



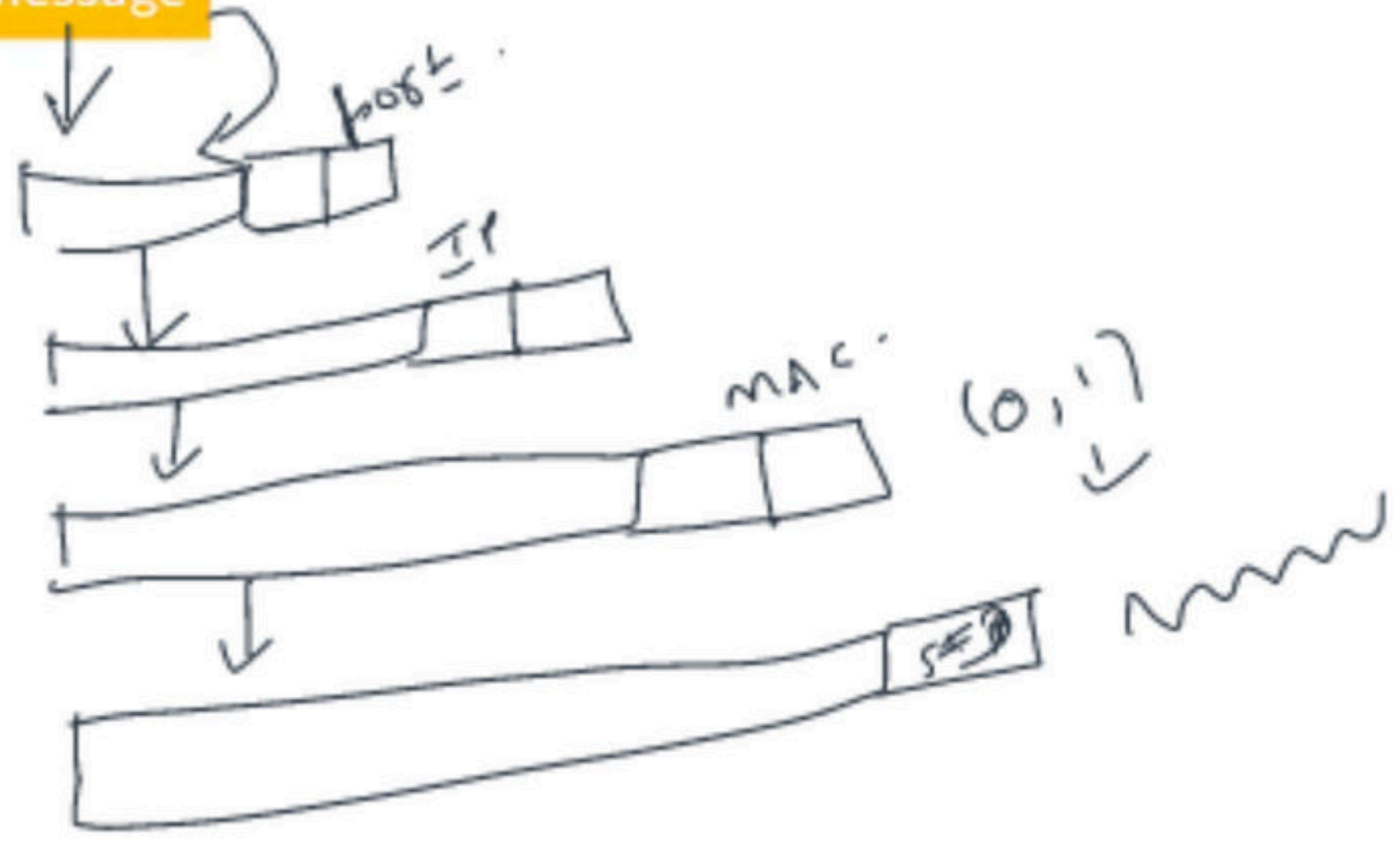
Fragmentation with Numerical Example - Part II and Doubt Clearing Session

Complete Course on Computer Networks - Part II



- Application Layer
- Transport Layer
- Network Layer
- Datalink Layer
- Physical Layer

