

Captive Portals over PvD

draft-bruneau-intarea-provisioning-domains

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CAPPORT
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Review of PvD Document

Provisioning Domains (PvDs) are **consistent sets of network properties** that can be implicit, or advertised explicitly

Explicit PvD is advertised as an FQDN in a **Router Advertisement** option

Additional PvD information is provided as **JSON** via an **HTTPS** request

Captive Portal properties can be added to JSON

What are the options for captive portal
discovery and interaction?

Flow Examples

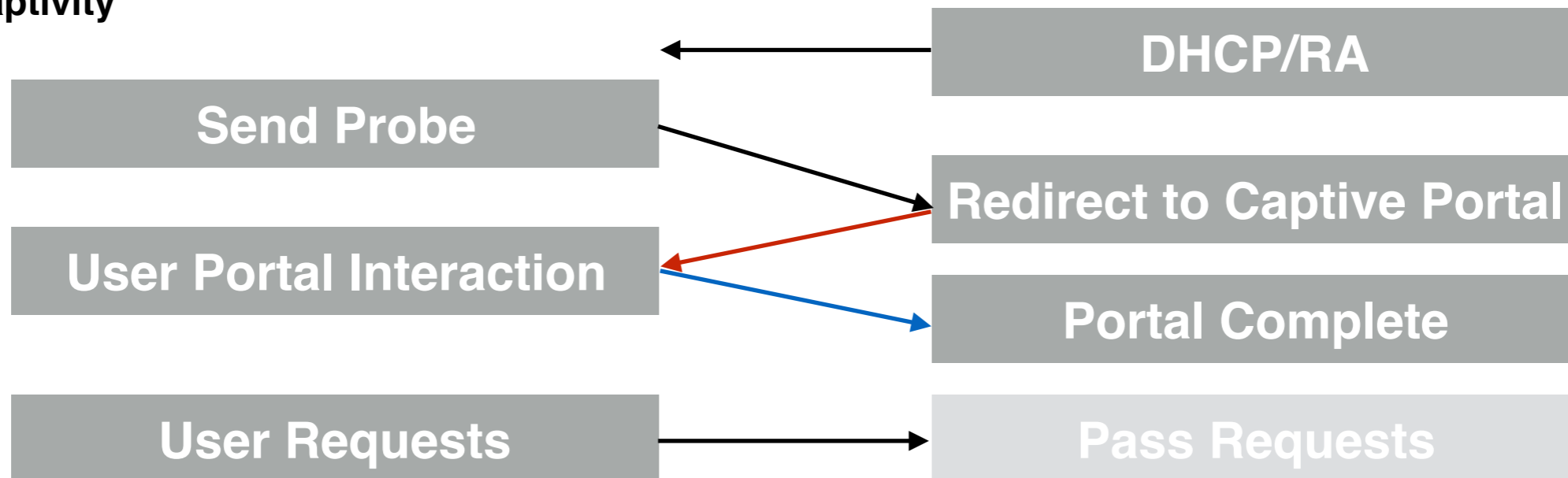
Status Quo

Discovery 
Interaction 

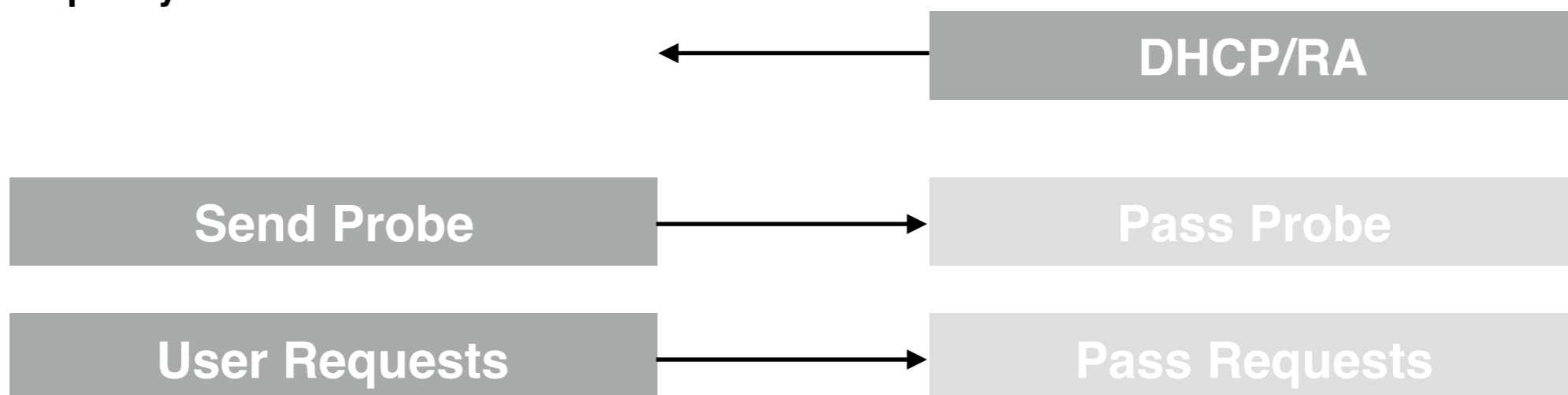
Host

Network

With Captivity



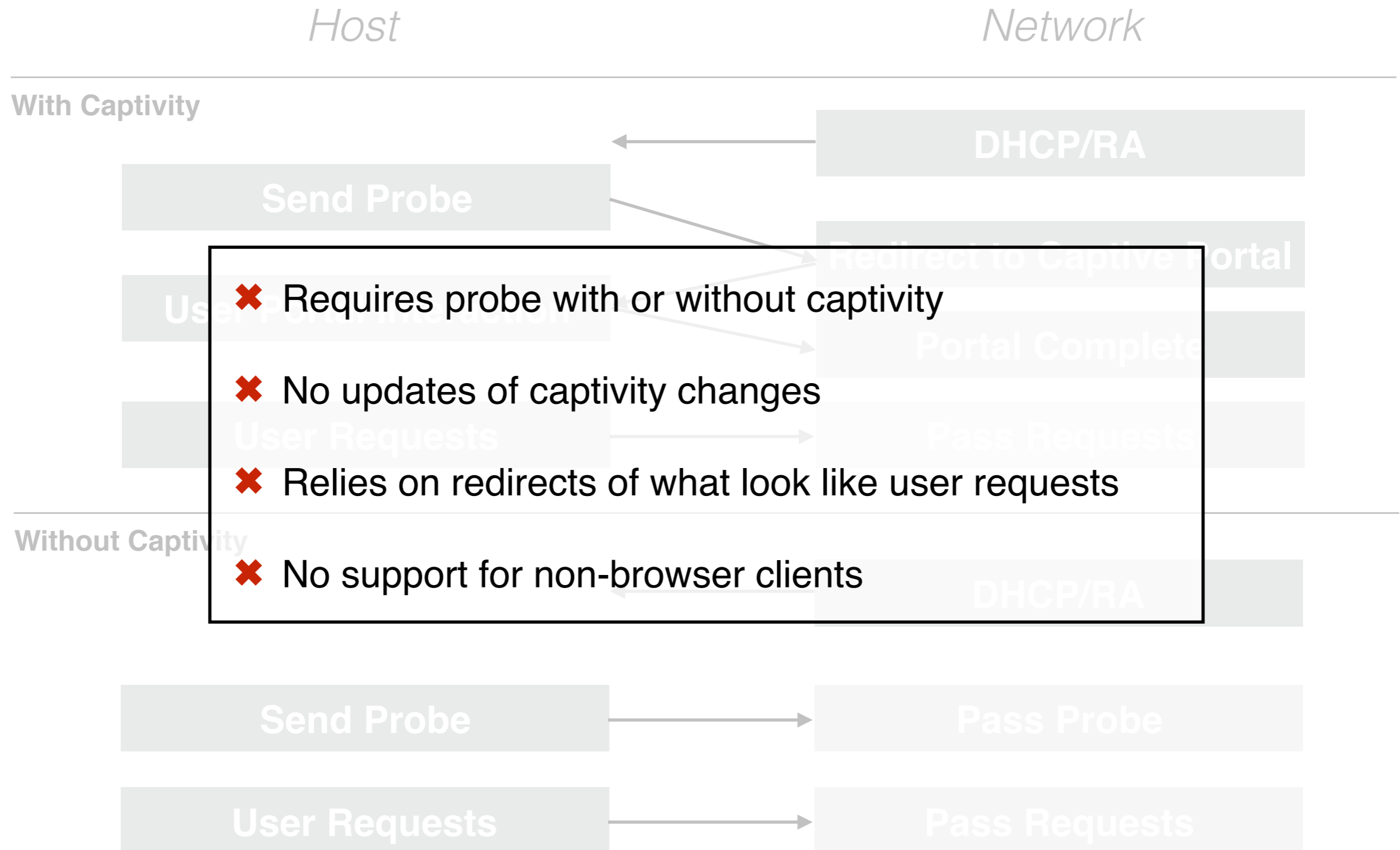
Without Captivity



Flow Examples

Status Quo

Discovery 
Interaction 



Flow Examples

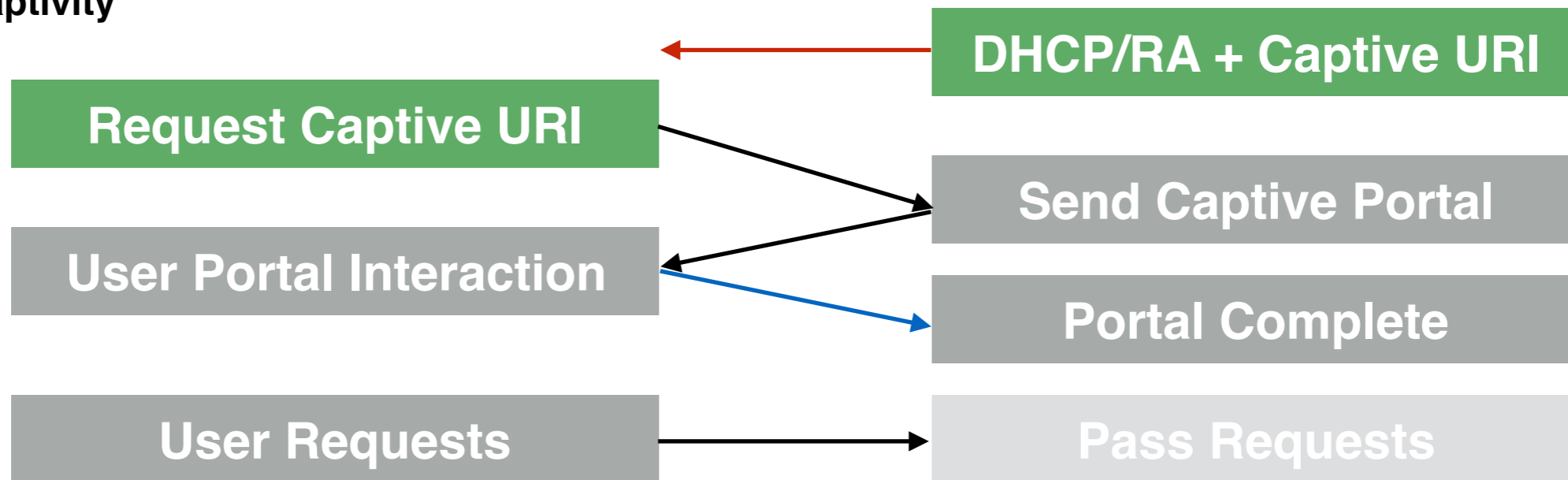
RFC 7710

