P1394.b & DVB
Opportunities & Considerations

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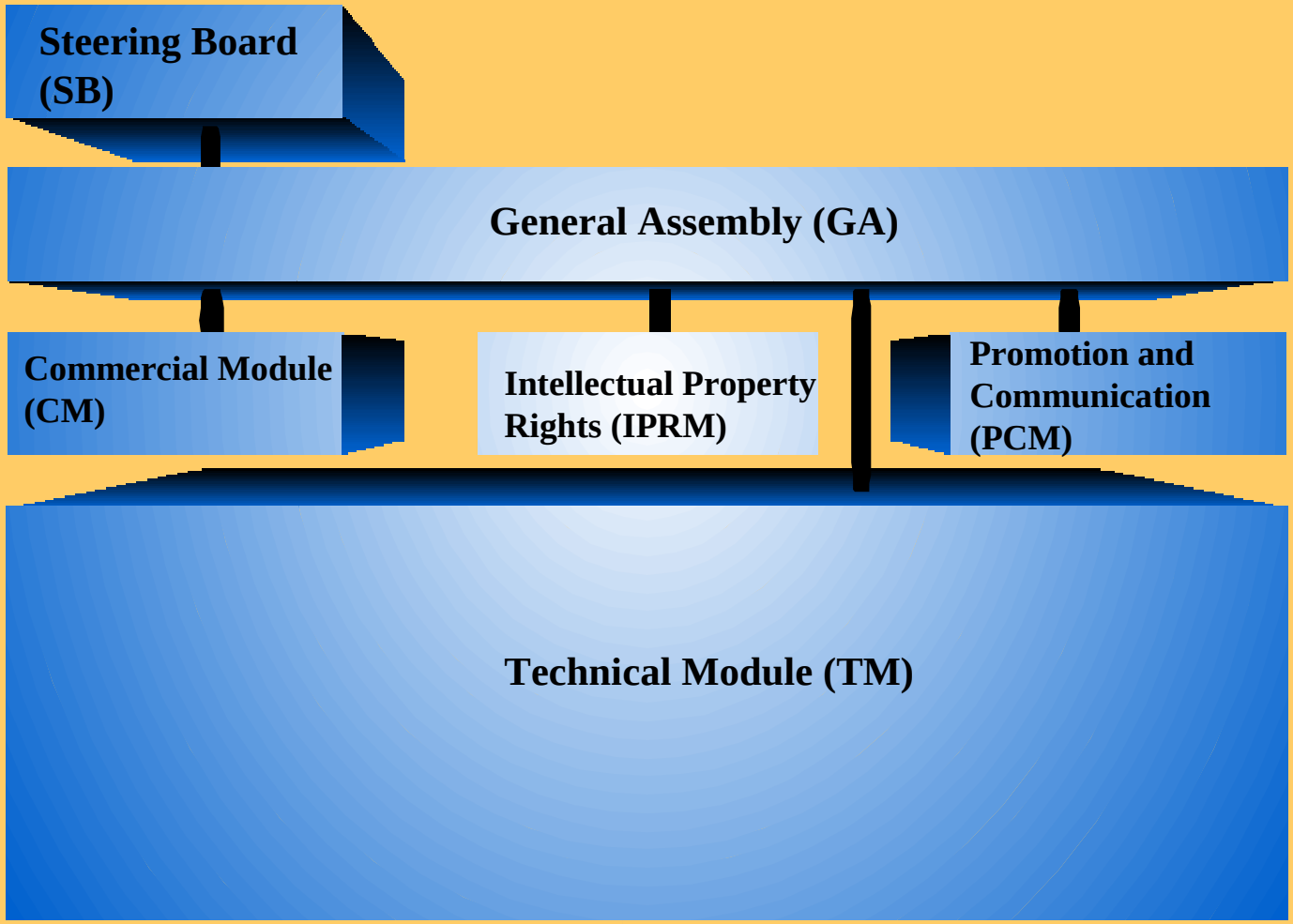
What is the DVB Project ?

