

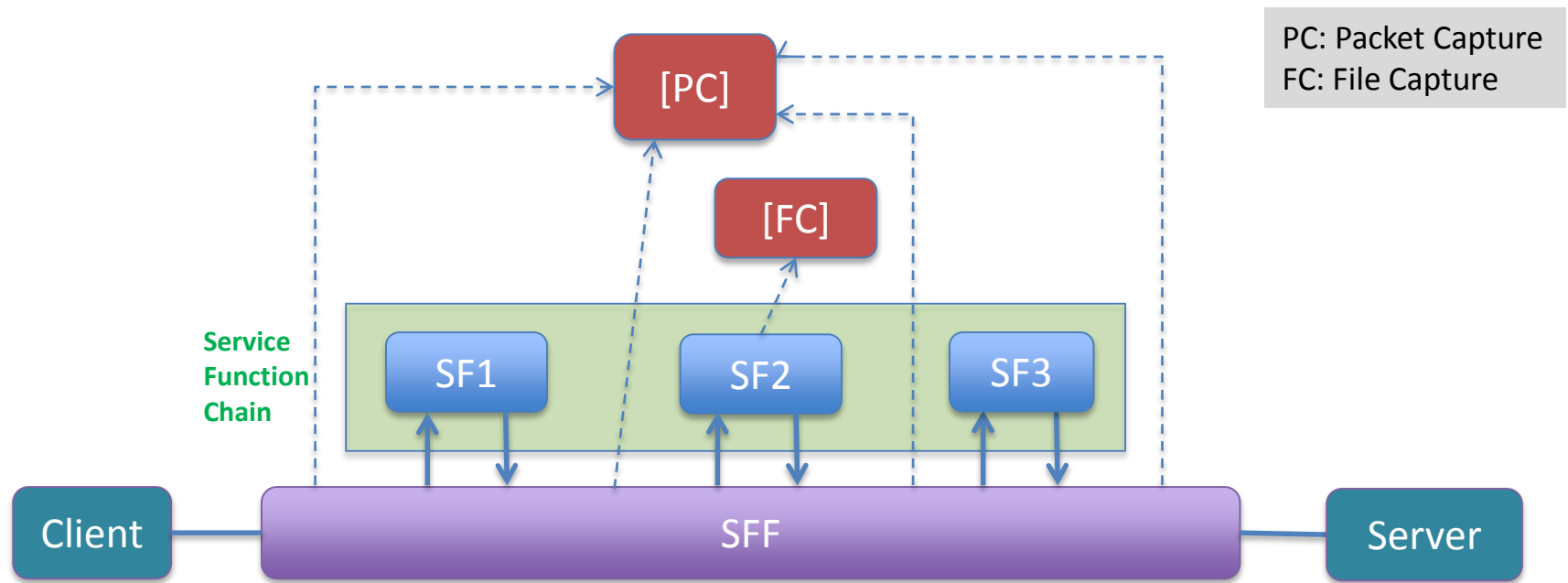
# Receive-Only Service Function and External Service in SFC

draft-wang-sfc-receive-only-01

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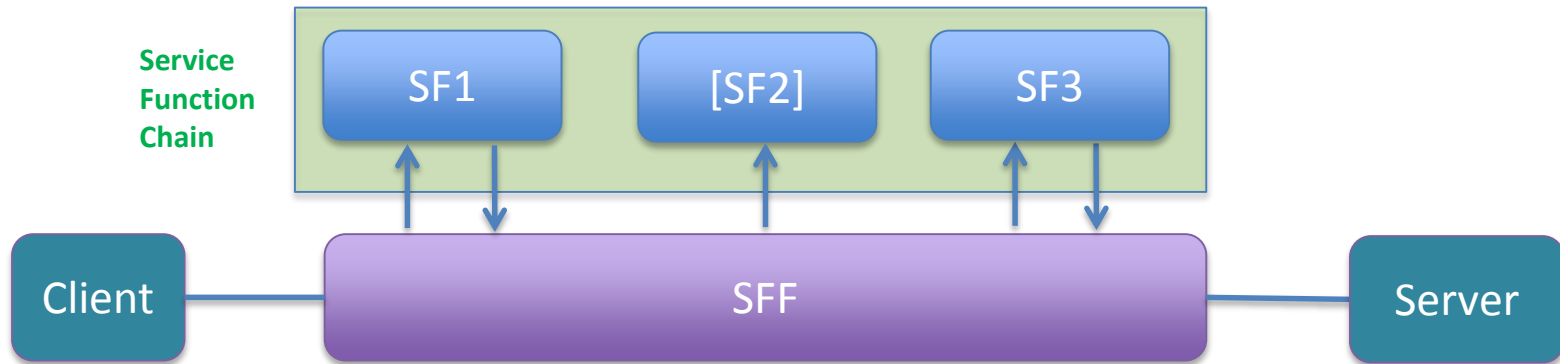
# Receive-Only External Service (RO ES)