Message



Application Layer

Transport Layer

Network Layer

Datalink Layer

Physical Layer

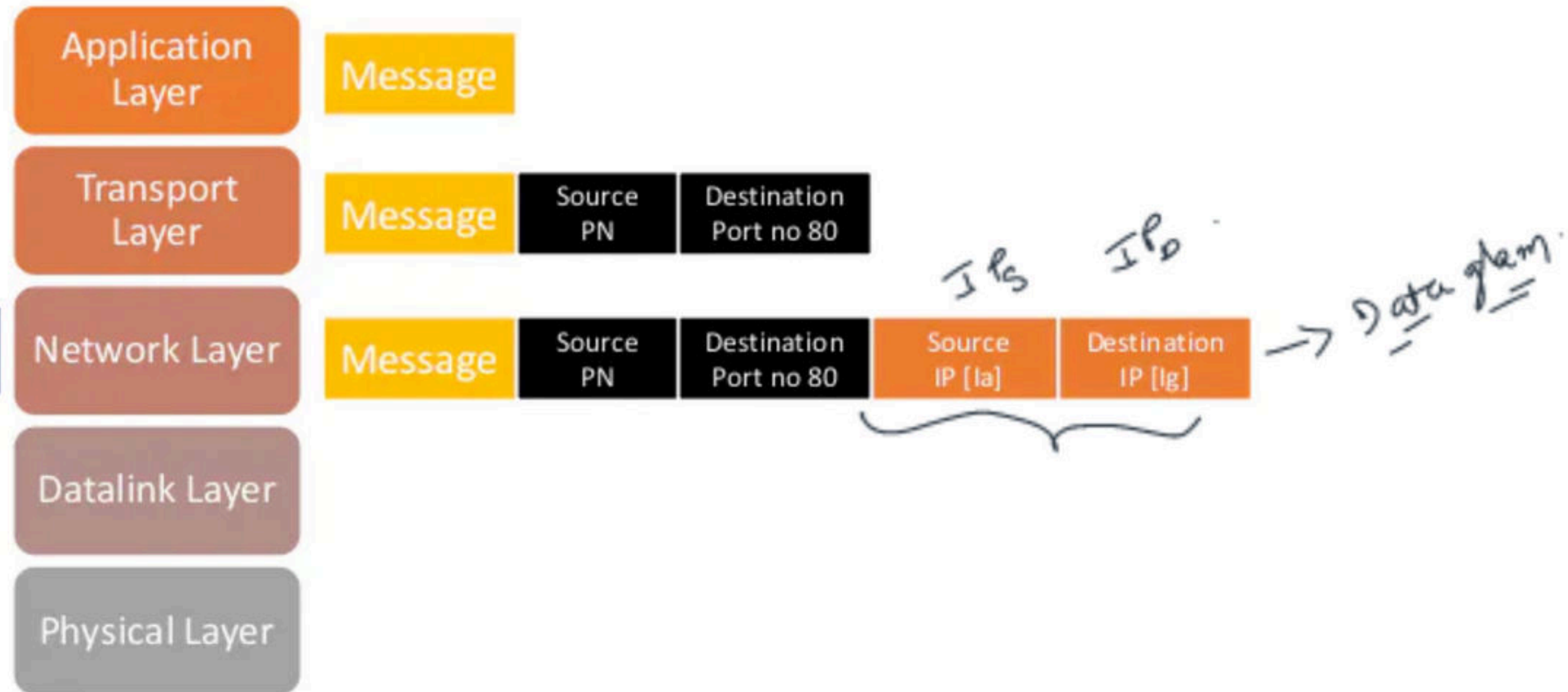
Message

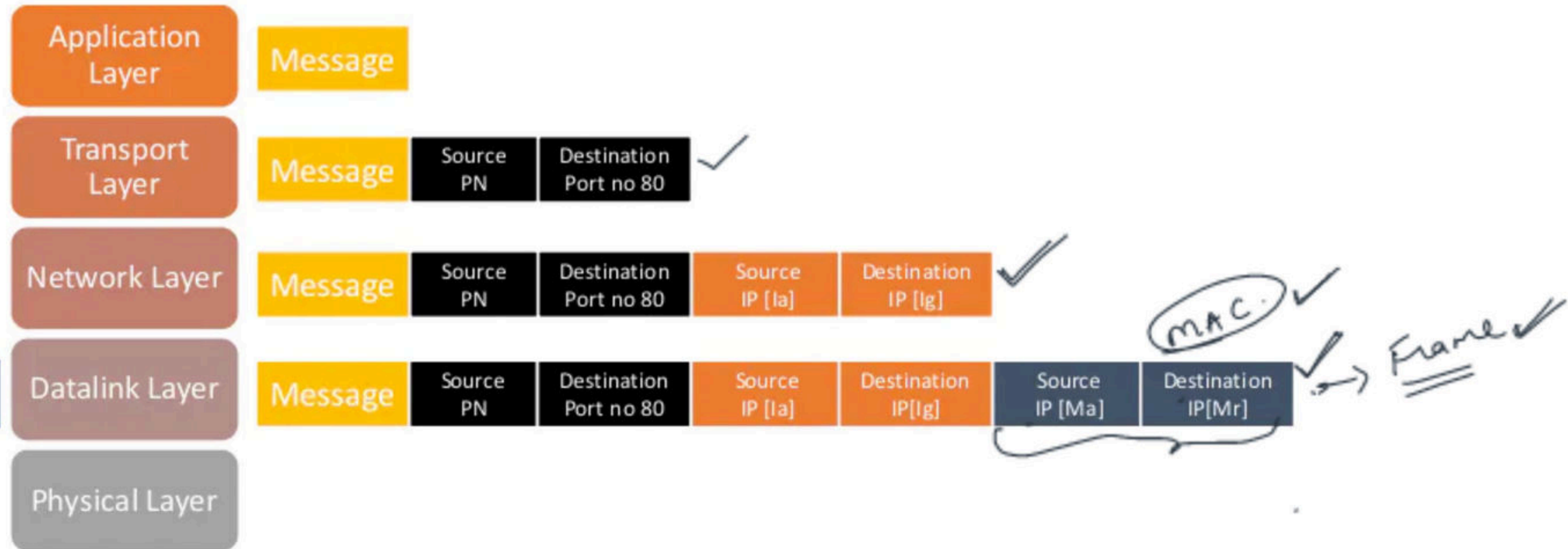
Message

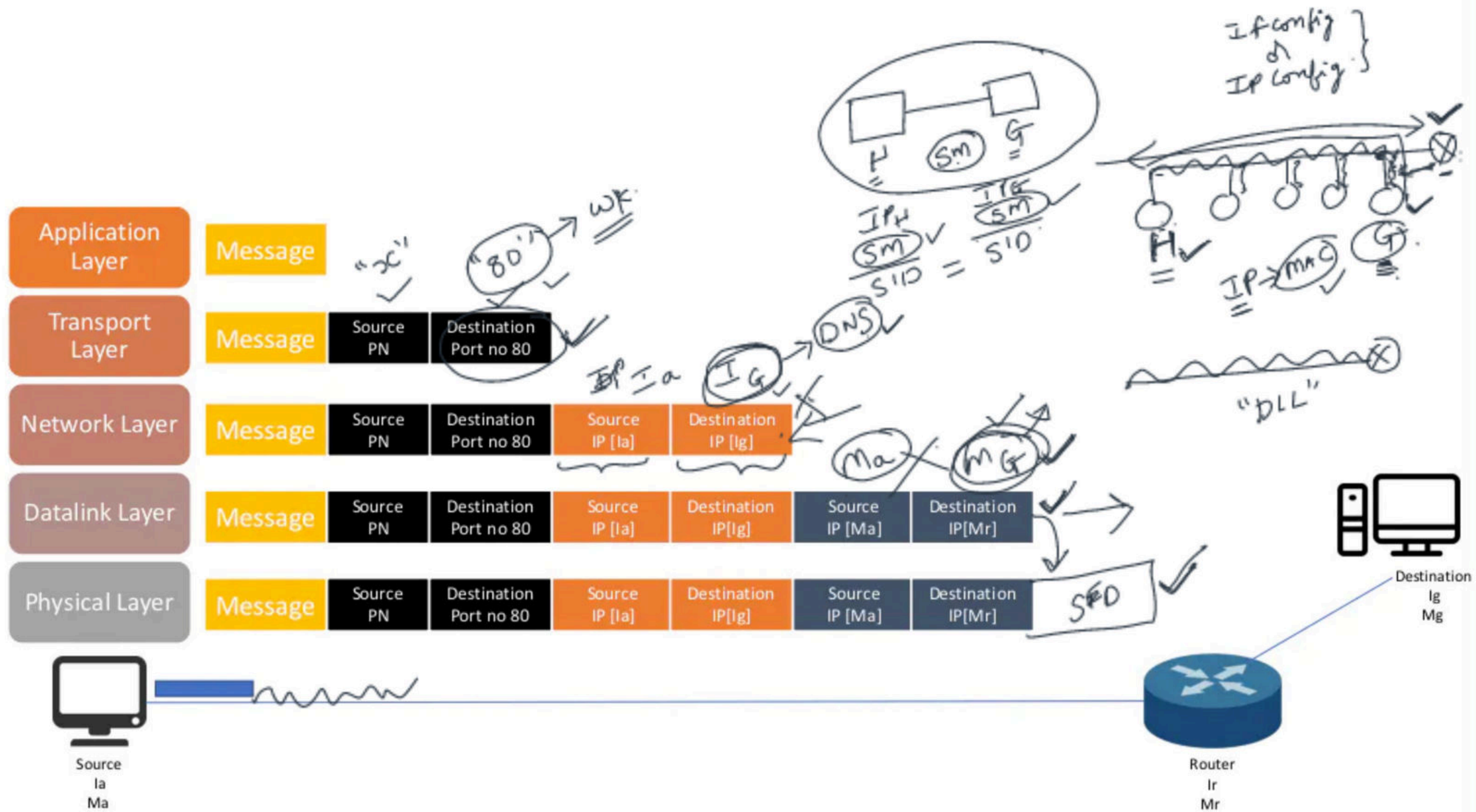
Source
PN

Destination
Port no 80

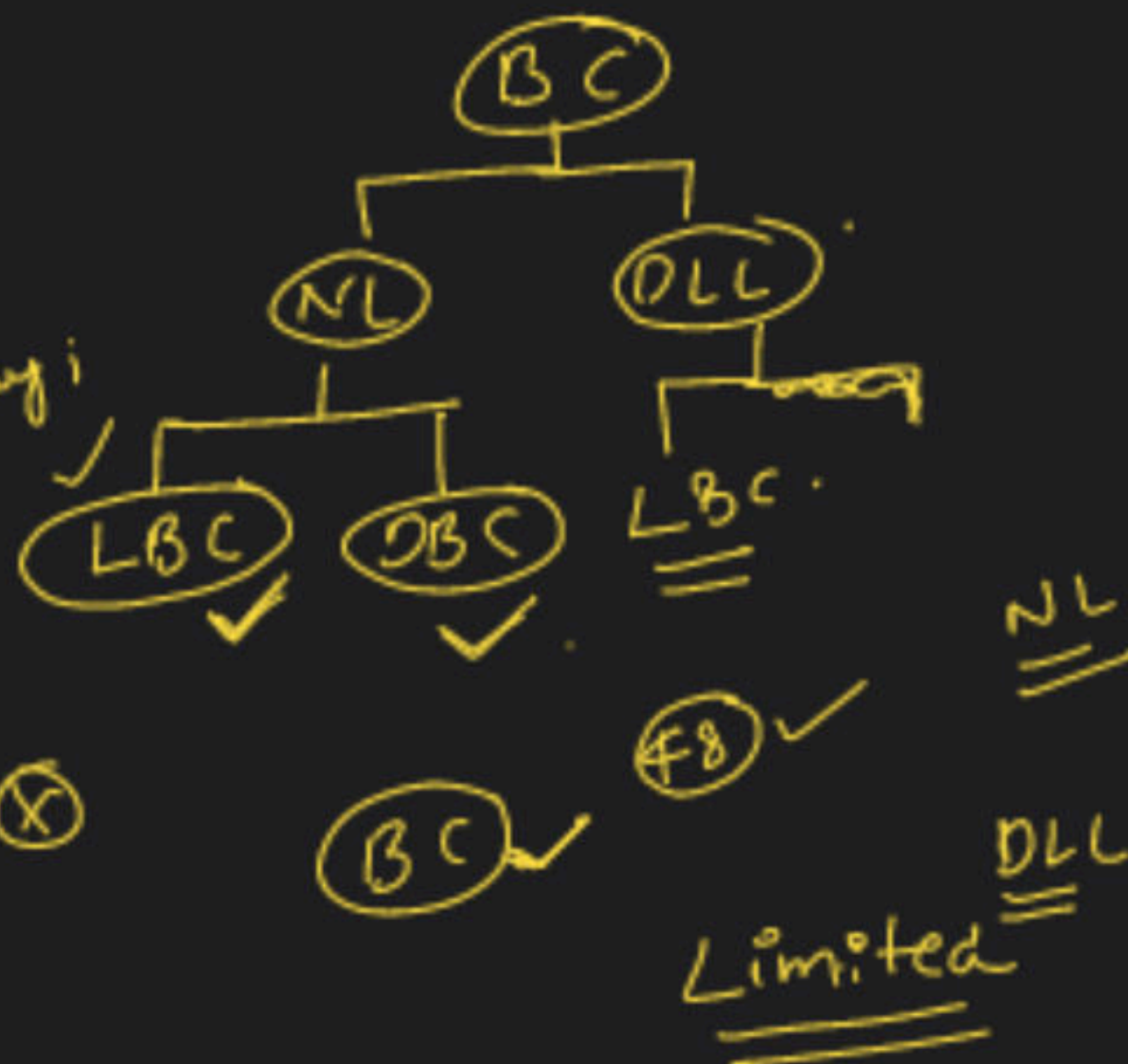
✓
"2c"
"Well Known"
→ Segment
header







BC - $\begin{cases} \text{NL} \\ \text{DLL} \end{cases}$

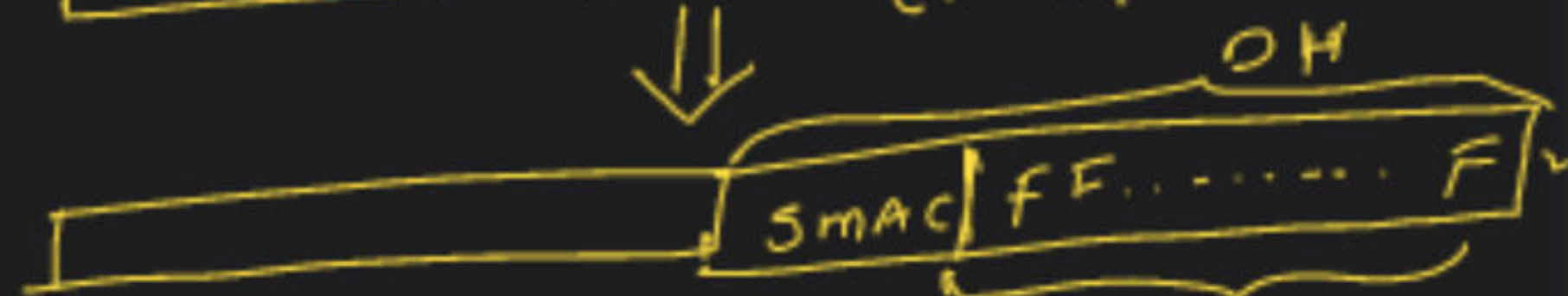
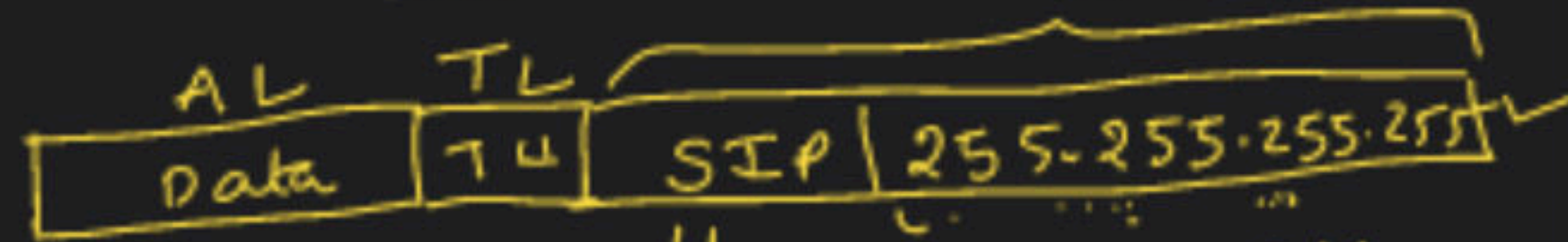


