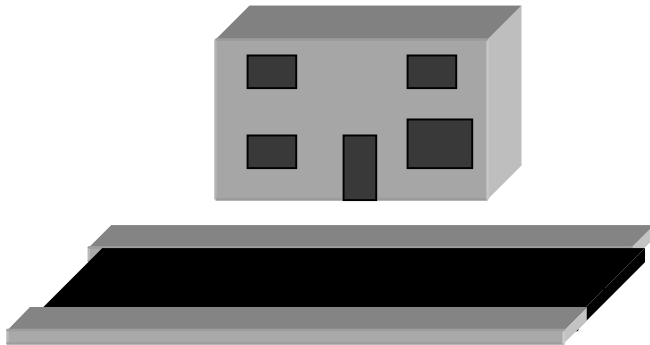# RRP; an SCI perspective

Dr. David V. James

(past editor, IEEE Std 1596)

Basic issues

- Limits of scalability
- Supported topologies
- Transport services
- Arbitration
- Packet formats
- Initialization (plug & play)

Limits of scalability
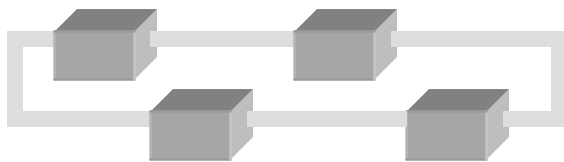
- Geosynchronous
  - Terrestrial
    - The metro area
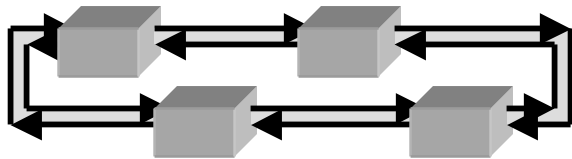   - To the curb
        - To the home

Supported topologies

- Limits of scalability
- Supported topologies
- Transport services
- Arbitration
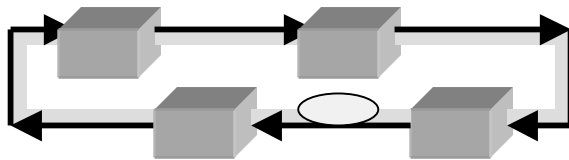- Packet formats
- Initialization (plug & play)
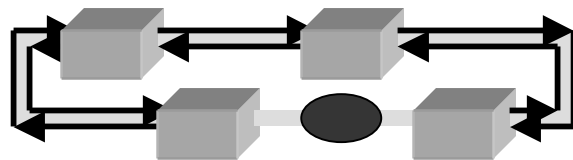
Supported topologies

- A physical ring

- Dual ringlets

- Single ringlet

- Duplex ringlet

Basic issues

- Limits of scalability
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Transport services

$$D_{ab} < t < (D_{ab} + 1ms)$$

- Synchronous

- Asynchronous

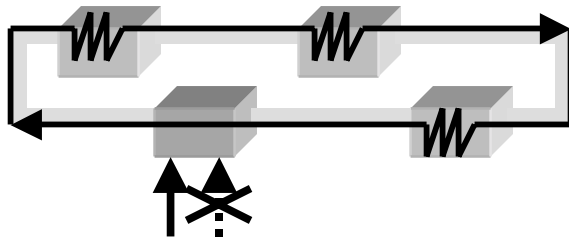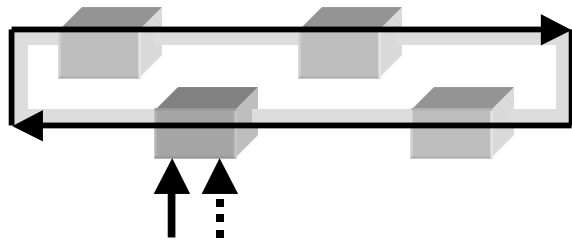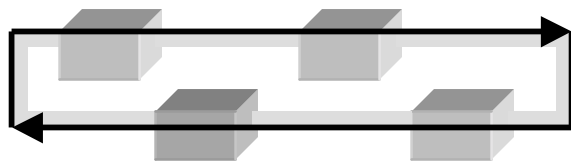$$D_{ab} < t < (NxD_{aa})$$