- A market-driven initiative to standardise digital broadcasting worldwide
- DVB was formed in September 1993
- DVB now has more than 220 members from more than 30 countries covering the whole broadcast chain:
  - Broadcasters (Canal+, ARD, TF1, ..)
  - Manufacturers (CE, professsional, ...)
  - Network operators (Astra, BT, FT, DT, …)
- Official relations to Regulatory bodies (ETSI, CENELEC, EC)
  - DVB specs result in official ETSI norms

Structure of the DVB Project



DVB core principles

Open Standards

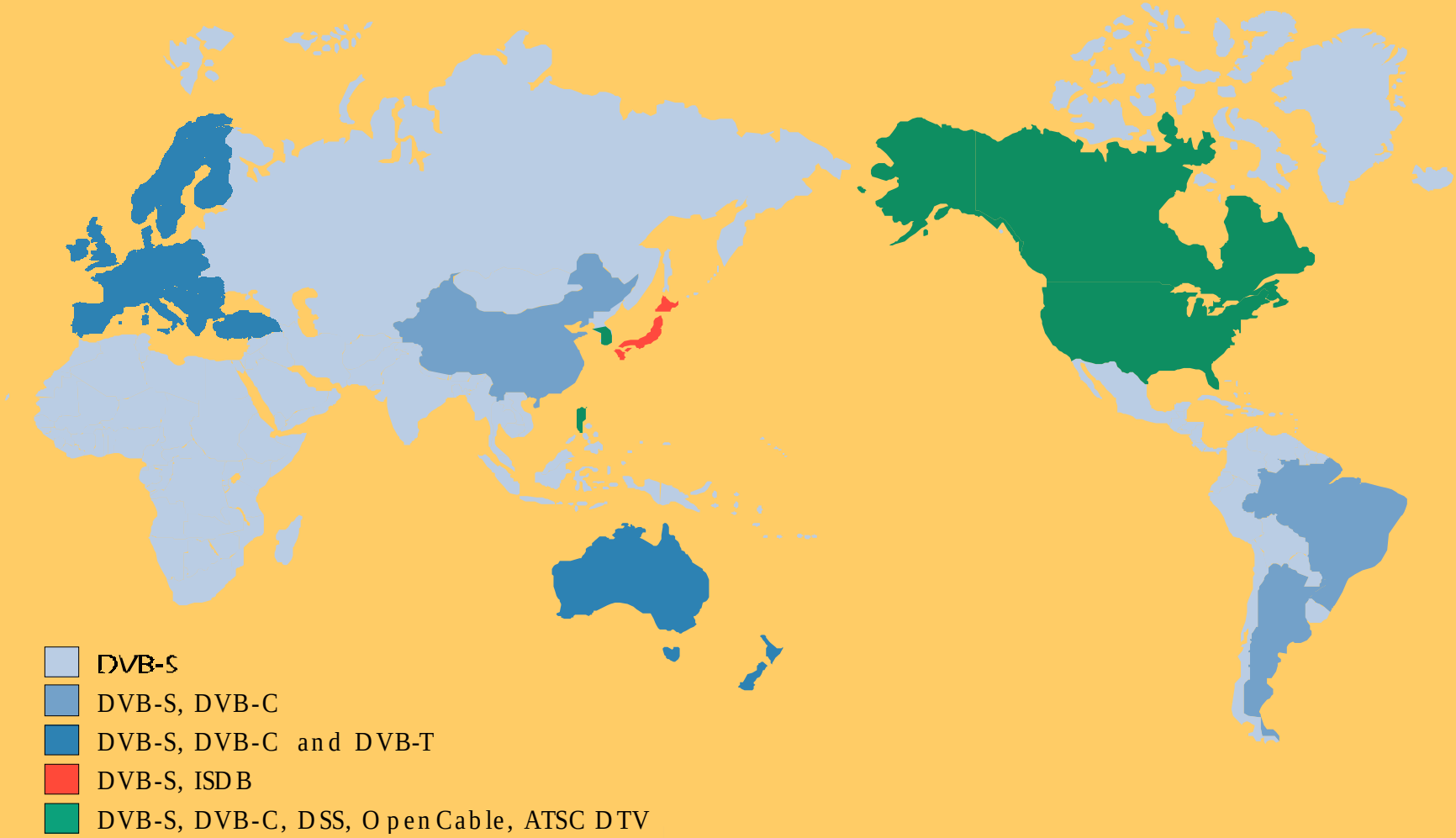
Interoperable

Market - driven

DVB services

- Non-interactive Services
  - digital TV and game broadcasting, EPG
- One-to-Many Interactive Services
  - quiz, polling, voting
- One-to-One Interactive Services
  - Data broadcasting, content download
  - high speed Internet over the air (6-33 Mb/s)