ARP ✓



✓ LBC → 255.255.255.255 ✓

PBC → $\frac{10}{\text{NID}} \cdot 255.255.255$ $\frac{N4}{\text{N4}}$

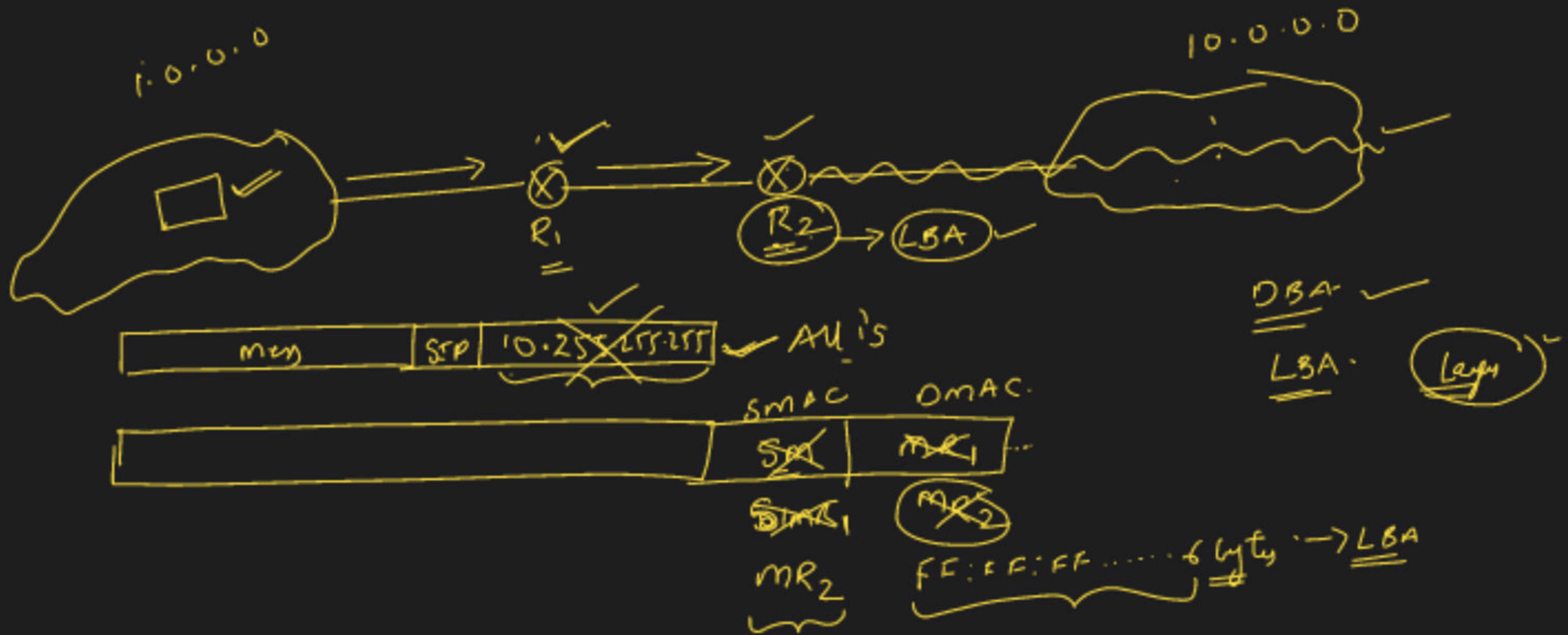


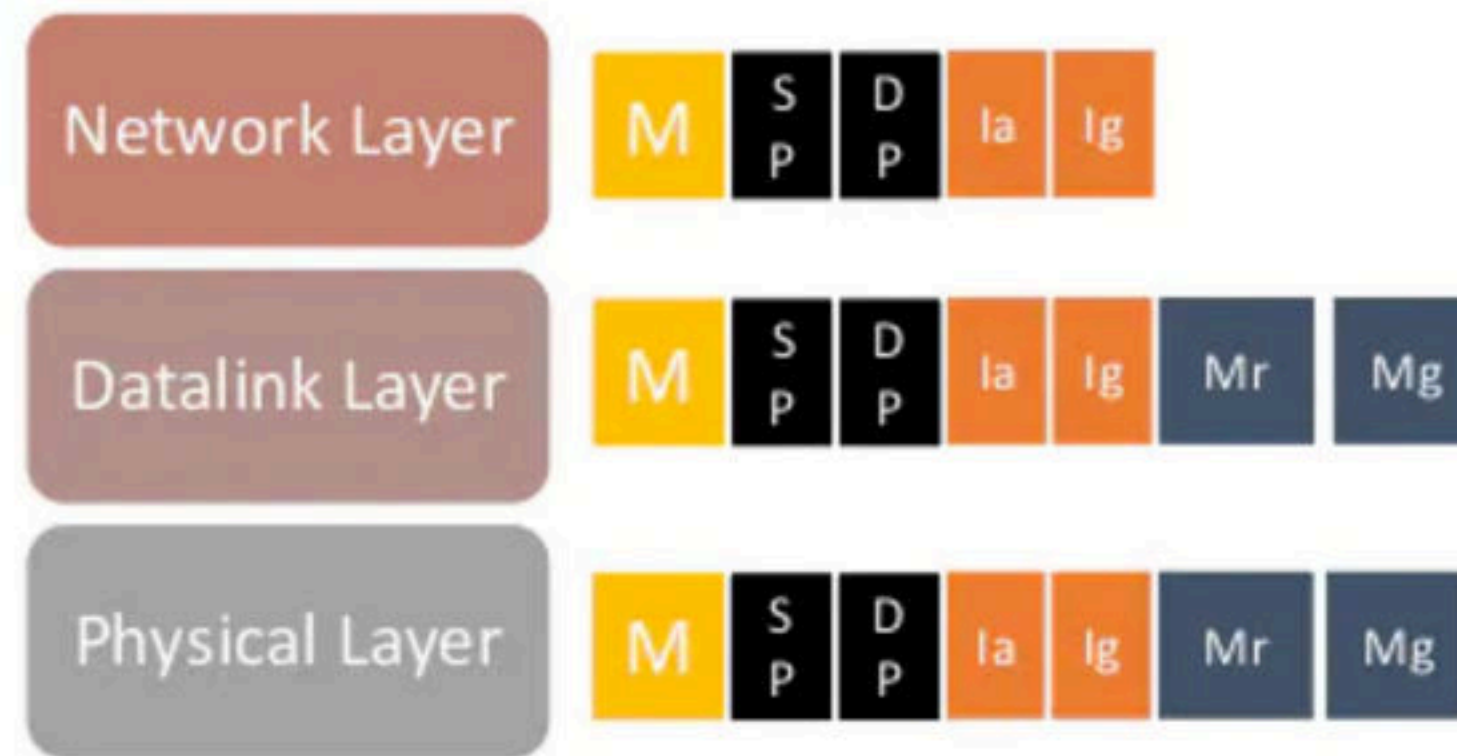
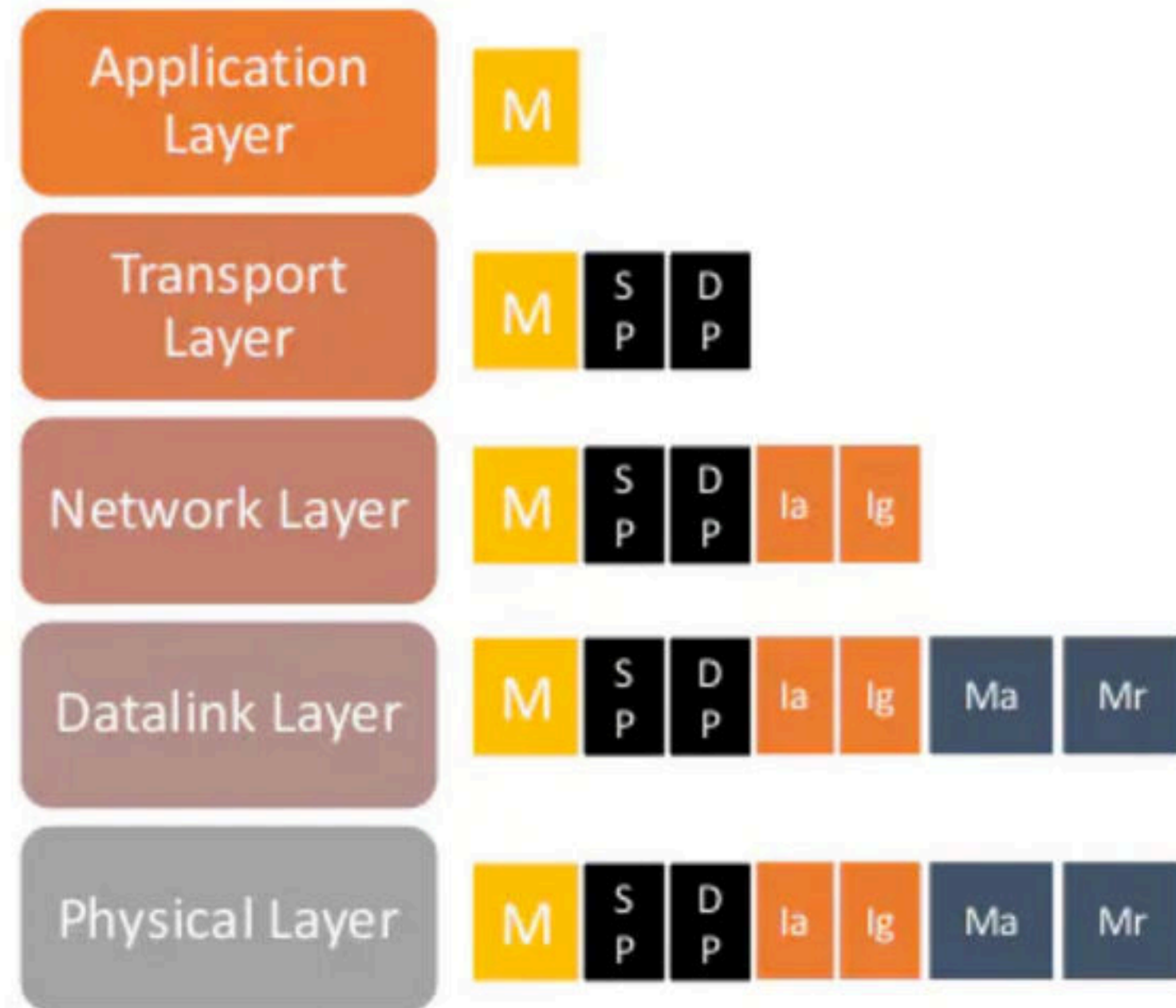
BA at DLL → AN's ✓ (A)B:12:18:CD:

4 bits
 $\frac{10101011}{A} \quad \frac{00010010}{3} \quad \frac{00010010}{1} \quad \frac{00010010}{2}$
 ... (48)
FF:FF:FF:FF:FF:FF

BC → DLL ✓
 BC → DLL → GOSS
NB







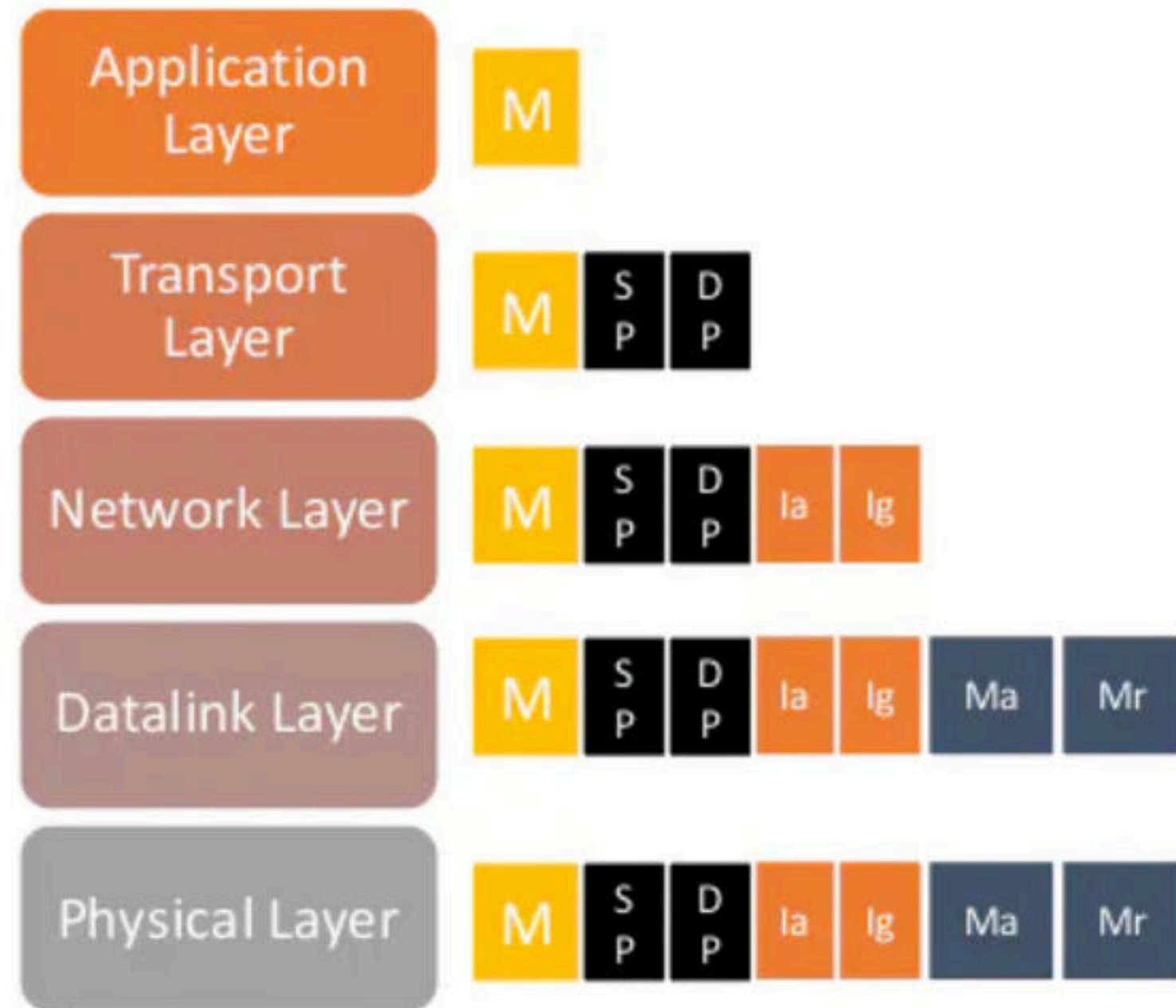
Source
Ia
Ma



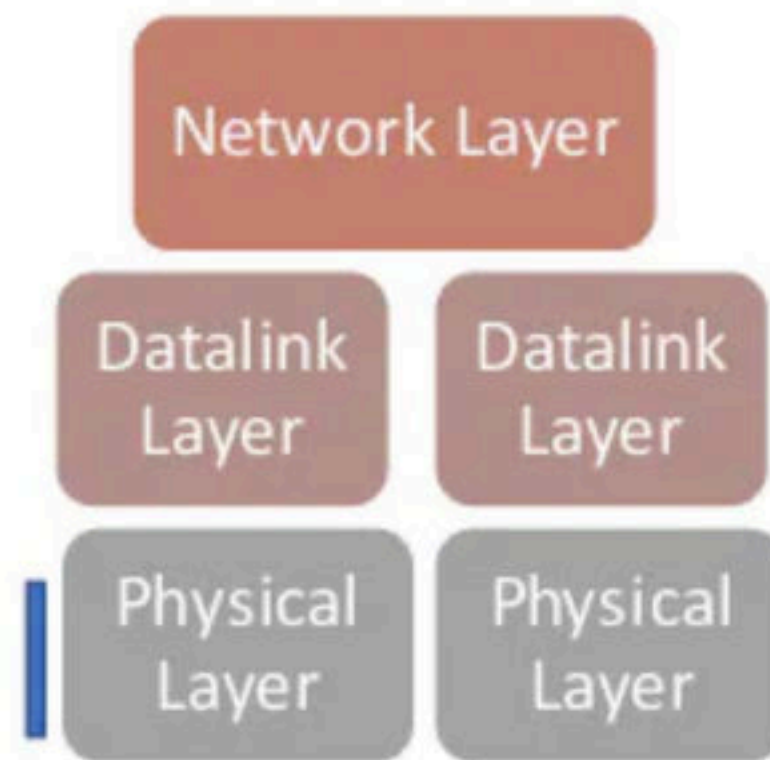
Router
Ir
Mr



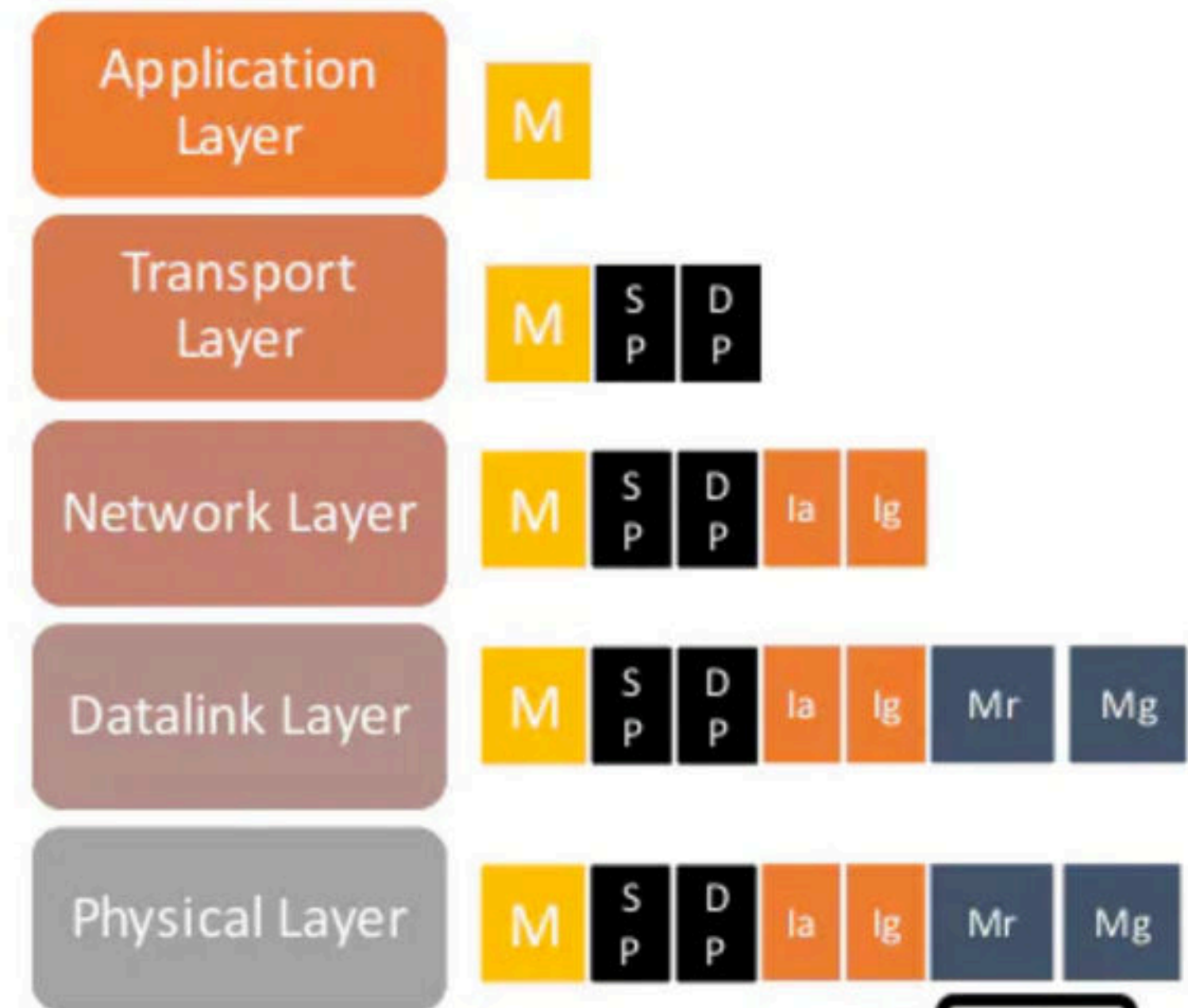
Destination
Ig
Mg



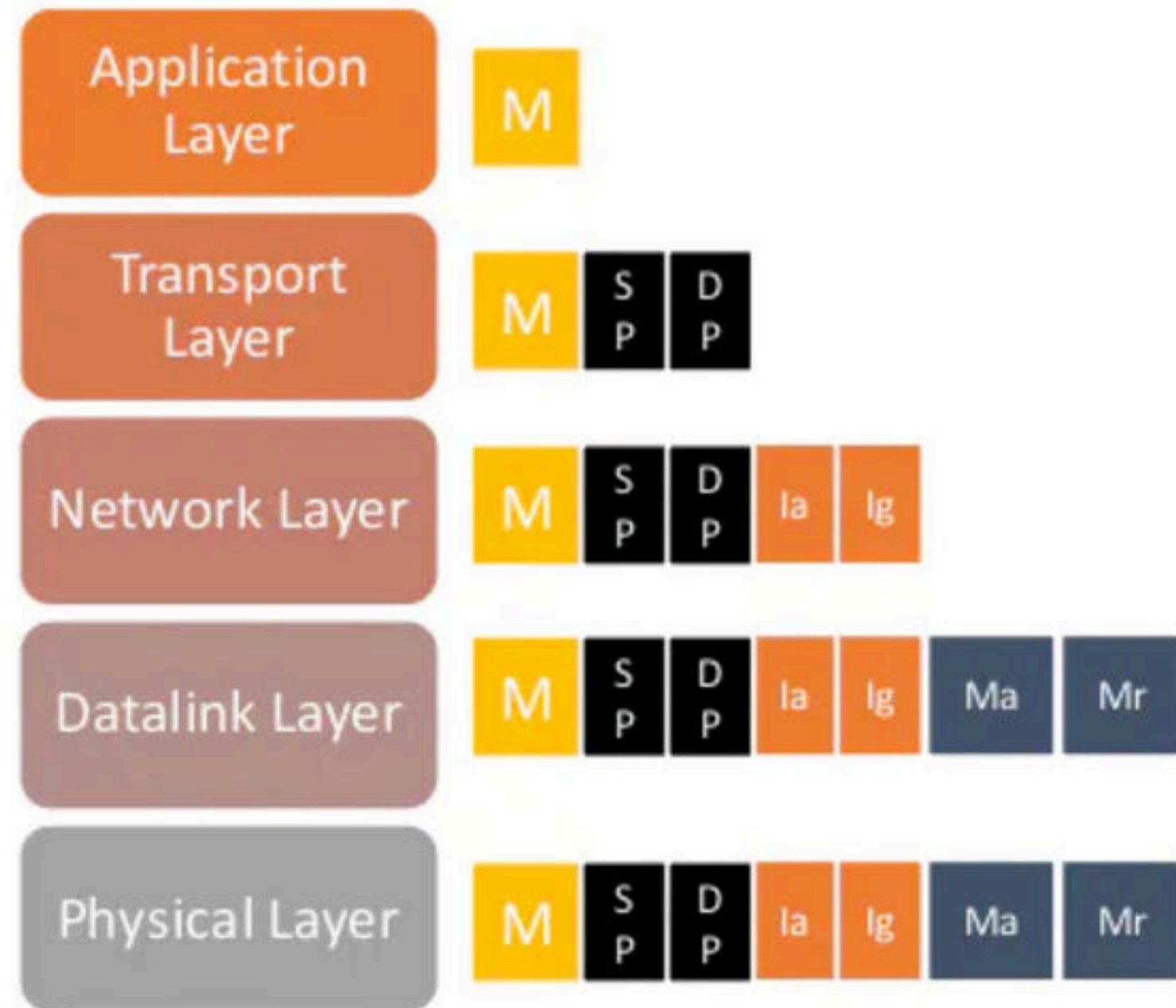
Source
Ia
Ma