  - negotiated

  - residual

  - opportunistic

Basic issues

- Limits of scalability
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- Arbitration
- Packet formats
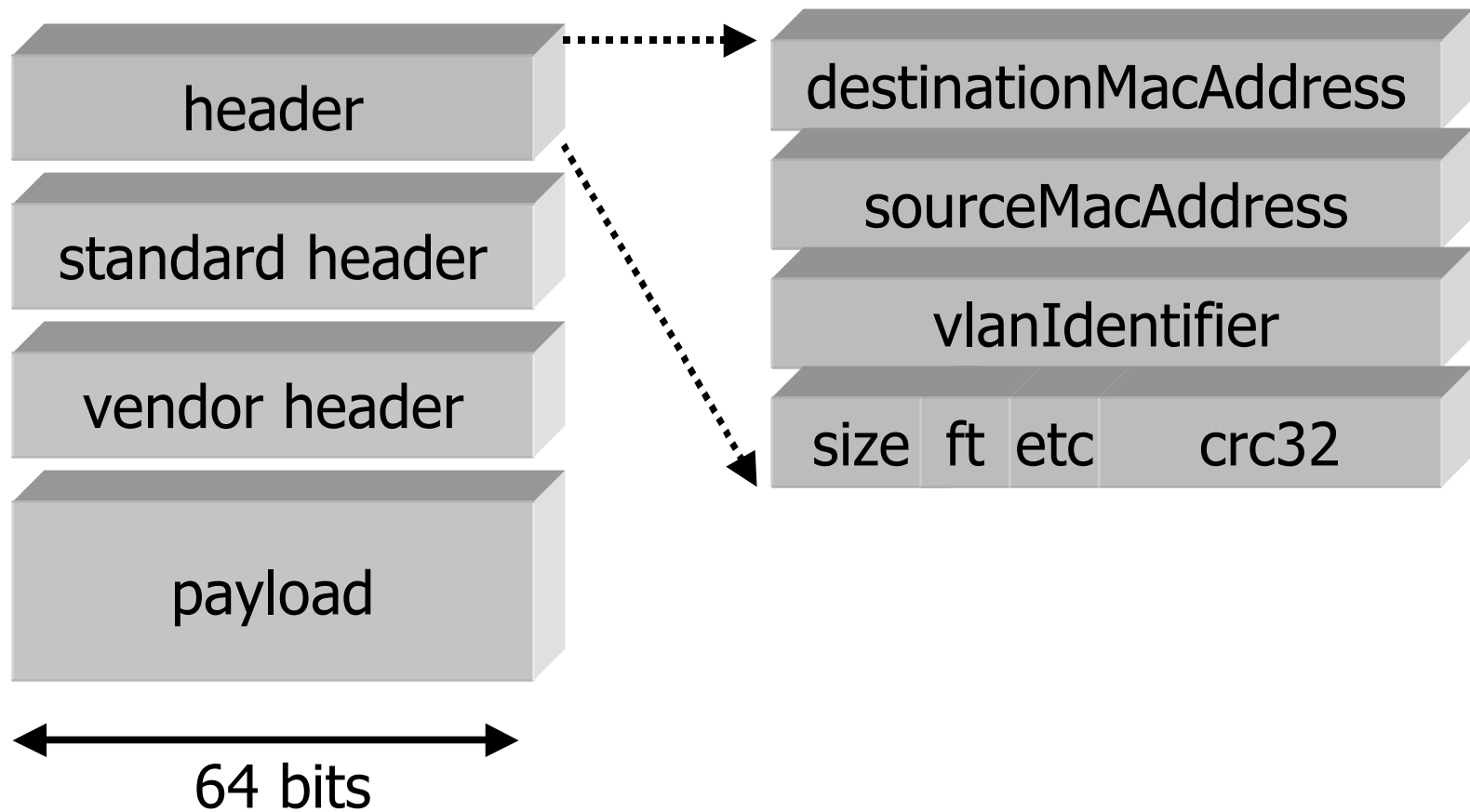- Initialization (plug & play)