Discovery 
Interaction 

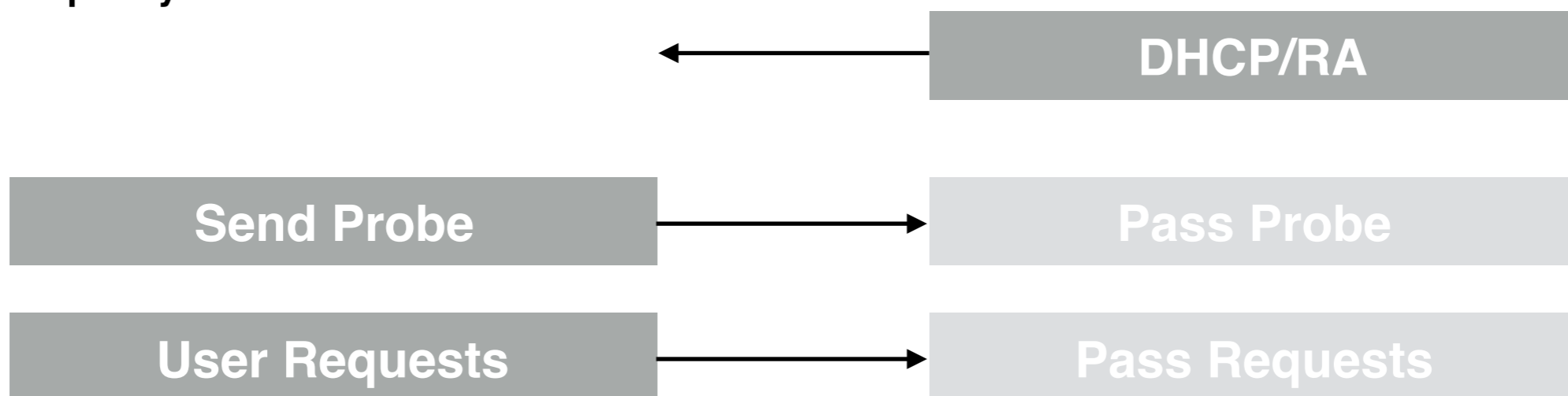
Host

Network

With Captivity



Without Captivity



Flow Examples

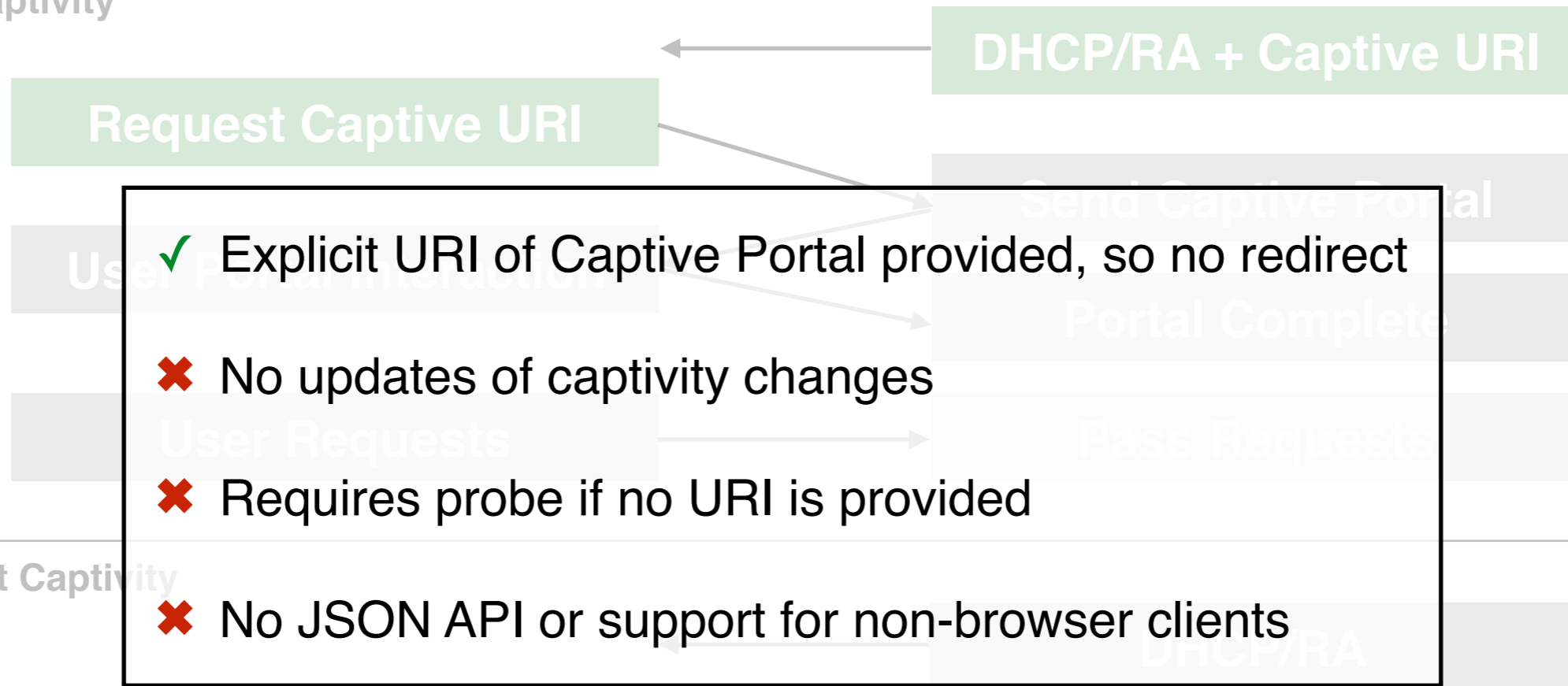
RFC 7710

Discovery 
Interaction 

Host

Network

With Captivity



Without Captivity



Flow Examples

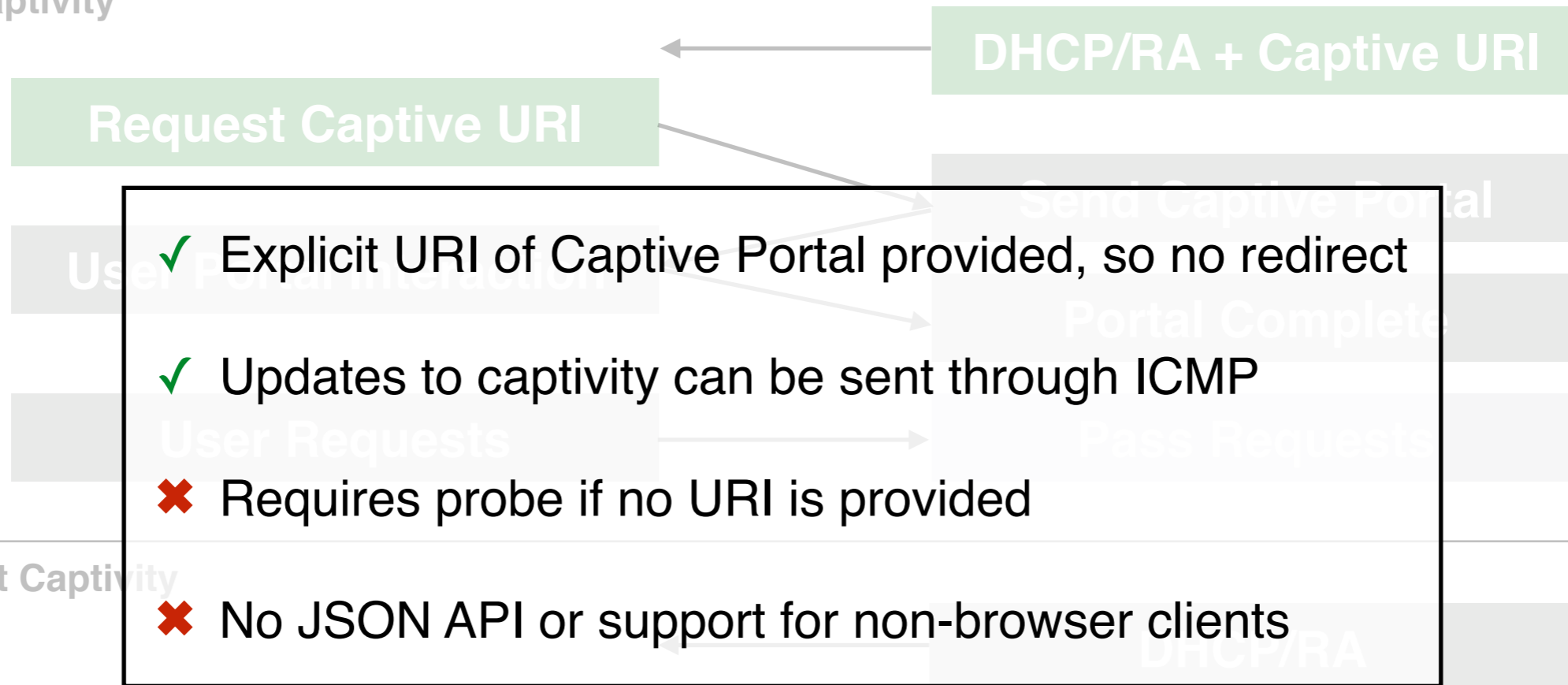
