I-D.ietf-v6ops-siit-dc, I-D.ietf-v6ops-siit-dc-2xlat

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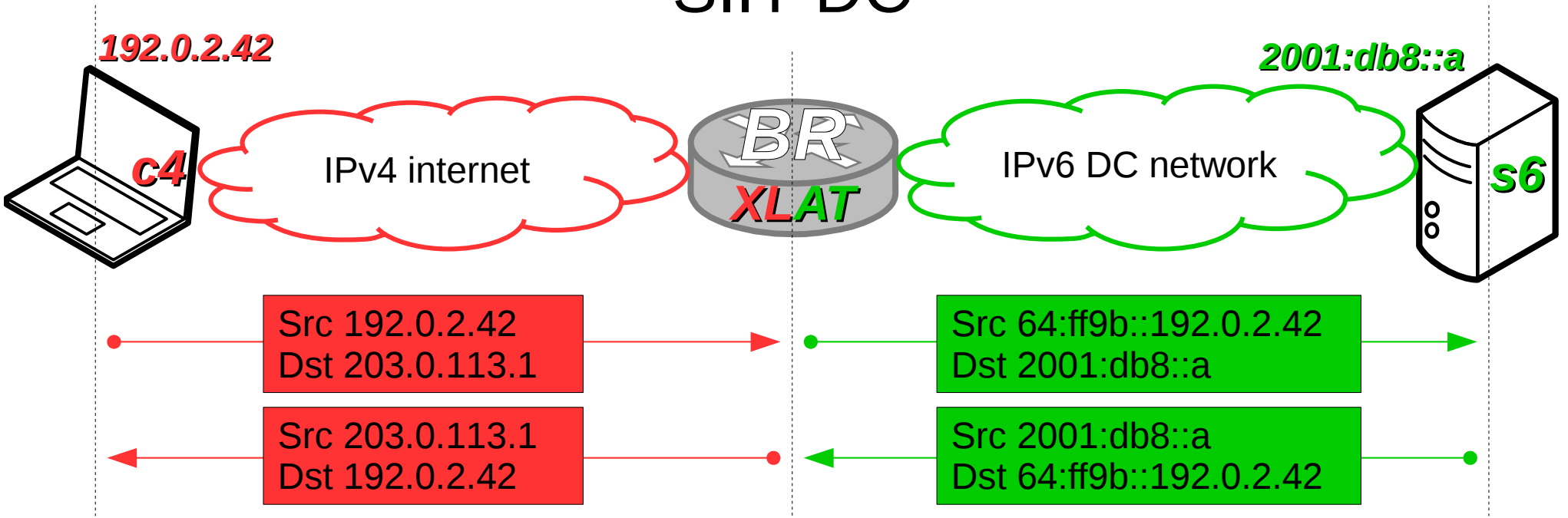
Quick recap – what is SIIT-DC again?

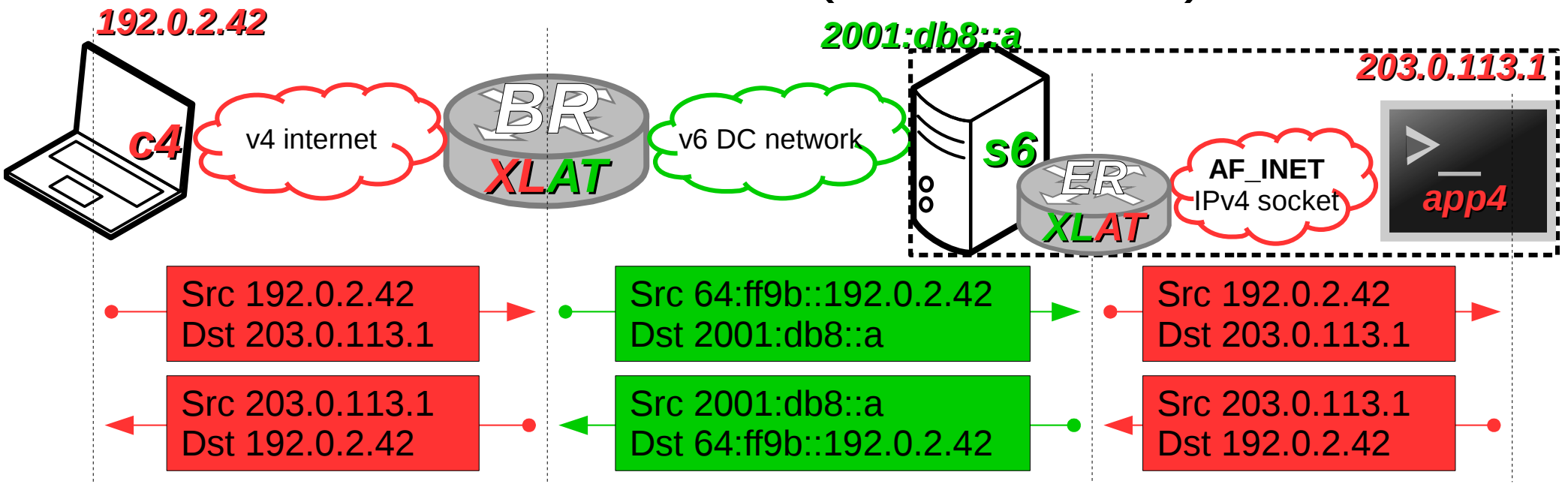
(*Stateless IP/ICMP Translation for IPv6 Data Centre Environments*)