Arbitration

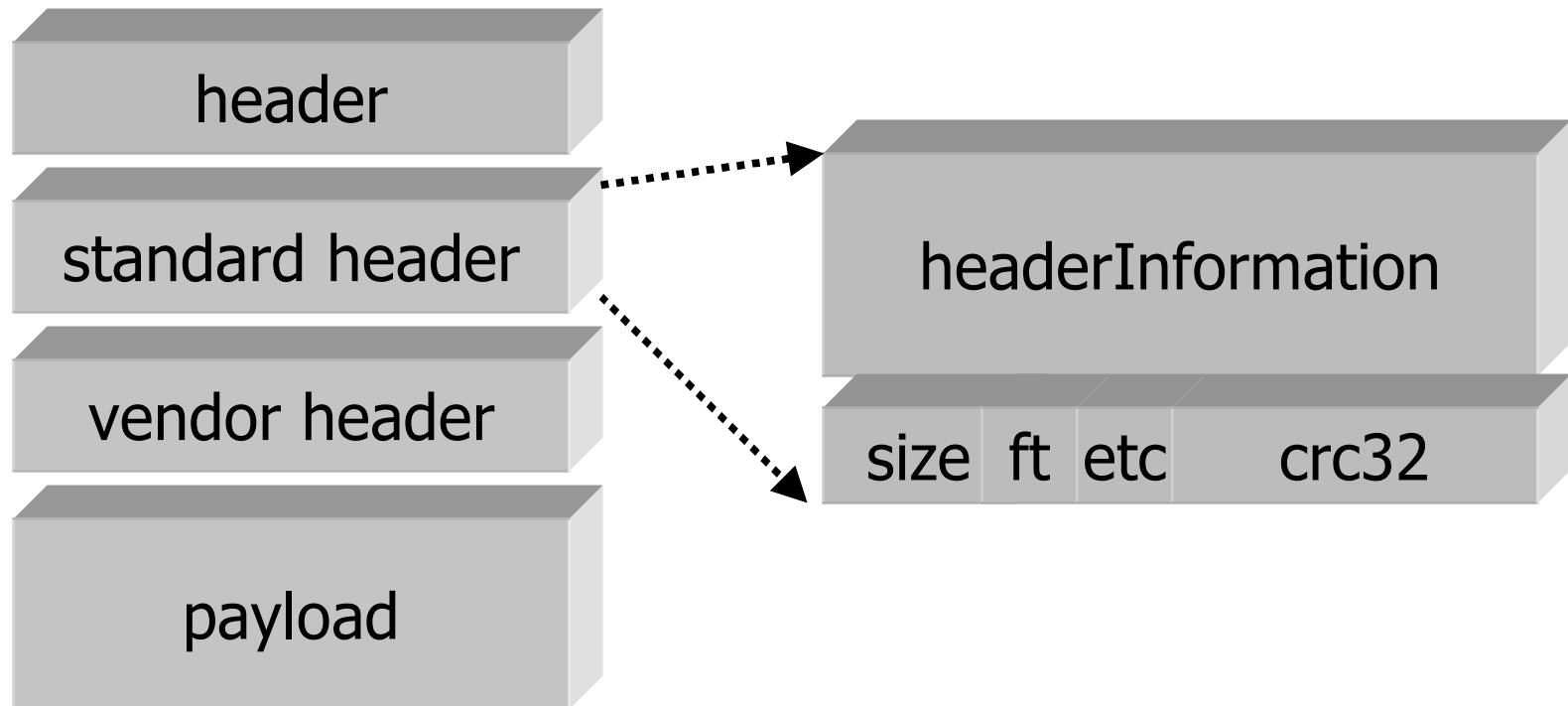- The enabled ringlet

- Unloaded freedom

- Loaded restriction

Basic issues

- Limits of scalability