RFC 7710 + ICMP

Discovery 
Interaction 

Host

Network

With Captivity



Without Captivity



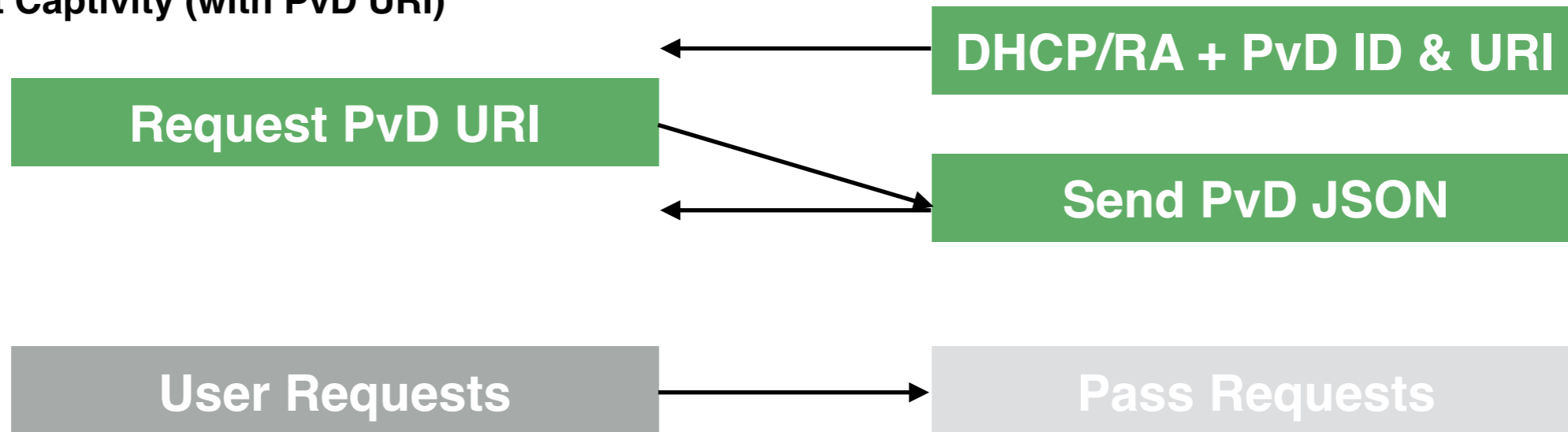
Flow Examples

PvD

Host

Network

Without Captivity (with PvD URI)



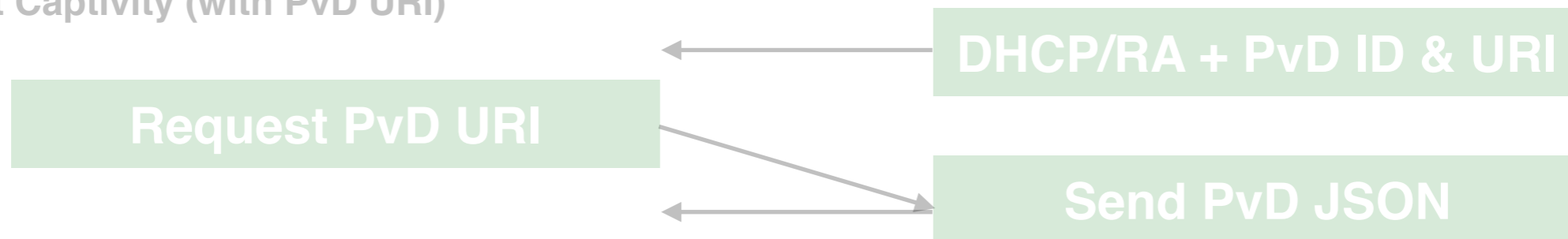
Flow Examples

PvD

Host

Network

Without Captivity (with PvD URI)