## Receive-only External Service –

- Receives packets from the SFF or an SF
- Does not forward packets back to the source
- Not part of the Service Function Chain: SF1, SF2, SF3
- Has many possible attach points
- Dynamically attached and detached without impacting the Service Function Path
- May require SFF support for replicating packets

# Receive-Only Service Function (RO SF)



Receive-only Service Function [SF2] –

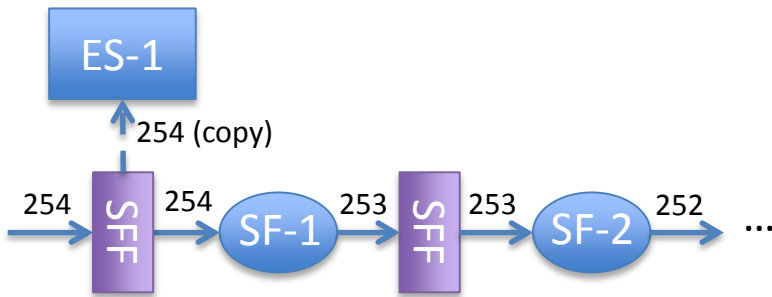
- Receives packets from the SFF
- Does not forward packets back to the SFF
- Is part of the Service Function Chain: SF1, [SF2], SF3
- Limited location options in the SFP
- Managed by the SFC policy
- Example: Intrusion Detection Service (IDS)