- Supported topologies
- Transport services
- Arbitration
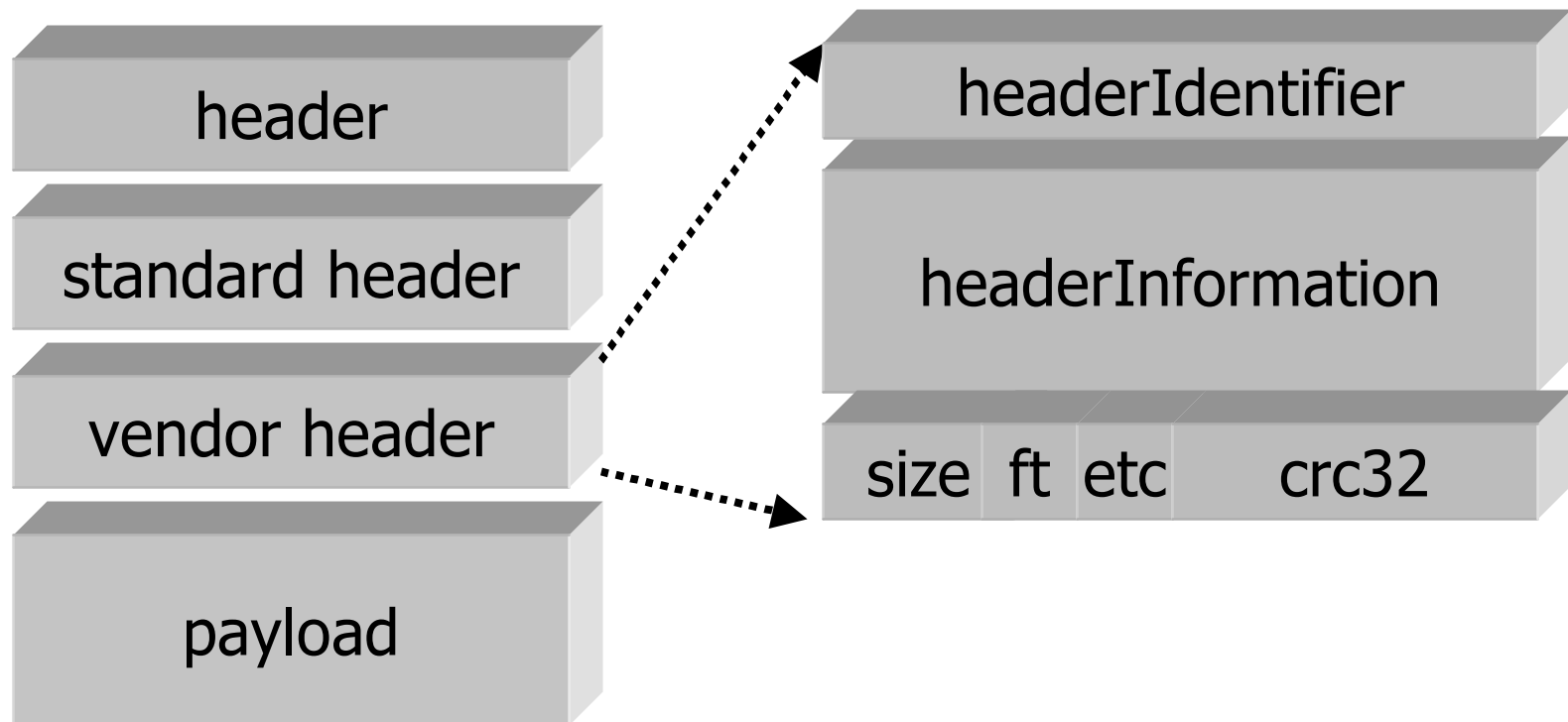- Packet formats
- Initialization (plug & play)

