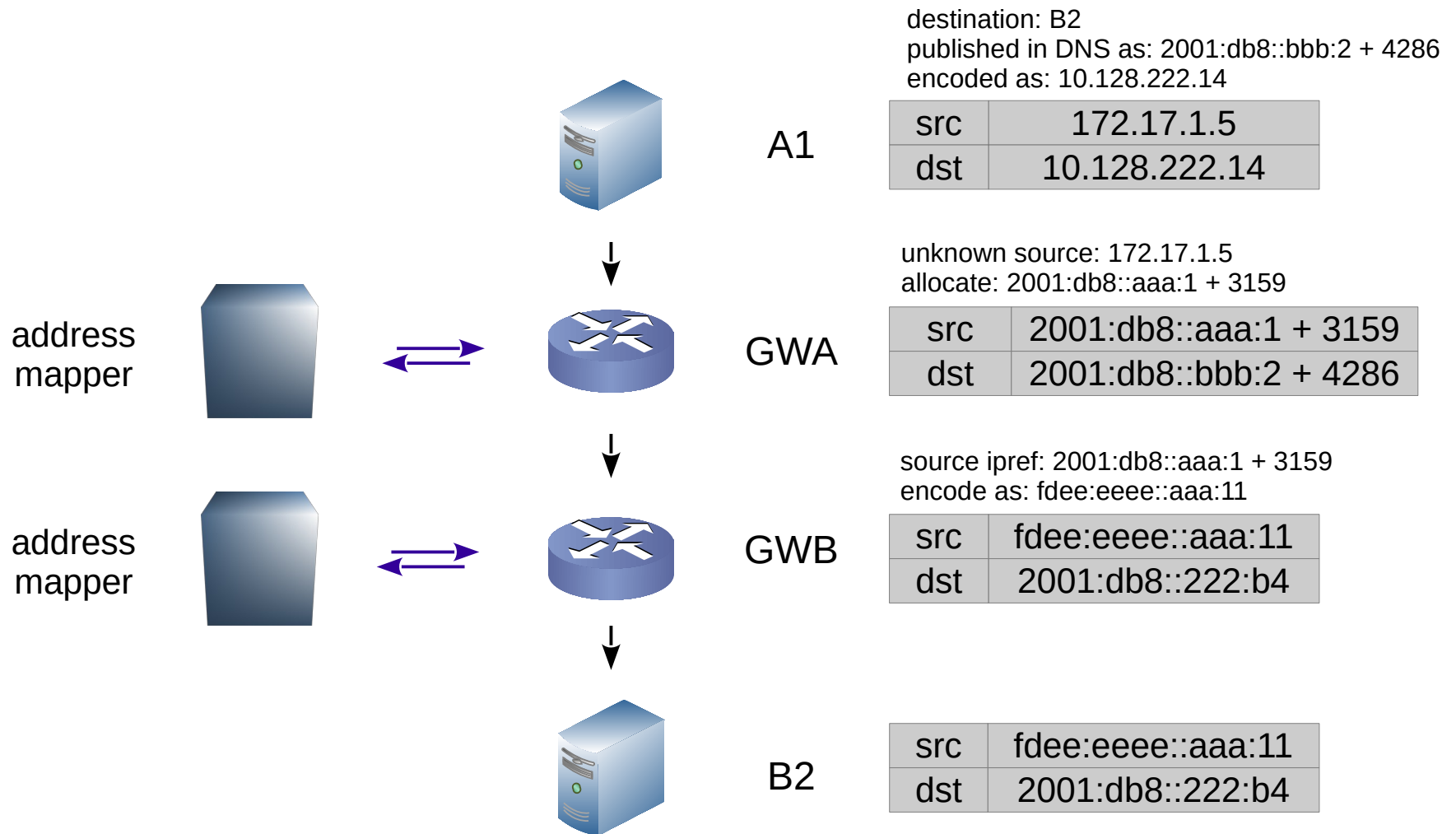
Private Networks

DNS:

B4 AA 2001:db8::bbb:2 + 4286



Address Rewriting



IPREF Name Resolution

- IPREF addresses are publishable
- Works just like standard DNS name resolution
 - for example host: b4.example.com
2001:db8::bbb:2 + 4286
- Probably needs a new record type...
 - like AA
- ...but works fine with TXT records for now

IPREF Notes

- IPREF operates entirely within layer 3
- IPREF gateways may be edge routers but don't have to be
 - may be located inside local networks behind edge routers
 - may be placed 'behind NAT'
- Only IPREF gateways deal with references
 - gateways strip references before forwarding to local networks
 - all local hosts, routes, and switches are standard
 - all Internet hosts, routes, and switches are standard
- IPREF does not replace anything
 - does not replace IPv4 or IPv6
 - does not replace VPNs, NAT, or firewalls

The End