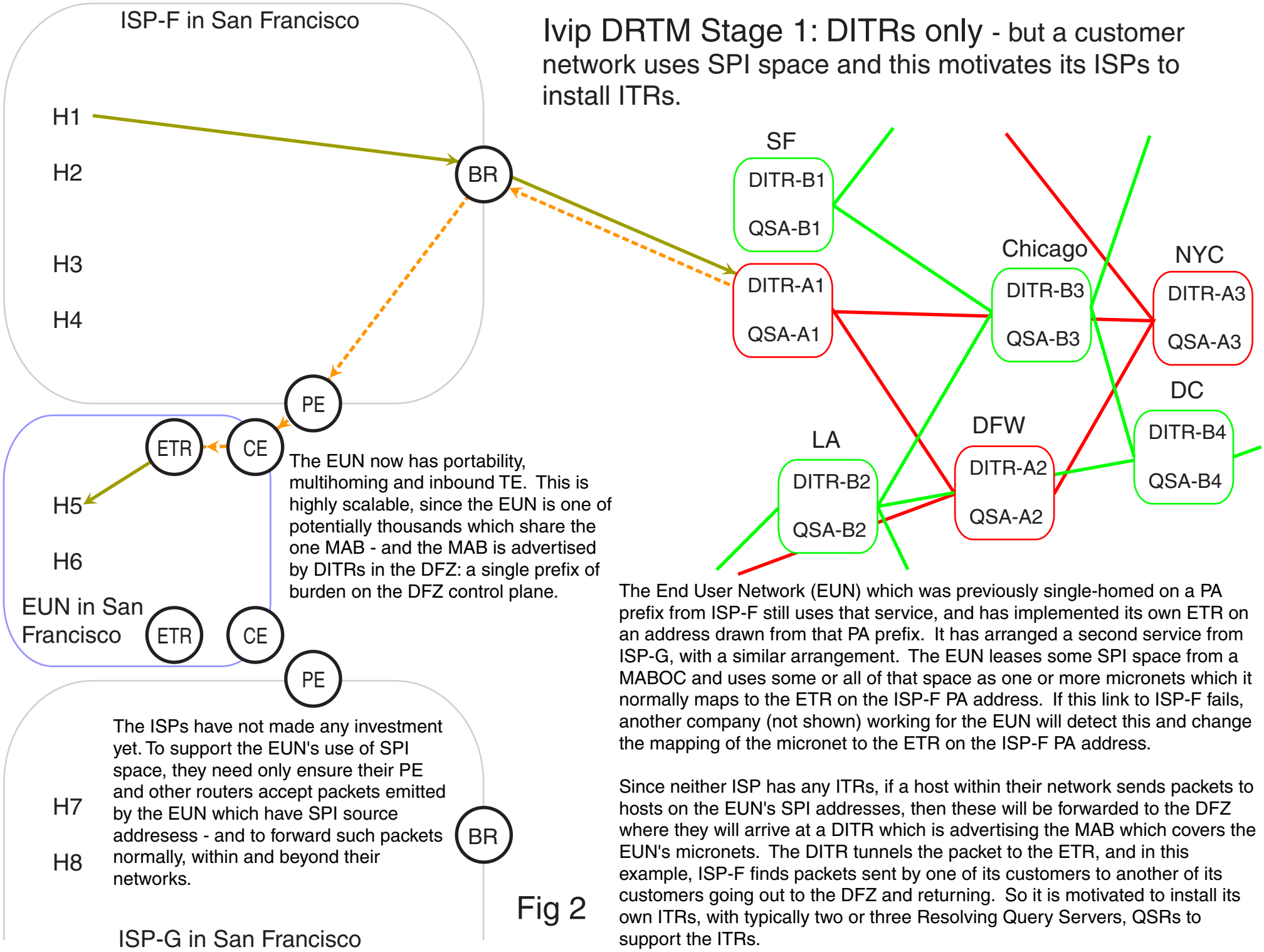
Ivip DRTM Stage 1: DITRs only - but a customer network uses SPI space and this motivates its ISPs to install ITRs.



The EUN now has portability, multihoming and inbound TE. This is highly scalable, since the EUN is one of potentially thousands which share the one MAB - and the MAB is advertised by DITRs in the DFZ: a single prefix of burden on the DFZ control plane.

The ISPs have not made any investment yet. To support the EUN's use of SPI space, they need only ensure their PE and other routers accept packets emitted by the EUN which have SPI source addresess - and to forward such packets normally, within and beyond their networks.

Fig 2

The End User Network (EUN) which was previously single-homed on a PA prefix from ISP-F still uses that service, and has implemented its own ETR on an address drawn from that PA prefix. It has arranged a second service from ISP-G, with a similar arrangement. The EUN leases some SPI space from a MABOC and uses some or all of that space as one or more micronets which it normally maps to the ETR on the ISP-F PA address. If this link to ISP-F fails, another company (not shown) working for the EUN will detect this and change the mapping of the micronet to the ETR on the ISP-F PA address.

Since neither ISP has any ITRs, if a host within their network sends packets to hosts on the EUN's SPI addresses, then these will be forwarded to the DFZ where they will arrive at a DITR which is advertising the MAB which covers the EUN's micronets. The DITR tunnels the packet to the ETR, and in this example, ISP-F finds packets sent by one of its customers to another of its customers going out to the DFZ and returning. So it is motivated to install its own ITRs, with typically two or three Resolving Query Servers, QSRs to support the ITRs.