✓ No captive probe needed

User Requests

Pass Requests

✓ Other network properties are conveyed through PvD

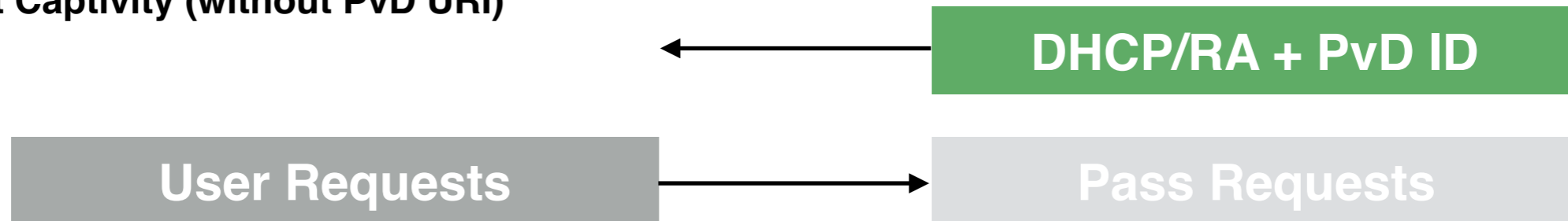
Flow Examples

PvD

Host

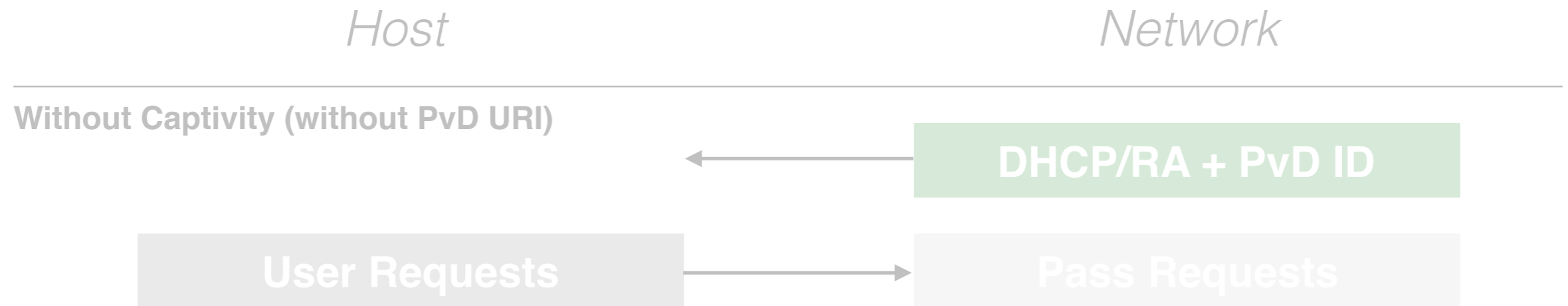
Network

Without Captivity (without PvD URI)