World Adoption of DVB



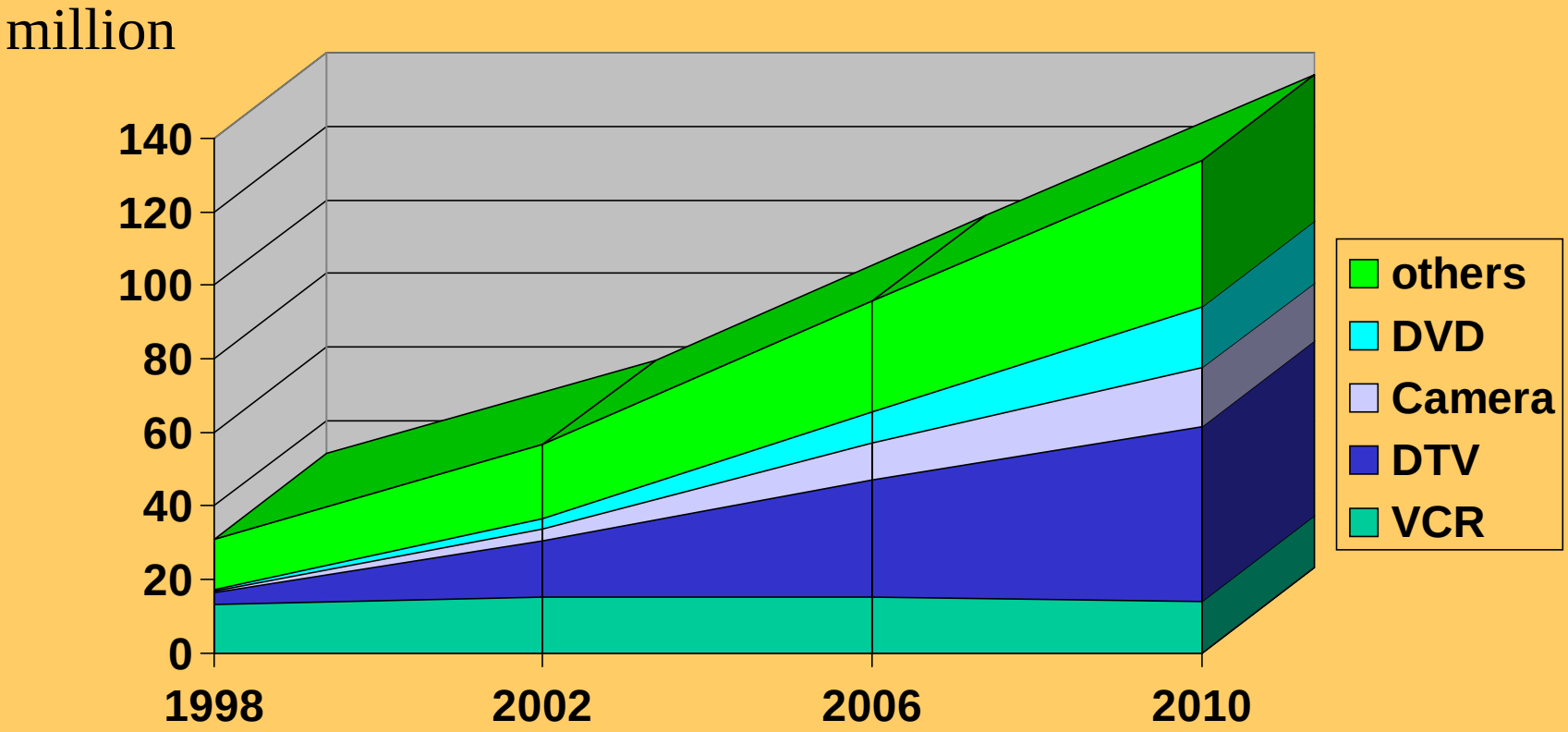
On the market, on the air...