Packet header

Standard extended header
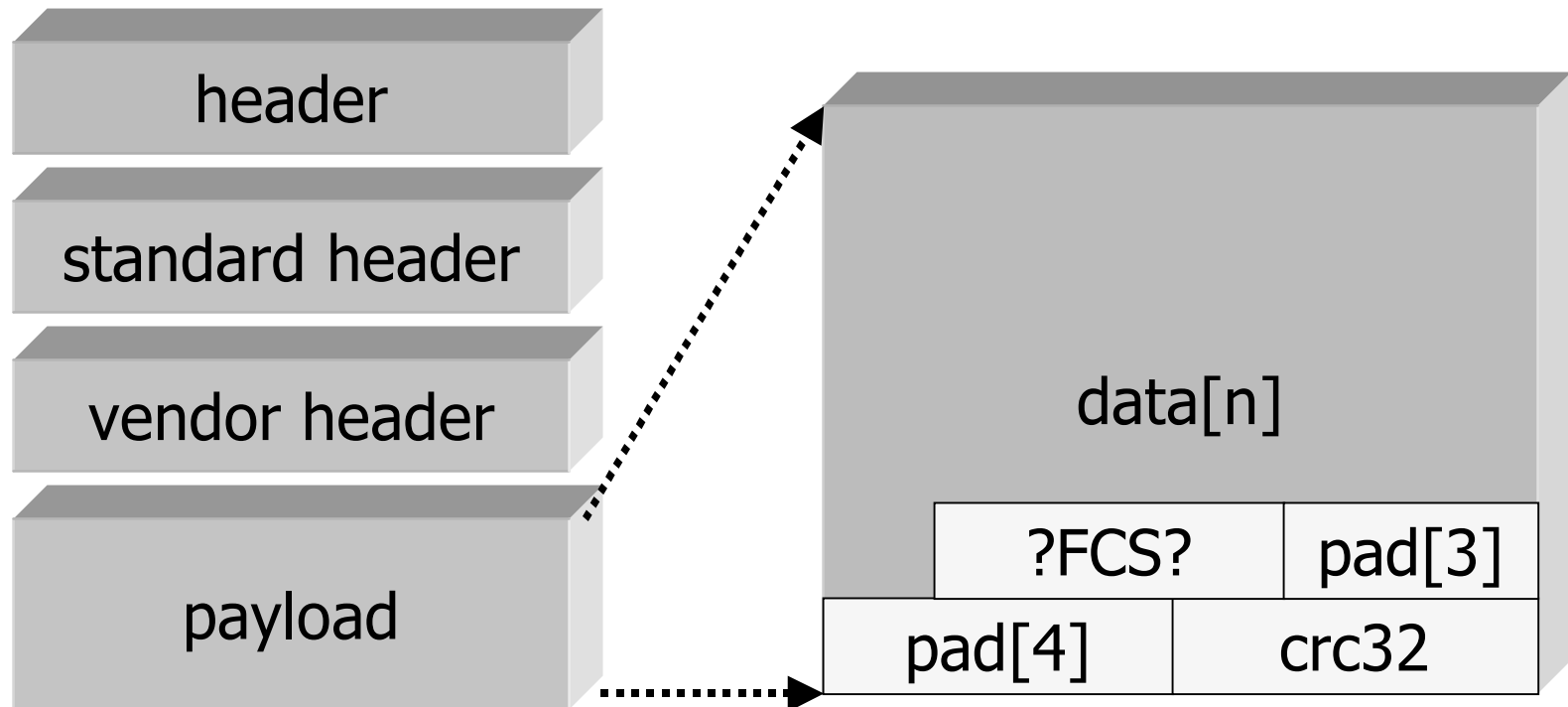
header

standard header

vendor header

payload

headerInformation

| size | ft | etc | crc32 |

Vendor dependent header

header

standard header

vendor header

payload

headerIdentifier

headerInformation

size ft etc   crc32

Pad-aligned payload

header

standard header

vendor header

payload

data[n]

?FCS?	pad[3]
pad[4]	crc32

Basic issues

- Limits of scalability
- Supported topologies
- Transport services
- Arbitration
- Packet formats
- Plug & play initialization (deferred)