# PACKET PLANE

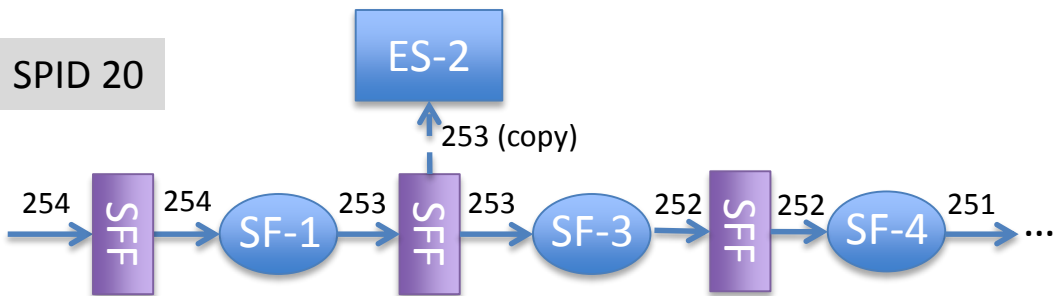


# Sample SFF forwarding table with RO ES entries

SPID 10

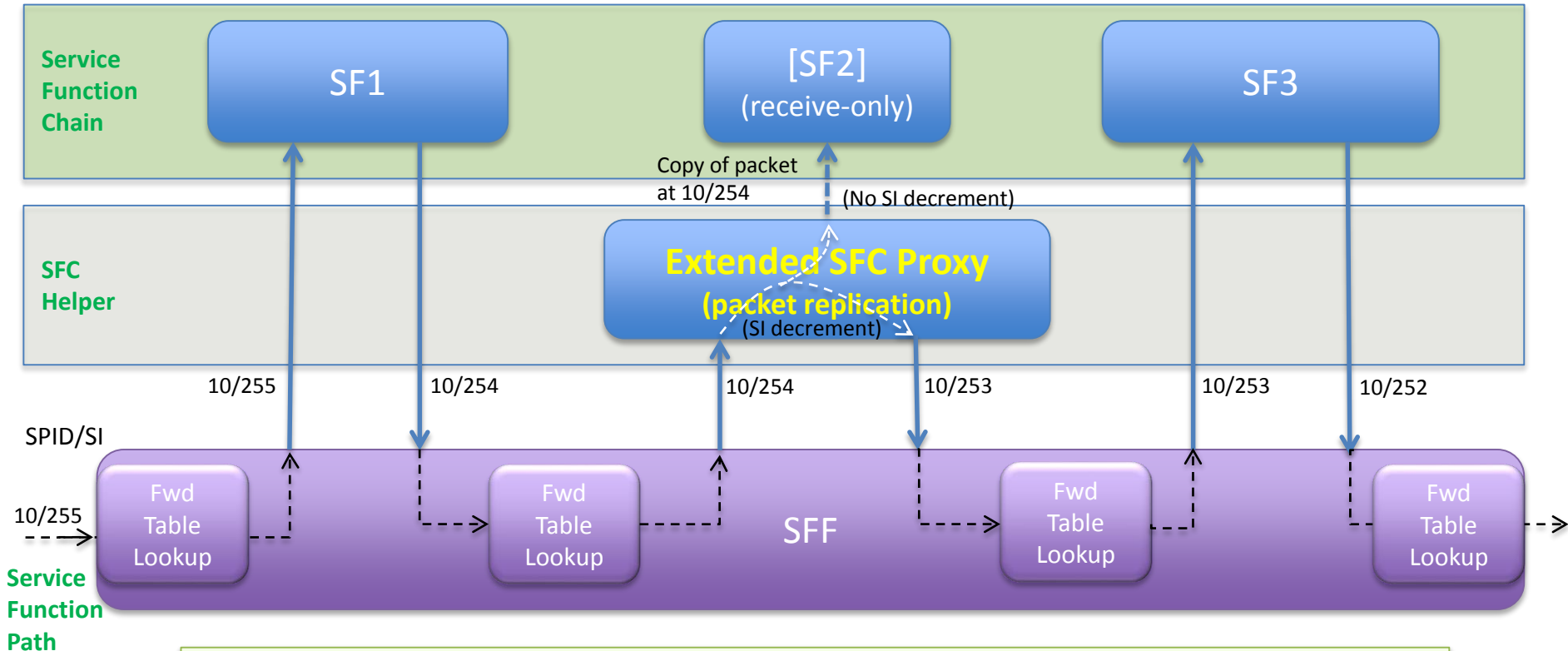


SPID 20



SPID	SI	Next Hop	Copy
...			
10	254	SF-1	
		ES-1	x
10	253	SF-2	
...			
20	254	SF-1	
20	253	SF-3	
		ES-2	x
20	252	SF-4	
...			

# Extending SFC Proxy for Receive-Only SF



- SFC: SF1 -> SF2 (via Extended SFC Proxy) -> SF3
- Packet reaches SF2 via Extended SFC Proxy, which serves all SFs requiring receive-only support at a service hop
- Extended SFC Proxy performs **packet replication to send a copy** to associated SF (no SI decrement)
- Extended SFC Proxy **sends the packet out** (SI is decremented) to return the packet to SFF
- **NSH SPID/SI** is needed for receive-only SF (which consumes packet only)
- Example: IDS as SF in SFC

**Extended SFC Proxy functions:** Packet replication, packet forwarding to associated SF (no SI decrement), discard packets from associated SF, packet forwarding to next SF (w/SI decrement).