Flow Examples



PvD



- ✓ No captive probe needed
- ✓ No extra HTTPS/JSON for basic PvDs

Flow Examples

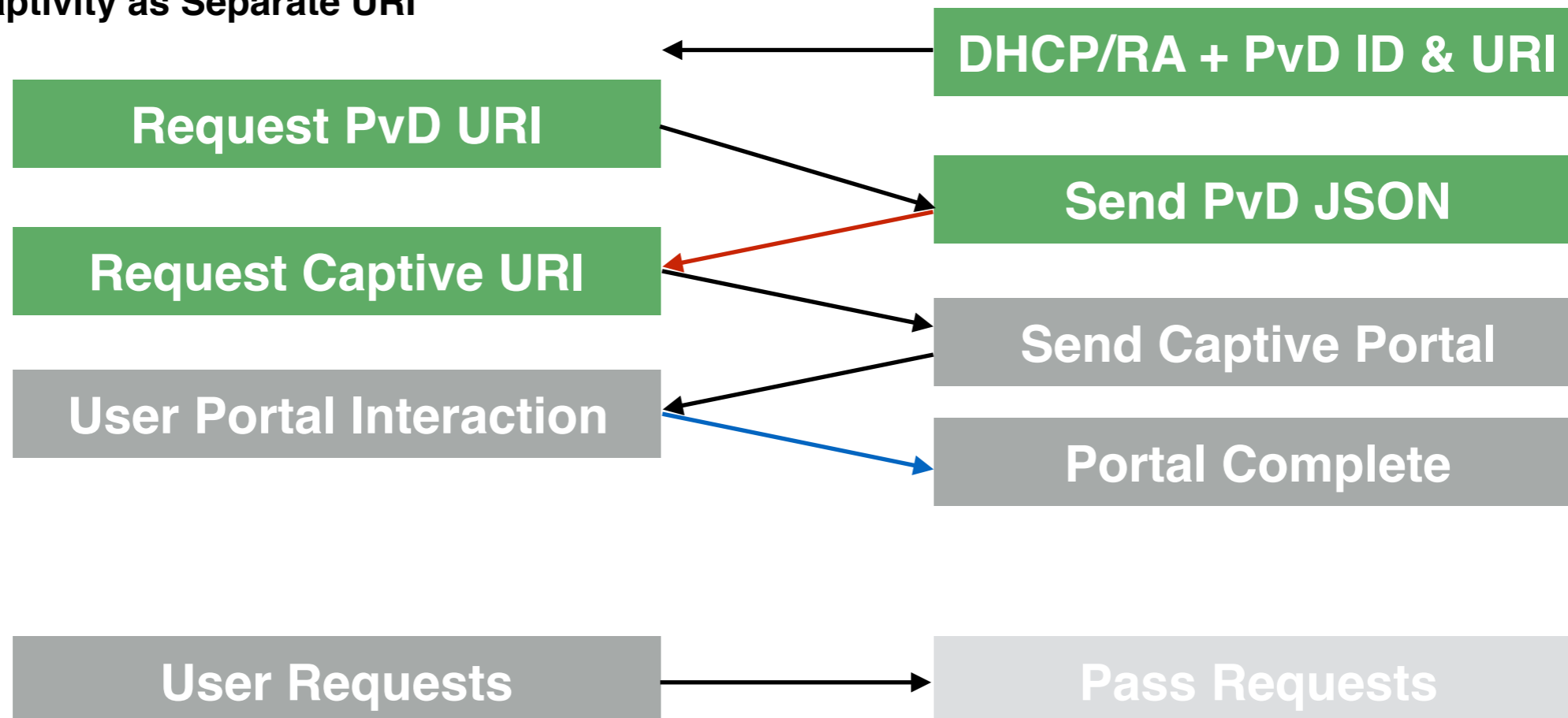
PvD

Discovery 
Interaction 

Host

Network

With Captivity as Separate URI



Flow Examples

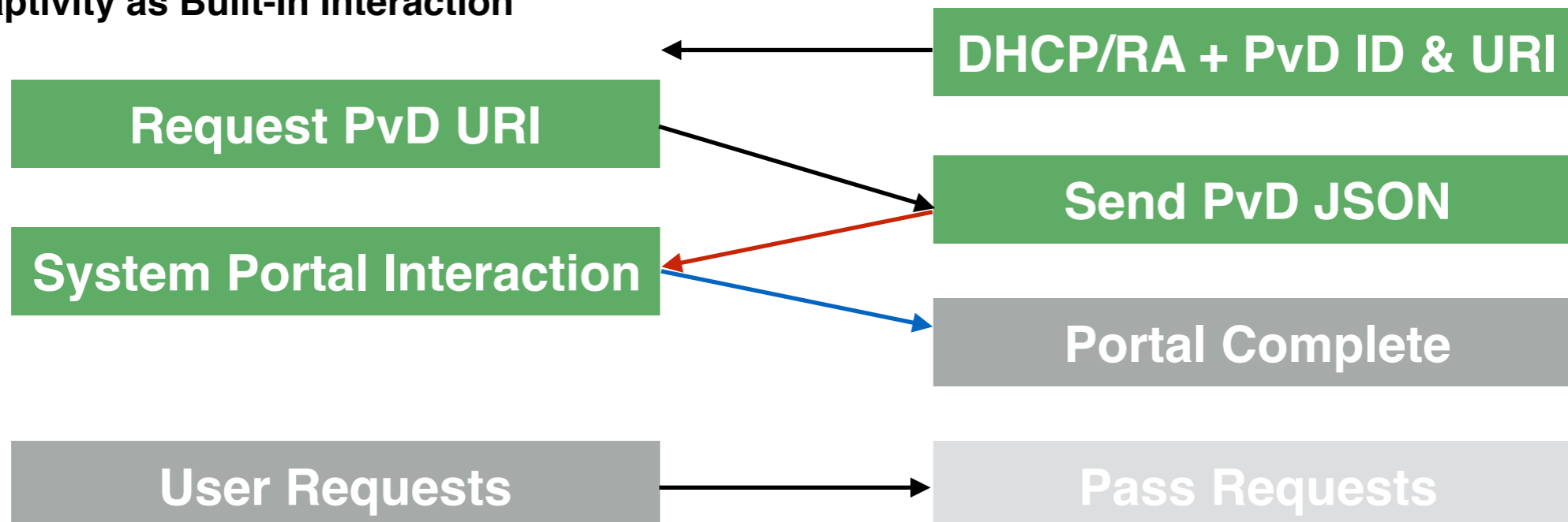
PvD

Discovery 
Interaction 

Host

Network

With Captivity as Built-In Interaction



Flow Examples

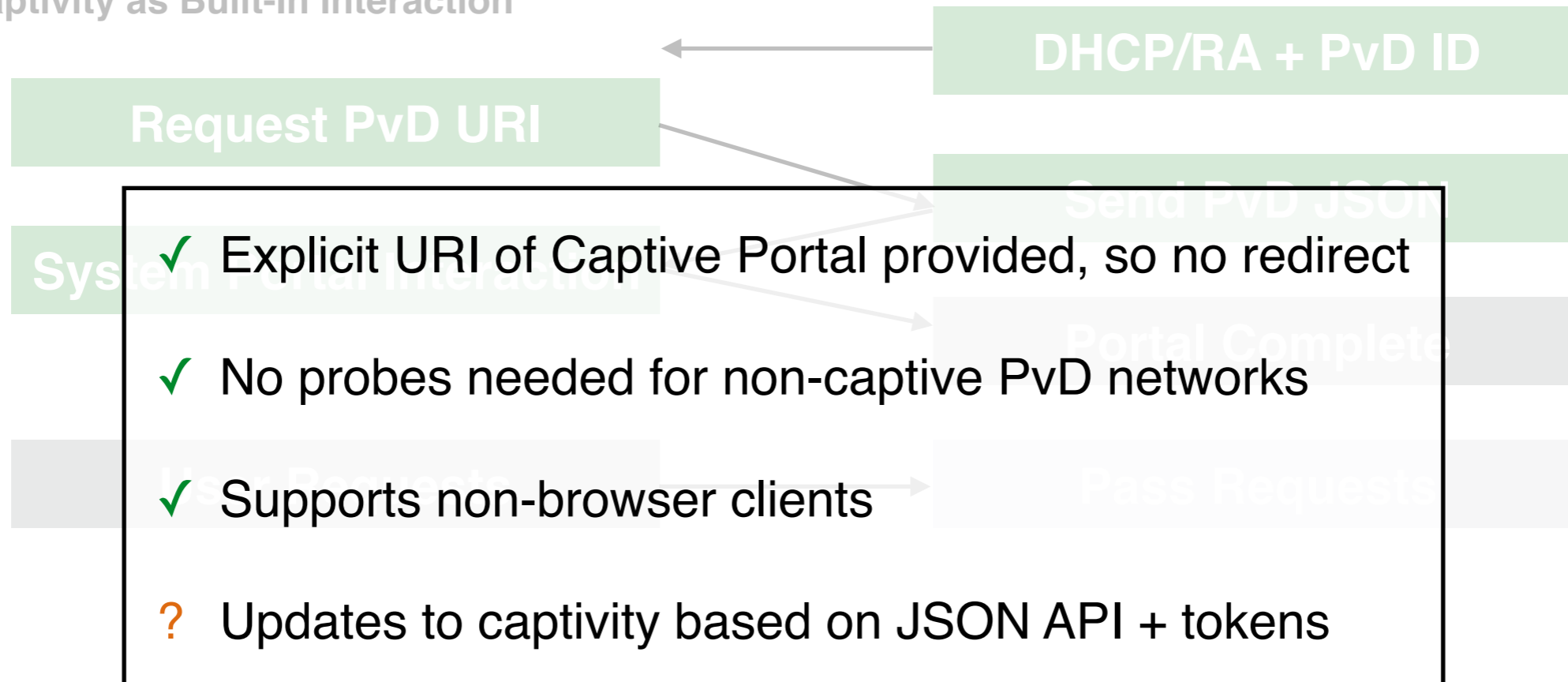
PvD

Discovery 
Interaction 

Host

Network

With Captivity as Built-In Interaction



Making the Captive experience better

- **Indicate that there isn't a portal.** An explicit PvD that doesn't mark captivity **MUST NOT** be a captive network
- **Bootstrap system-level interaction.** Discovery needs to be able to point to an JSON API server, not just a webpage. This JSON API should handle lifetimes, updates, tokens, etc.
- **Separating discovery from interaction is key**

Concerns

- **What about lying PvDs?**

If a PvD claims to not be captive and is, then we are in the same case as a network that passes probes but blocks other traffic.

If a PvD advertises a portal that isn't there, it will be skipped.

If a PvD has a valid portal but doesn't block, it's not bad.

- **Where is the PvD server located? Is it too broad?**

For captive networks, the JSON can/should be served from the same location as the traditional captive portal

How should Captive Portal info be
represented in PvD JSON?

Options to Embed Captive in PvD

Multiple choice, choose one or more!

- Provide URI of traditional Captive HTTP Portal
- Provide URI of new Captive JSON Server
- Extend PvD JSON with Captive JSON

