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UK Interoperability Standards

# Open Forum 2017

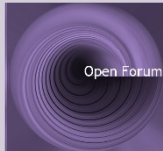


8<sup>th</sup> November 2017



**SIP Overload Control (SOC)  
Task Group**

Philip Williams – BT  
Chair of Group



# The TG addressed

- Restriction Priority Levels
- Control rate derivation and adaptation
- Overload control during failover
- Compliant/non-compliant and conforming/non-conforming networks ...





- **Target Node**
  - SIP server being protected by overload control from SIP request traffic
- **Source Node**
  - source of SIP request traffic being sent to an adjacent target node
- **Restriction** (aka throttling, filtering)
  - function of limiting the rate at which SIP requests are sent
  - a source node restricts traffic sent to the target node
  - instance of function: Restrictor ( $\equiv$  Throttle  $\equiv$  Filter)



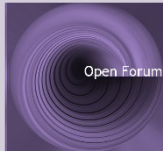




# Non-compliant and non-conforming sources

- It is thought very likely that during initial deployment not all CPs connecting to a CP will be compliant with ND1653
  - IETF recognised this (RFC 7339) but did not provide a solution - by association RFC 7415 as well
- Key issues
  - How should a compliant target node protect itself from non-compliant CPs?
    - A non-compliant source node does not advertise support for SOC in the SIP Requests that it sends
  - What if a source node declares its compliance but in fact is non-conforming?
    - Such a node does advertise support for SOC in the SIP Requests that it sends, but fails to modulate the SIP Requests that it sends to a target node according to the control information that it has received