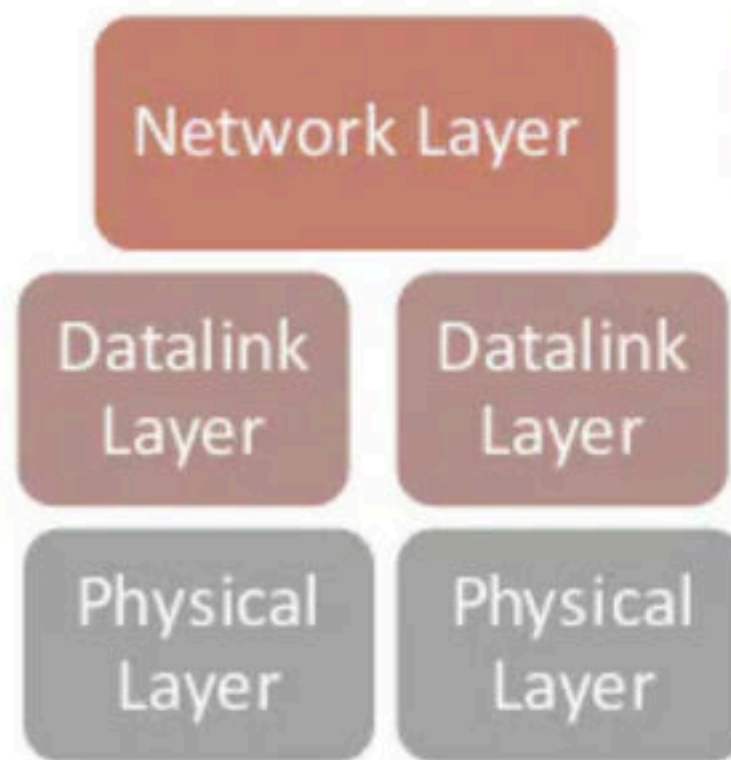
Router
Ir
Mr



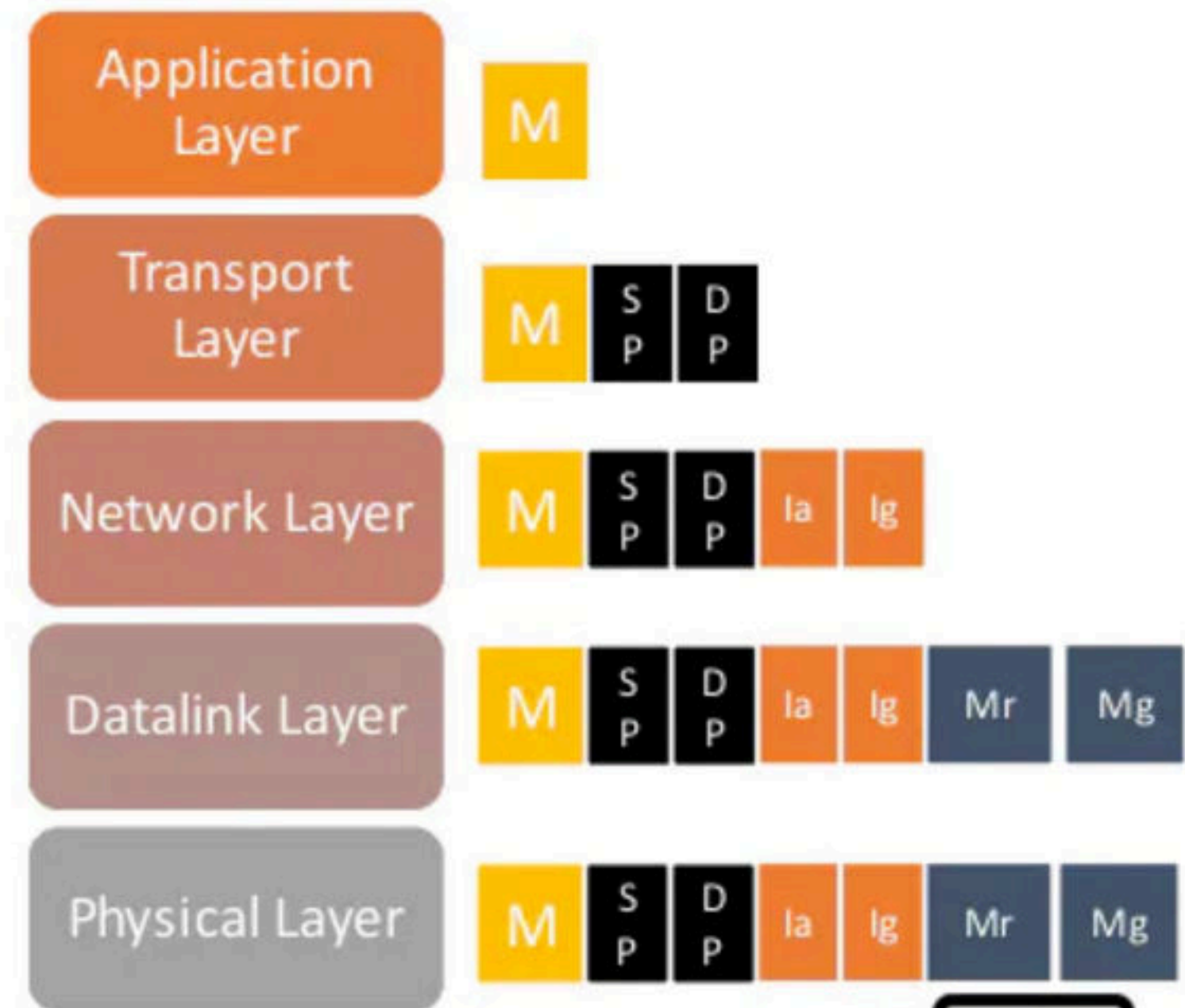
Destination
Ig
Mg



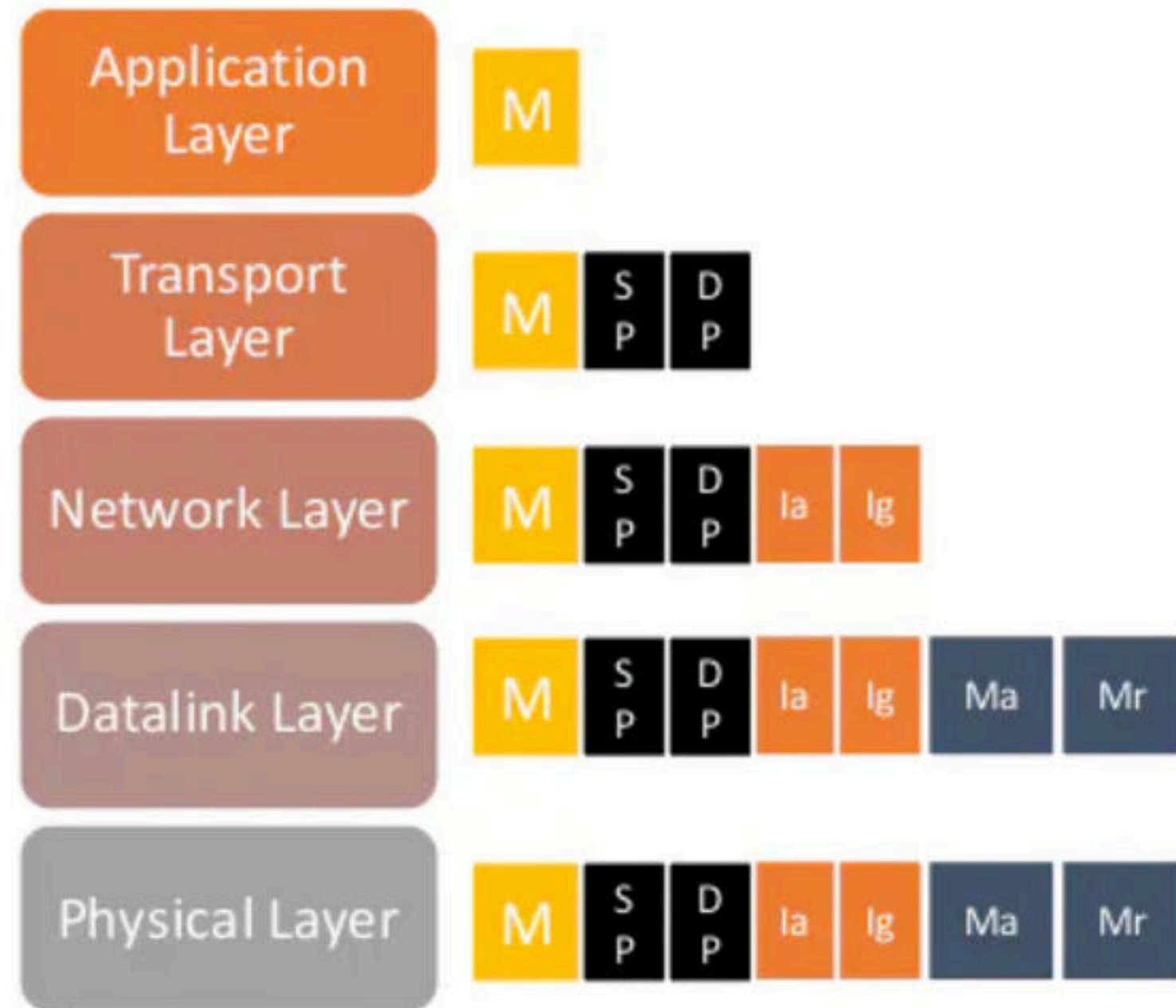
Source
Ia
Ma



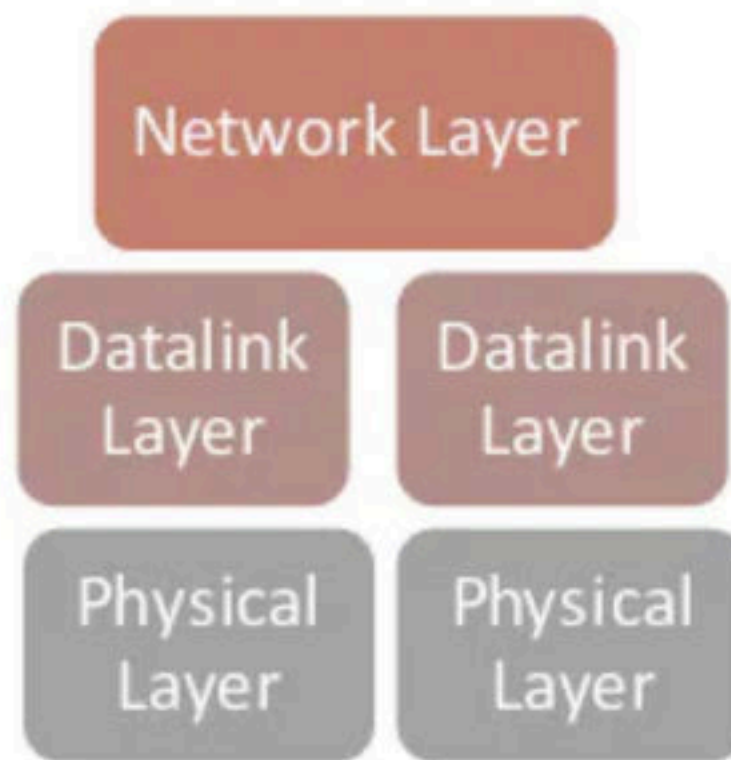
Router
Ir
Mr



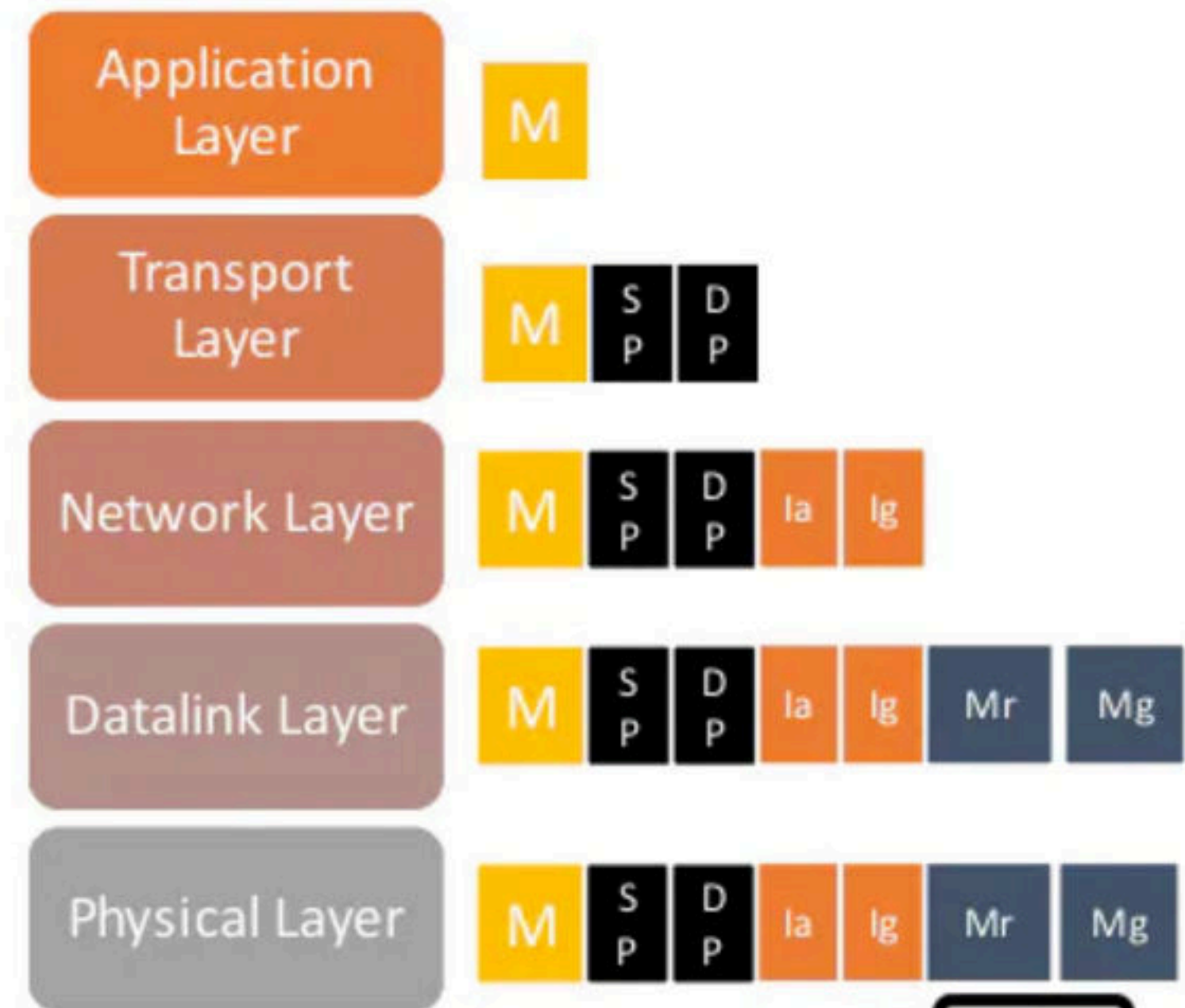
Destination
Ig
Mg



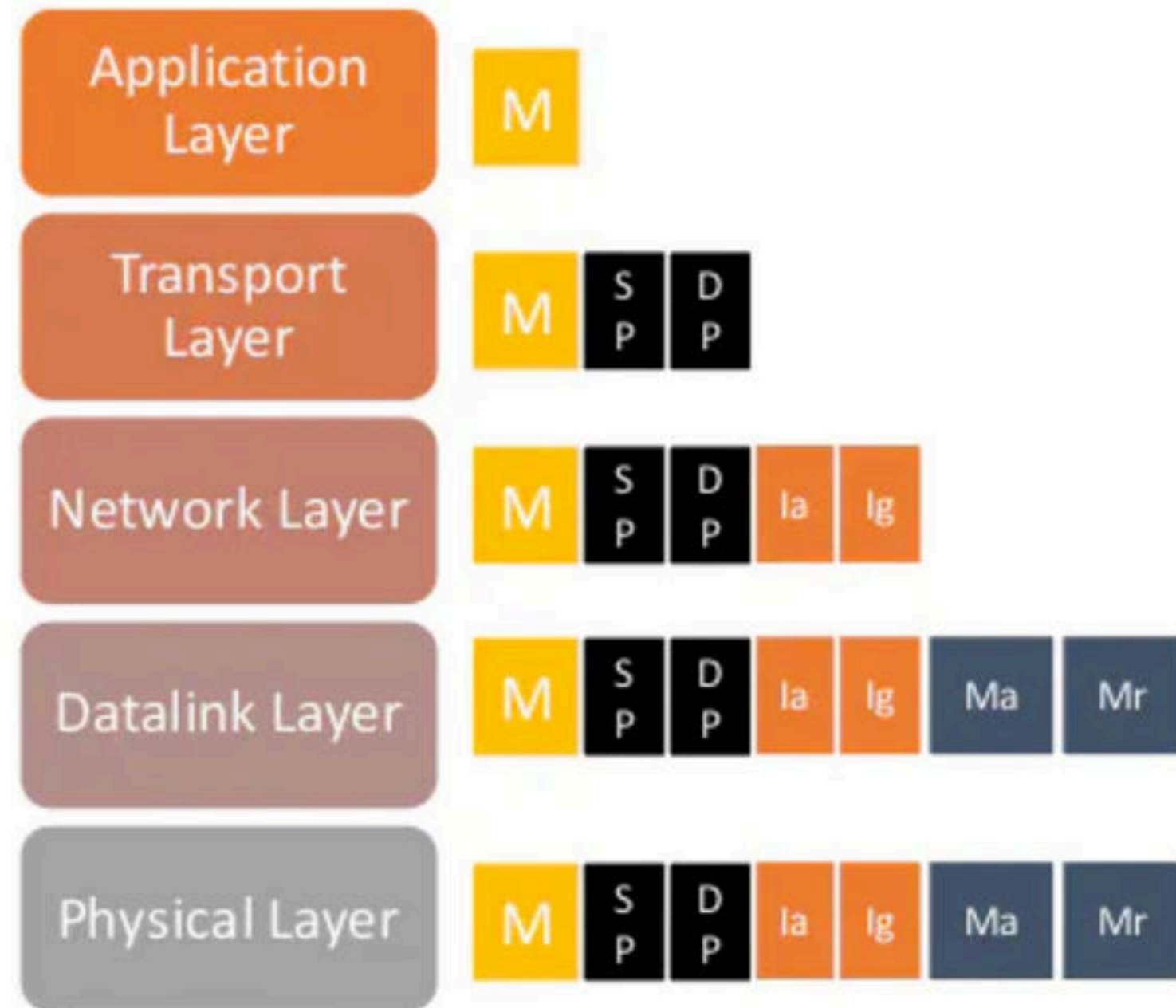
Source
Ia
Ma



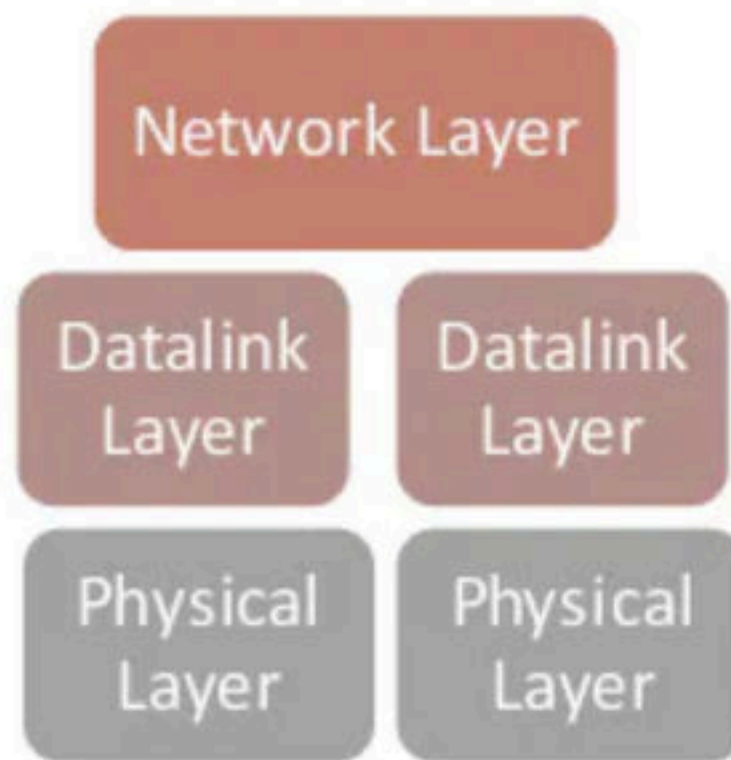
Router
Ir
Mr



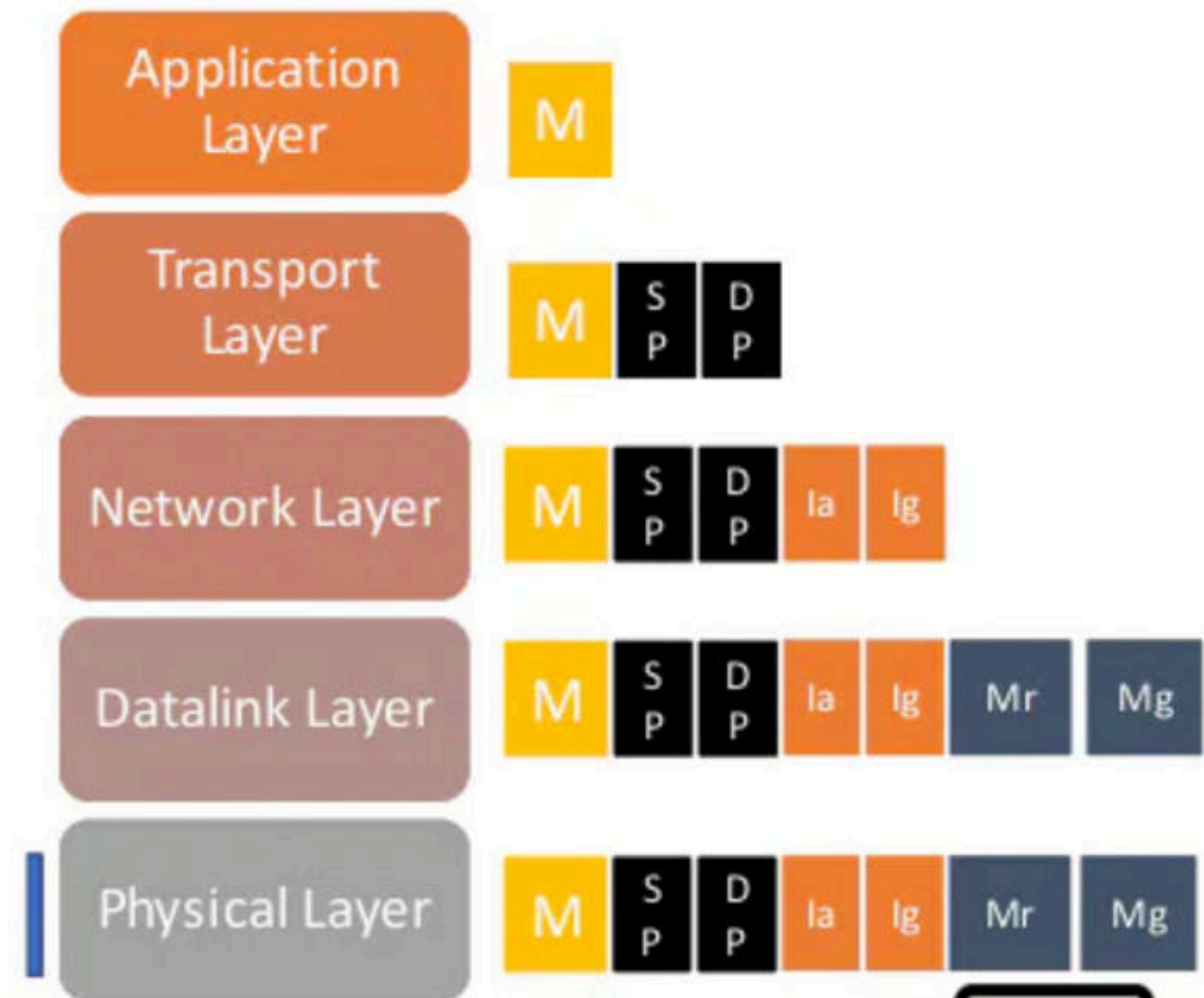
Destination
Ig
Mg



Source
Ia
Ma



Router
Ir
Mr



Destination
Ig
Mg

Computer Networks

Session Layer

Functions of Session Layer

Authentication and Authorisation

Checkpointing

Synchronisation

Dialog control

Functions of Session Layer

Authentication and Authorization

Checkpointing

Synchronisation

Dialog control

Authentication is the process of recognizing a user's identity. It is the mechanism of associating an incoming request with a set of identifying credentials. The credentials provided are compared to those on a file in a database of the authorized user's information on a local operating system or within an authentication server.

Authorization is the process of granting or denying access to a network resource which allows the user access to various resources based on the user's identity.