- The “DVB Directory” lists:
  - over 250 DVB services
  - in 50 countries
  - on six continents
  - 93 manufacturers
  - hundreds of DVB-compliant products for cable, satellite, terrestrial, community antenna and microwave distribution
- A recent workshop on DVB-T hardware showed commercially available solutions from some 20 manufacturers

Some marketing figures

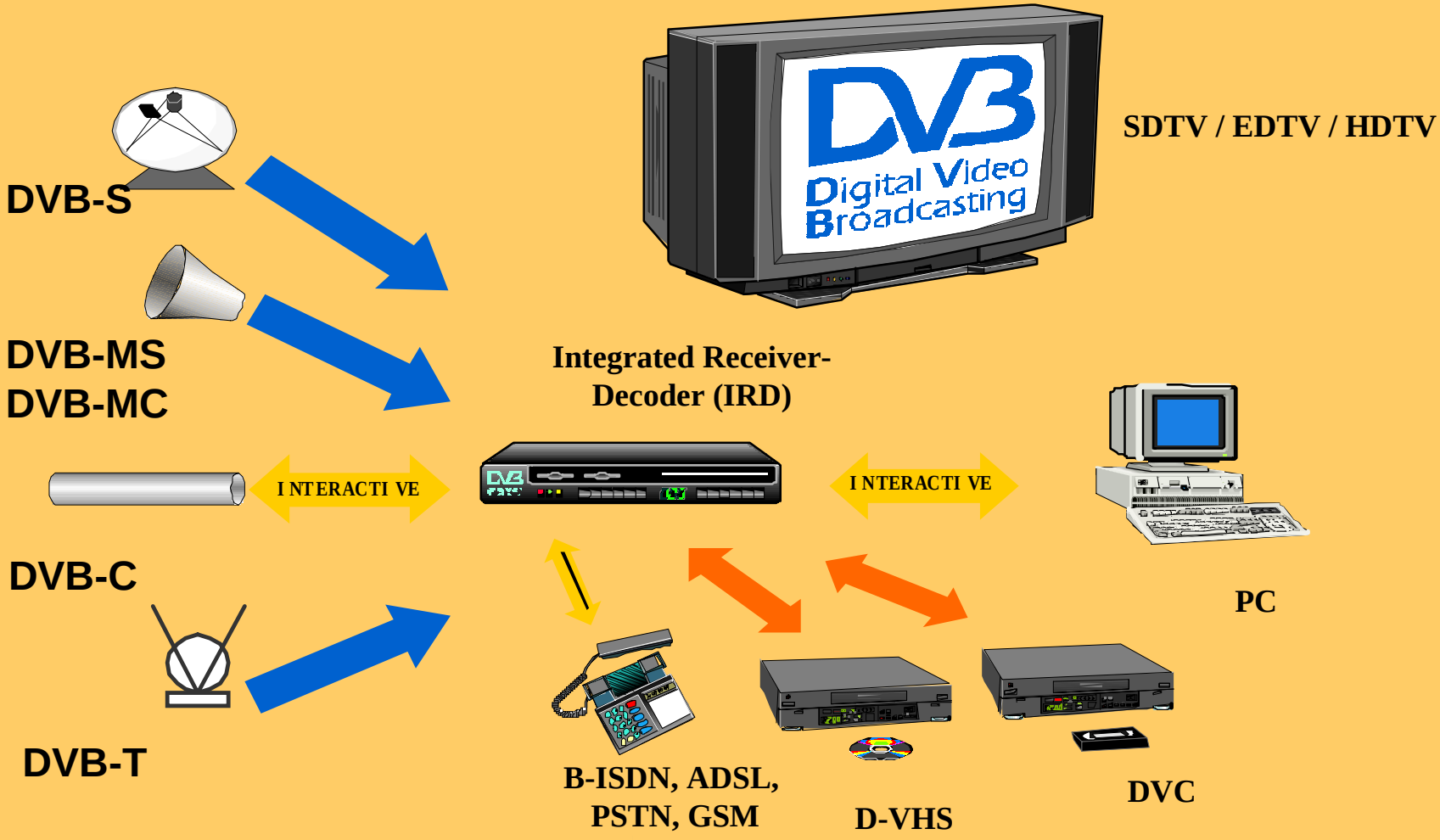
- **Household penetration:** starting from approximately 1,5 digital products per household in 1999, this penetration is going to rise consistently up to 3,5 products per household in 2010
- **DTV** = Digital-STB or Integrated DTV
  - **Camera** = DVC-Camcorder + Digital Still Cameras
  - **Others** = PC products + Notebooks + Audio + other new digital products

Potential sales of 1394 products



Source: Strategy Analytics, Understanding & Solutions, Dataquest and Philips, Sony internal estimation

DVB in the home: DVB-IHDN



DVB-IHDN Commercial Requirements

- maximum 3 simultaneous TSs @ 40 Mb/s to different rooms on the IHDN
- hop length of 50m without separate repeater
  - satellite/cable operators are pushing to connect the DVB-IRD in the living room to the PC upstairs for Internet Access
- no incorrect connections possible by users
- LOW COST!!