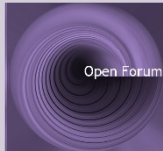




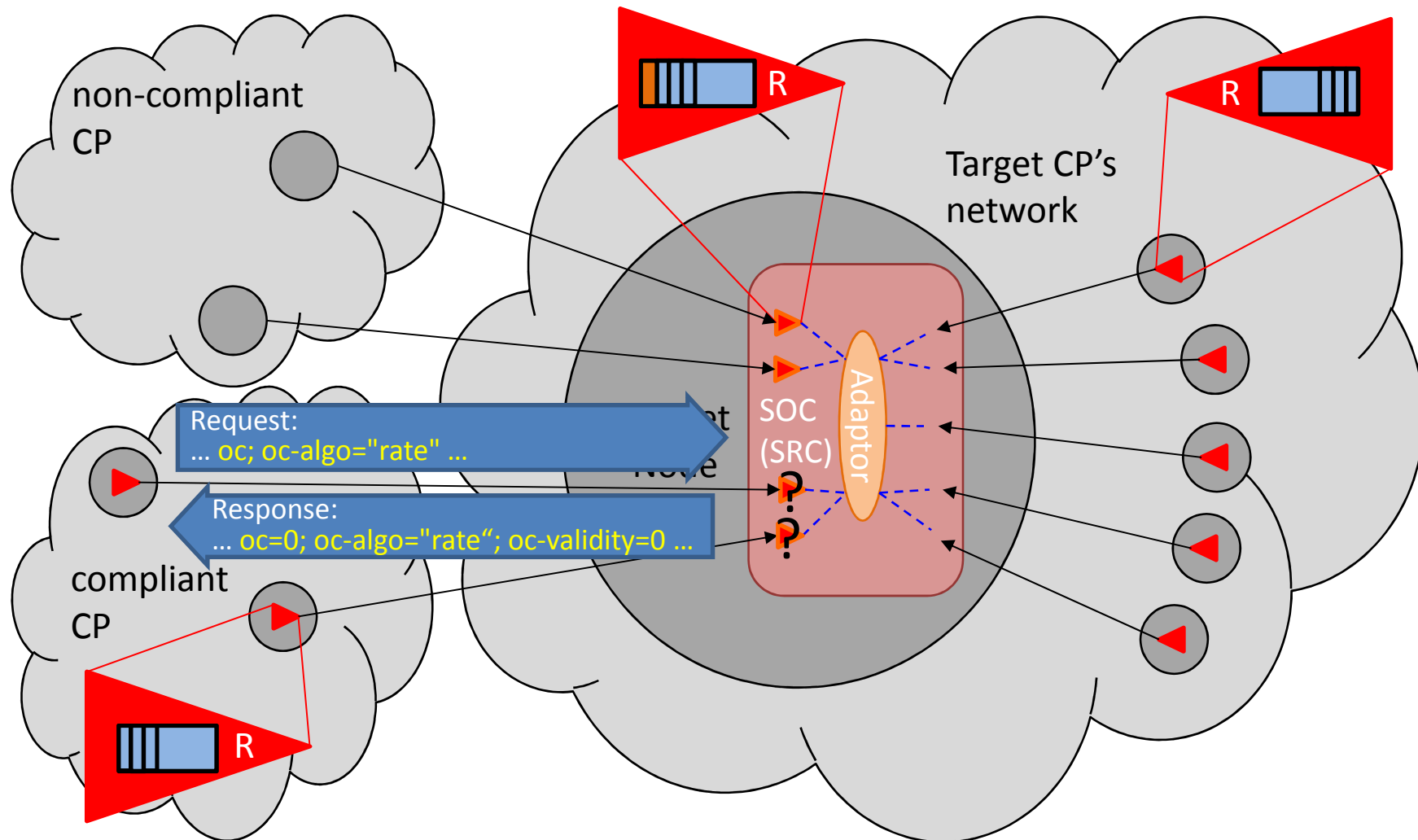
# Non-compliant sources: Requirements

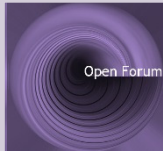
- Target server must protect itself from non-compliant sources
  - be able to reject traffic from such sources
  - but there is a resource cost implied by rejection of SIP Requests
- Must not give an unfair advantage to non-compliant sources
  - at a target it would be fair to devote the same amount of processing to the combination of admission & rejection from a non-compliant source as it would to devote to processing admitted requests from a compliant source
  - need incentive to become compliant