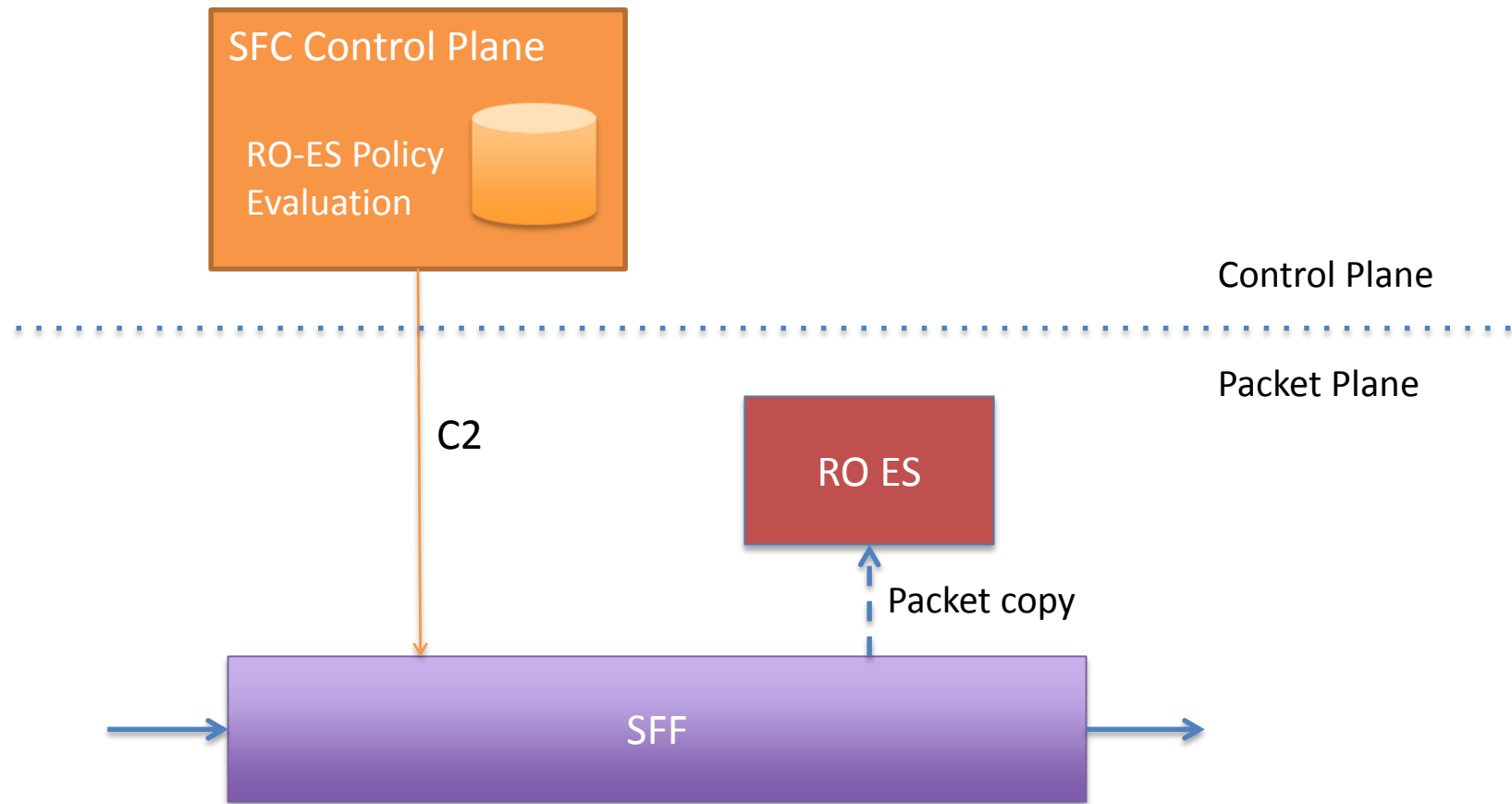
# Extended SFC Proxy

- Extended SFC Proxy is a service that facilitates SFC by:
  - Extending the capability of SFC Proxy to serve SFC-aware SF
  - Supporting Receive-Only Service Function in the service chain
    - Performs packet replication and sending a copy (with SFC encapsulation) to this type of SF
  - Supporting other use cases
- Extended SFC Proxy appears as:
  - Logical SF entity (associated with SF in SFC) in SFP from SFF's perspective
  - Logical SFF entity from SF's perspective
  - Invisible in the Service Function Chain from user perspective