DVB Concerns on 1394.b

- Most devices in the home will be 1394.a
- DVB accepts 1394 as the IHDN technology and the device connector
  - 1394-1995
  - 1394.a
  - 1394.b for long distance room-to-room
- full border functionality not complete yet, needs time
  - DVB steering board sent an official letter to P1394.b early 1998 and P1394.b promised spec by end 1998
  - it is now april 1999 and we are at version 0.17: this is an increasing concern to DVB for room-to-room 1394

What does DVB need from 1394.b

- The cheapest possible solution capable of:
  - ≤ 50m without separate repeater
  - ≤ 200 Mb/s in one arbitration domain
  - interoperable with 1394-1995 and 1394.a
- a stable spec by mid-1999, demo's in 1999
- solution for long distance, not high speeds

A possible solution for DVB

- we think a simple POF repeater “R node” is needed
  - fullfills a real and valid market need by connecting several legacy a-clouds over long-distance at 200 Mb/s
  - “simple” or no border functionality at the cost of some efficiency loss in b-clouds
  - frozen as a section of 1394.b spec quickly
- we do not want to remove or delay BOSS
- We appreciate your serious consideration for this issue

The “simple repeater”

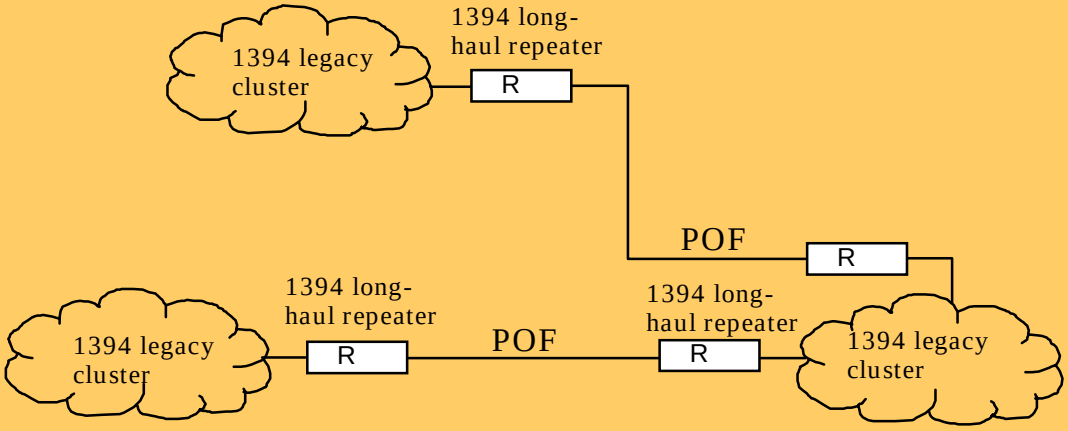


Figure 1 a

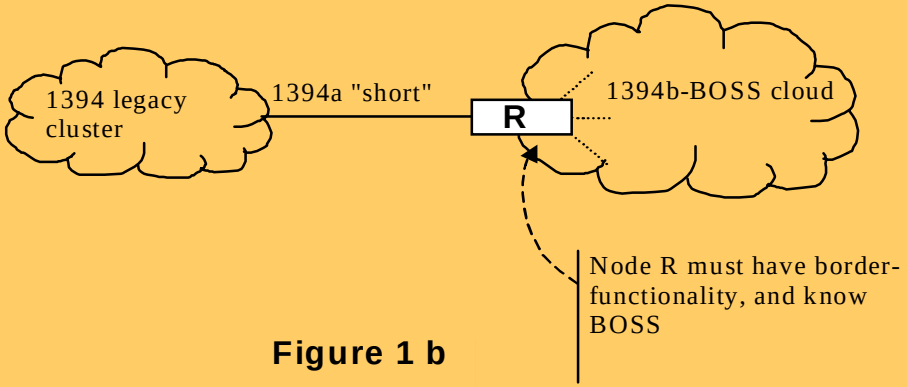


Figure 1 b