SIIT-DC



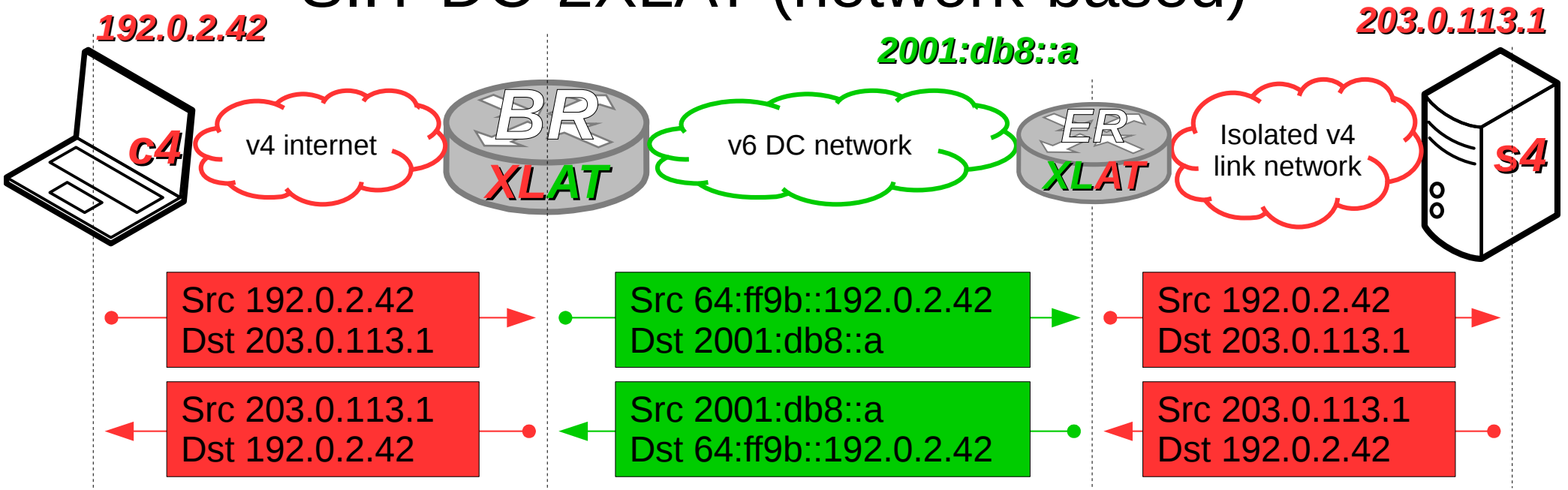
- The ***Border Relay*** performs stateless protocol translation between IPv4 and IPv6 in accordance with *RFC6145*
- The ***BR*** is here configured with *RFC6052* prefix ***64:ff9b::/96*** and *EAM* ***{203.0.113.1,2001:db8::a}*** (in accordance with *I-D.ietf-v6ops-siit-eam*)
- IPv4 address of ***c4*** remains fully visible to ***s6*** (in the form of an *IPv4-converted IPv6 address*)
- ***s6*** should of course be provisioned with native connectivity to the IPv6 internet

SIIT-DC-2XLAT (node-based)



- The ***Edge Relay*** performs stateless protocol translation between IPv4 and IPv6 in accordance with *RFC6145* (the exact reverse of what the BR does, and very similar to an *RFC6877* ***CLAT***)
- Both relays are configured with *RFC6052* prefix ***64:ff9b::/96*** and *EAM* ***{203.0.113.1,2001:db8::a}*** (in accordance with *I-D.ietf-v6ops-siit-eam*)
- End-to-end IPv4 address transparency is facilitated
- ***app4*** might of course be provisioned with native IPv6 as well (and listen on an *AF_INET6* socket)

SIIT-DC-2XLAT (network-based)



- The ***Edge Relay*** performs stateless protocol translation between IPv4 and IPv6 in accordance with *RFC6145* (the exact reverse of what the BR does, and very similar to an *RFC6877* ***CLAT***)
- Both relays are configured with *RFC6052* prefix ***64:ff9b::/96*** and *EAM* ***{203.0.113.1,2001:db8::a}*** (in accordance with *I-D.ietf-v6ops-siit-eam*)
- End-to-end IPv4 address transparency is facilitated
- ***s4*** might of course be provisioned with native IPv6 as well (i.e., be dual-stacked)

News since IETF 92

- Protocol language deleted and moved to *I-D.ietf-v6ops-siit-eam*
  - Both documents are now ***Informational*** (they were previously ***Standards Track***)
- Made the documents shorter - compacted/merged figures, removed some superfluous sections, rewrote some other sections using more concise language, and so on)
  - *SIIT-DC*: 31 -> 23 pages; *SIIT-DC-2XLAT*: 19 -> 17 pages
- *SIIT-DC*: Briefly discuss the possibility of using *IPv4-translatable IPv6 addresses* in the data centre network (i.e., using only *RFC6052* address mapping, no EAMs)
- *SIIT-DC*: Recommend enabling *RFC6791* support in ***BR*** whenever possible
- *SIIT-DC-2XLAT*: Discuss hairpinning and other methods by which an ***s4*** or ***app4*** may go about communicating with other services in the IPv6 DC (which could possibly be another ***s4*** or ***app4*** behind another ***ER***)
- *SIIT-DC-2XLAT*: New co-author: Sander Steffann, S.J.M. Steffann Consultancy
- Terminology: Use ***Border/Edge Relay****,* to better match similar transition technologies

Running code

- Commercial appliances:
  - Brocade ServerIron ADX
  - Cisco ASR/CSR
  - F5 BIG-IP LTM
- Open source:
  - clatd (https://github.com/toreanderson/clatd)
  - Jool (http://jool.mx)
  - nat46 (https://github.com/ayourtch/nat46)
  - TAYGA (http://www.litech.org/tayga)

Next steps

- Ready for WGLC?
- Questions, comments, feedback?
- Thank you for your attention!