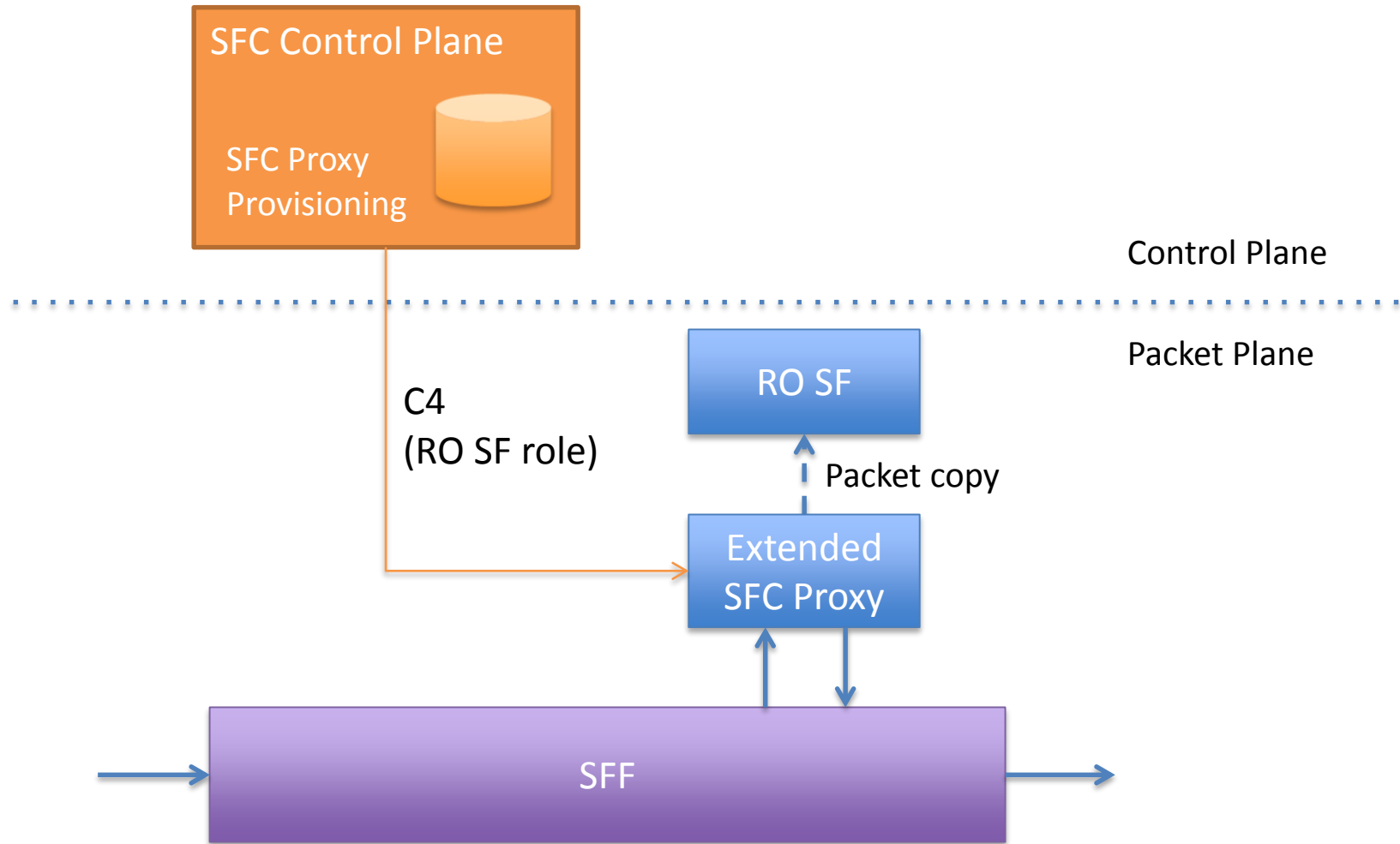


# CONTROL PLANE

# Control flow for SFF replication for RO ES



# Control flow for Extended SFC Proxy



Q&A

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Thank you!