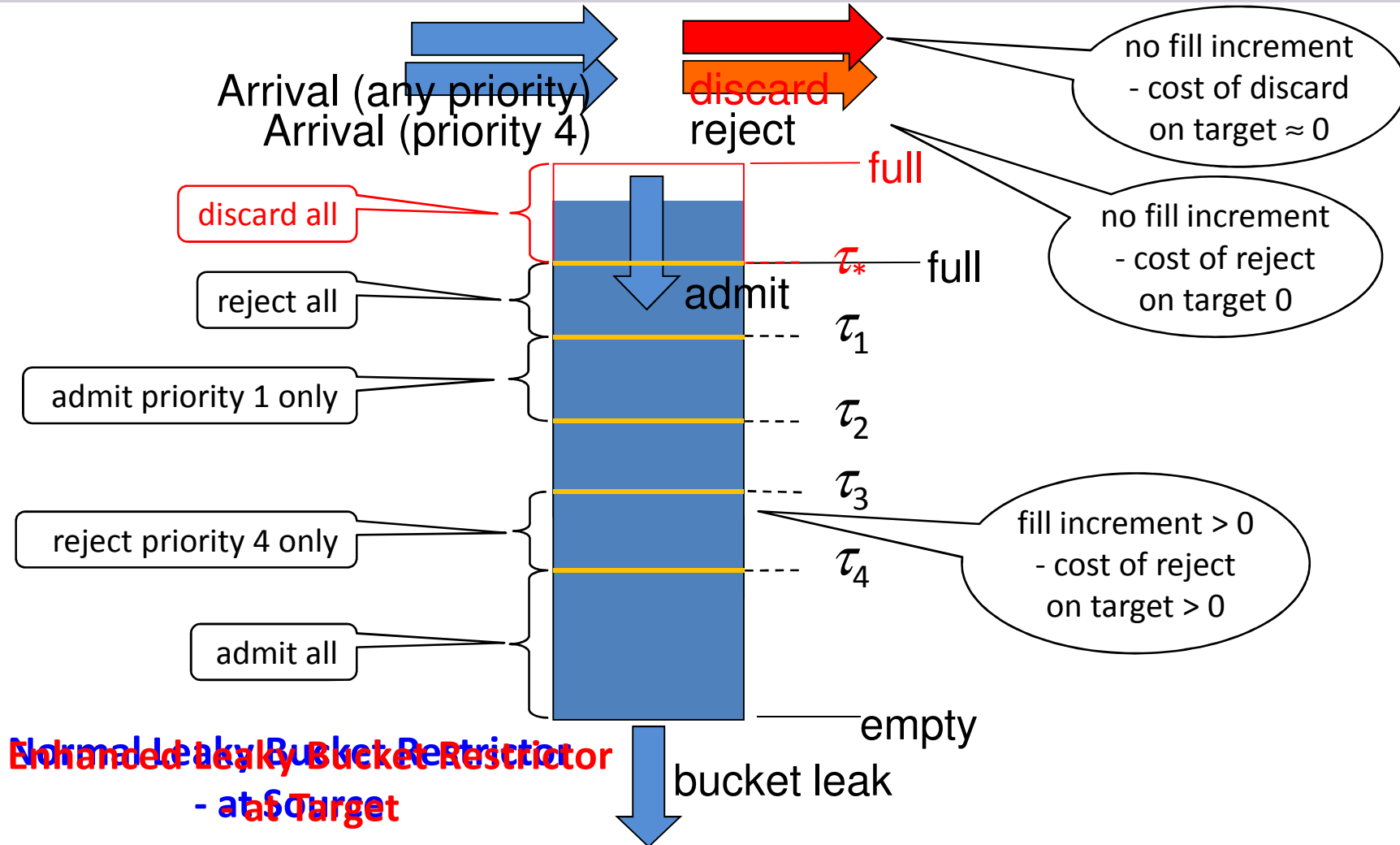


# Solution – Network Overview

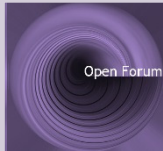




# Enhancing a leaky bucket restrictor

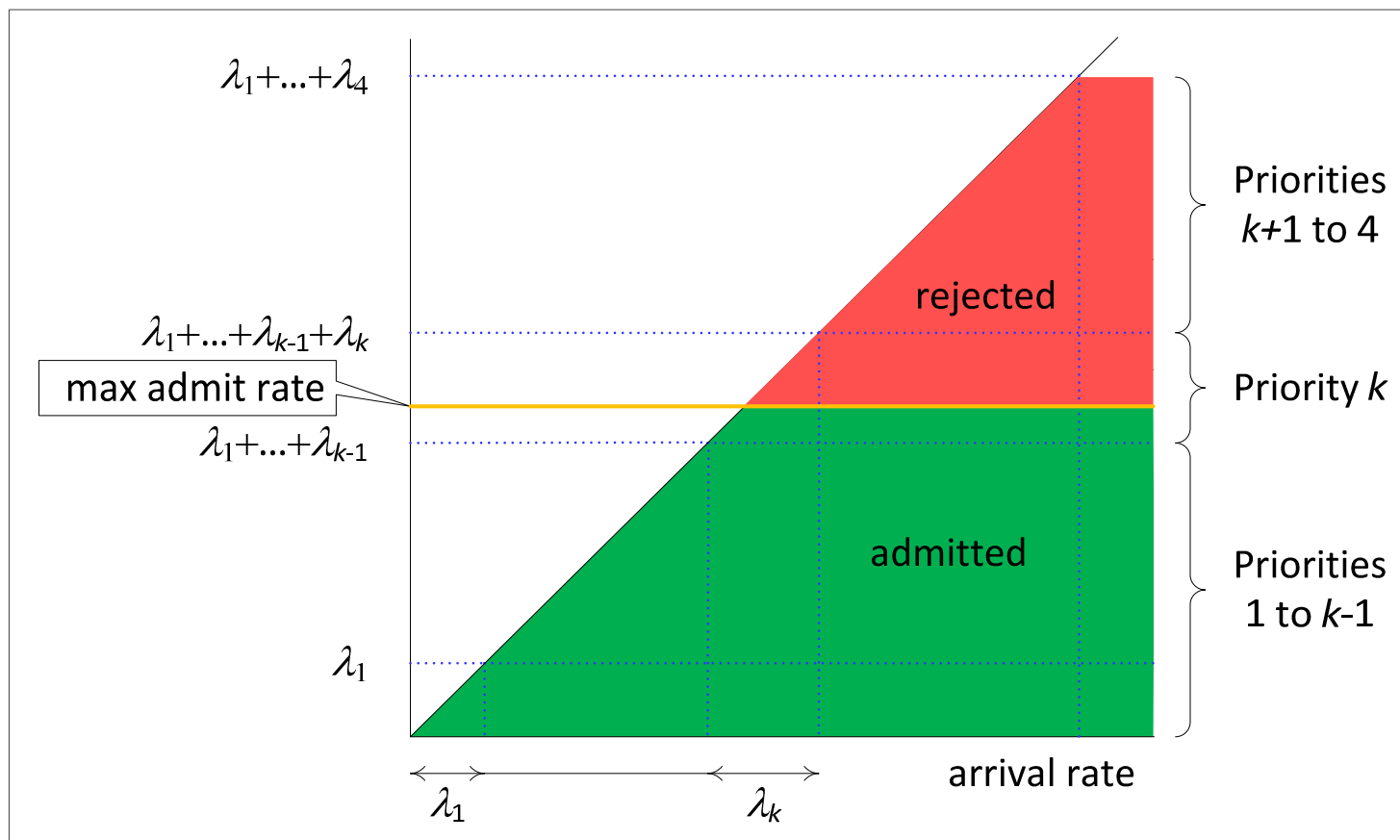


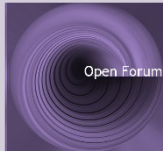




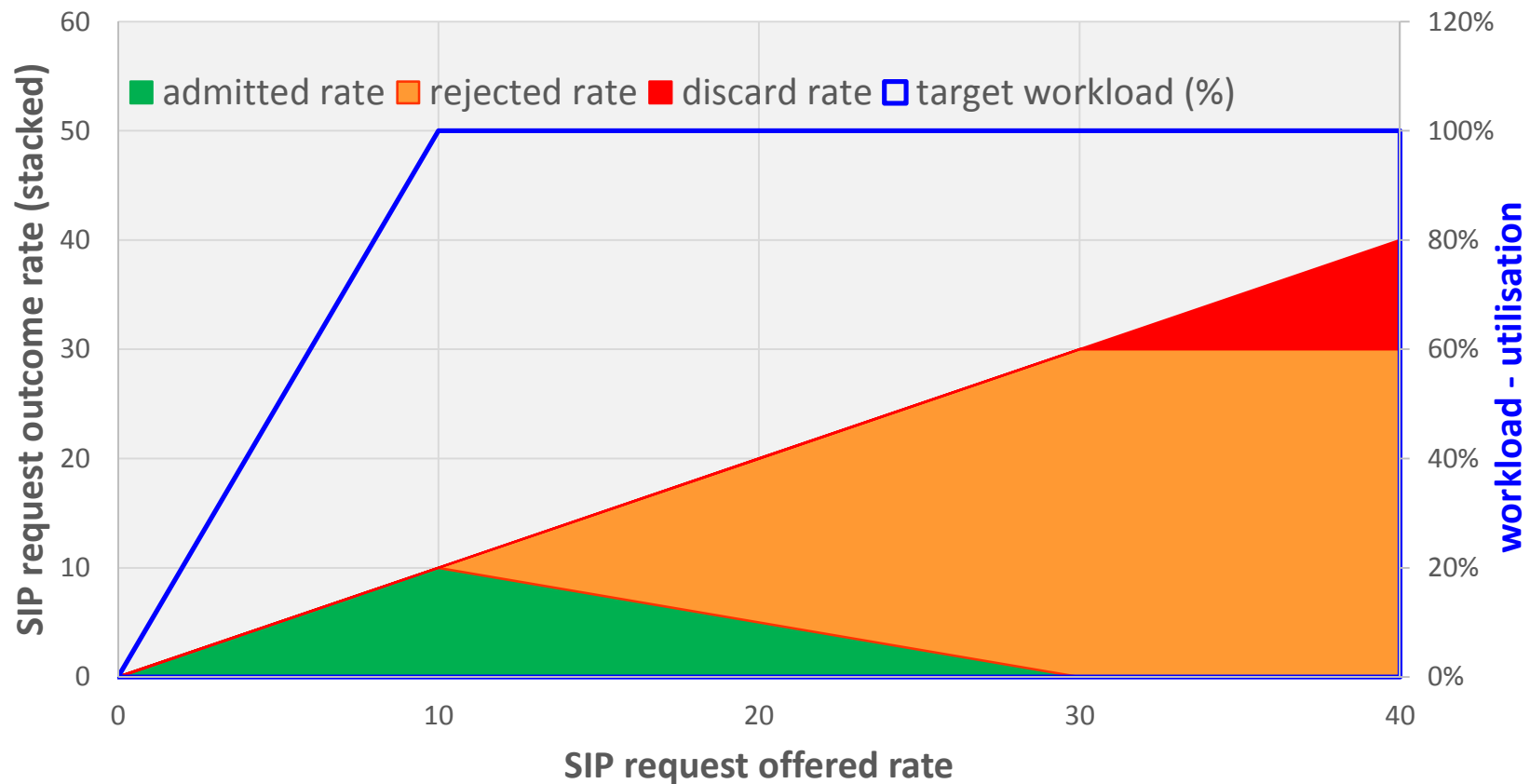
# Admit/reject rates with priorities

- Stack (sum) the rates in order highest  $\rightarrow$  lowest priority
- Truncate admitted rate at max control (admit) rate





### Steady-state rates: Cost of rejection 1/3 of admission



## Next steps

- Publish ND 1653
- Guidance
- Drivers to deployment