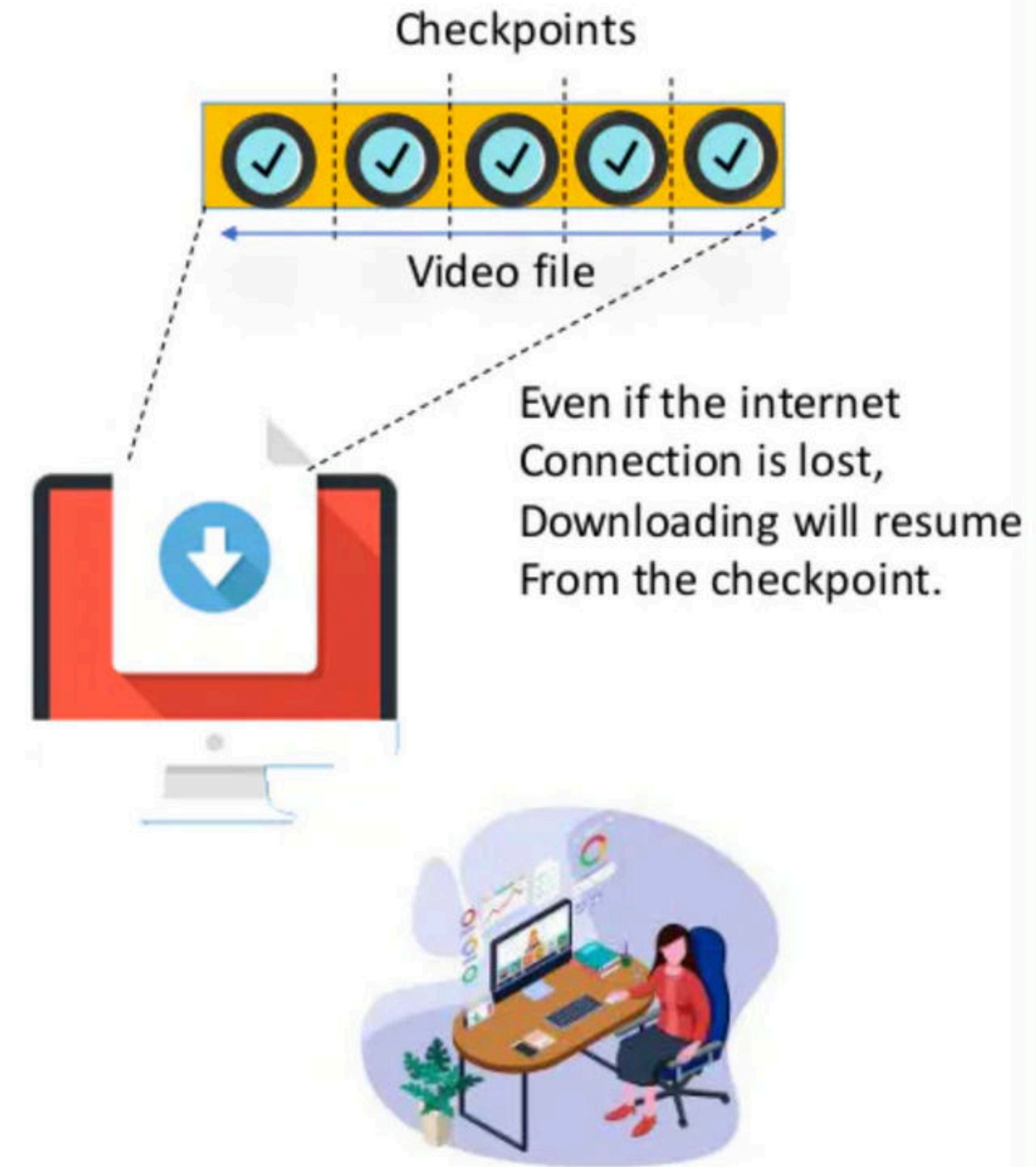
Functions of Session Layer

Authentication and Authorisation

Checkpointing

Synchronisation

Dialog control



Functions of Session Layer

Authentication and Authorisation

Checkpointing

Synchronisation

Dialog control



Functions of Session Layer

Authentication and Authorisation

Checkpointing

Synchronisation

Dialog control

Video conferencing – Only one person must speak at once



Computer Networks

Presentation Layer and GATE 2014 question

Functions of Presentation Layer

Data Translation

Encryption and Decryption

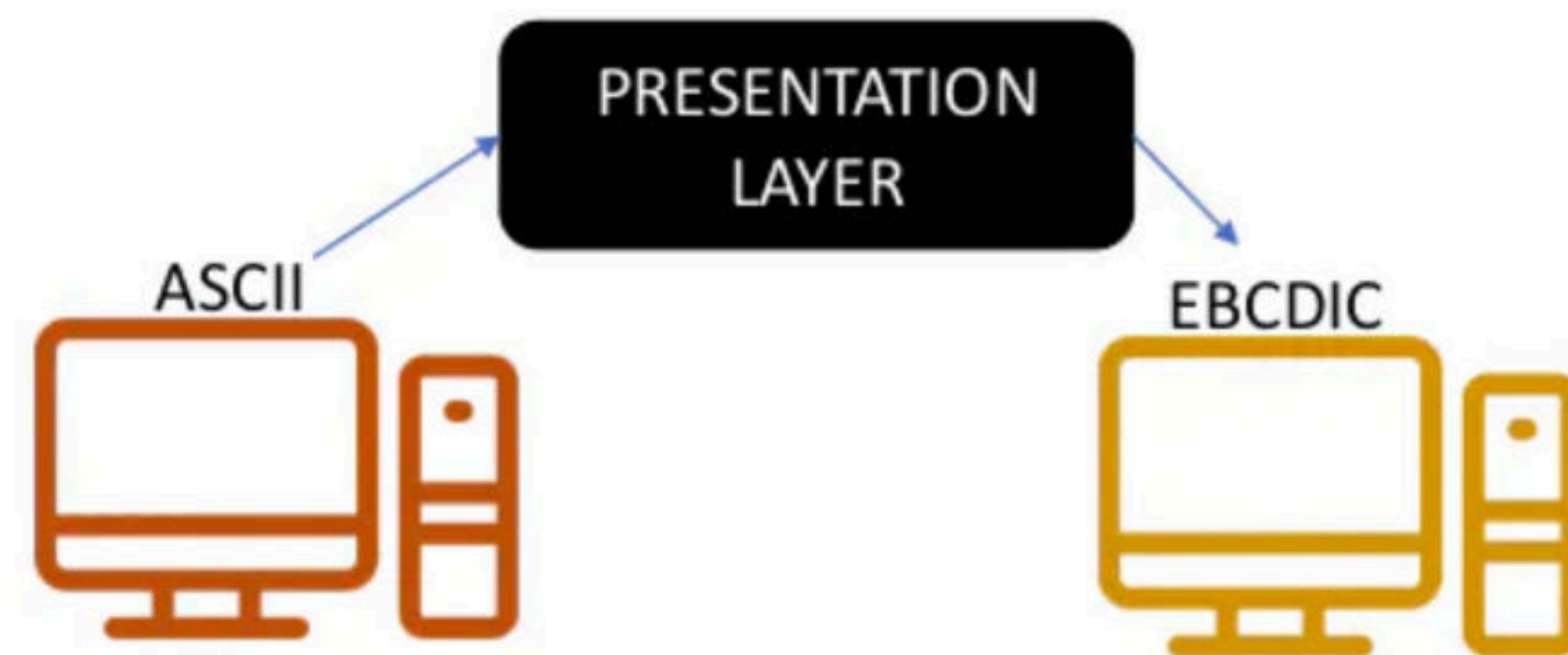
Data compression

Functions of Presentation Layer

Data Translation

Encryption and Decryption

Data compression



Functions of Presentation Layer

Data Translation

Encryption and Decryption

Data compression

Encryption & Decryption

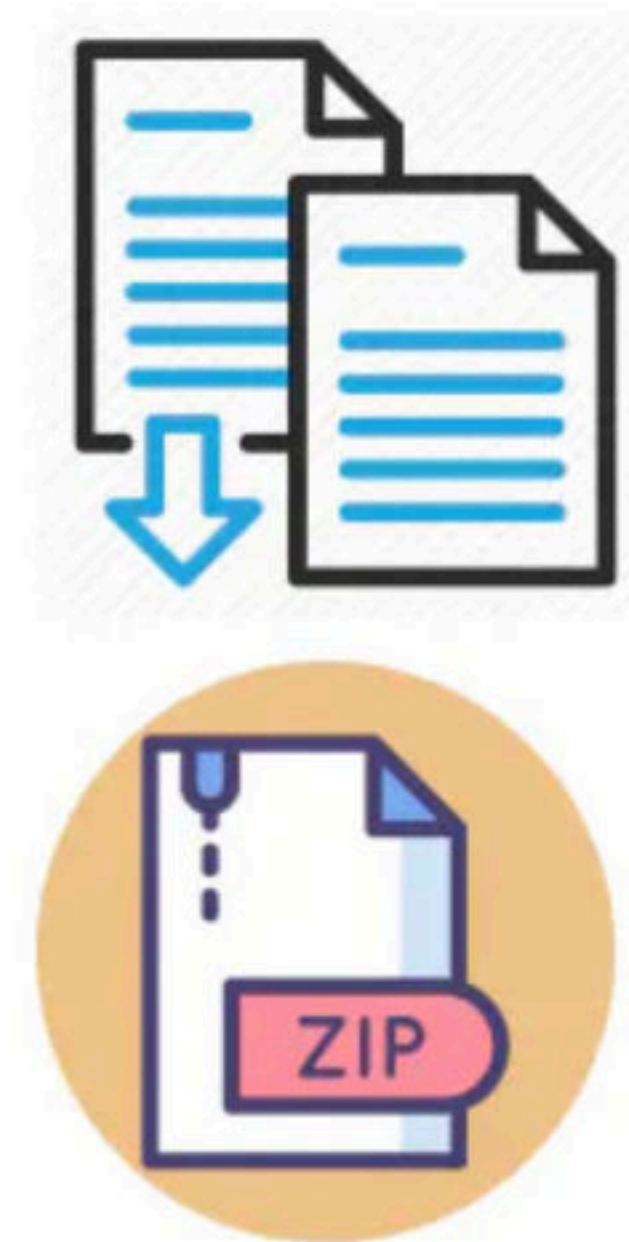


Functions of Presentation Layer

Data Translation

Encryption and Decryption

Data compression



GATE 2014

An IP machine Q has a path to another IP machine H via three IP routers R1, R2, and R3.

Q—R1—R2—R3—H

H acts as an HTTP server, and Q connects to H via HTTP and downloads a file. Session layer encryption is used, with DES as the shared key encryption protocol. Consider the following four pieces of information:

[I1] The URL of the file downloaded by Q

[I2] The TCP port numbers at Q and H

[I3] The IP addresses of Q and H

[I4] The link layer addresses of Q and H

Which of I1, I2, I3, and I4 can an intruder learn through sniffing at R2 alone?

A) Only I1 and I2

B) Only I1

C) Only I2 and I3

D) Only I3 and I4

GATE 2014

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A) Only I1 and I2

B) Only I1

C) Only I2 and I3

D) Only I3 and I4

Answer:

An Intruder can't learn [I1] through sniffing at R2 because URLs and Download are functioned at Application layer of OSI Model.

An Intruder can learn [I2] through sniffing at R2 because Port Numbers are encapsulated in the payload field of IP Datagram.

An Intruder can learn [I3] through sniffing at R2 because IP Addresses and Routers are functioned at network layer of OSI Model.

An Intruder can't learn [I4] through sniffing at R2 because it is related to Data Link Layer of OSI Model.