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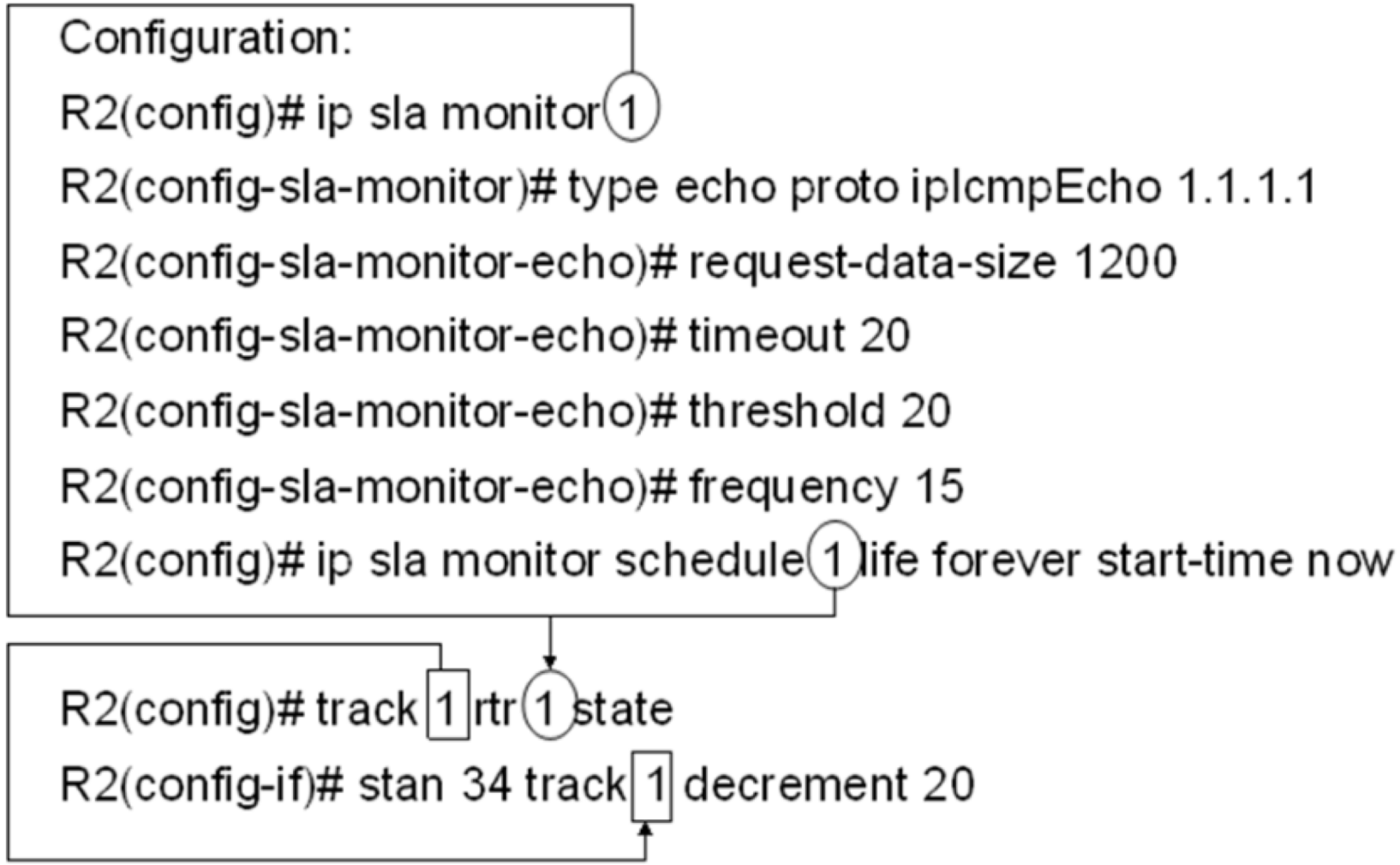
Chapter 5: IP SLA & Offset-lists

CCNP ROUTE: Implementing IP Routing

IP SLA

- Network parameters measurement of **simulated data** between Cisco device and another cisco device or host
- Ability to check network services availability (e.g. TCP/UDP port)
- Recommended NTP synchronization
- Supports MD5 authentication for more secure communication
- IP SLA can be configured via CLI or SDM
- Static routes can depend on IP SLA monitoring

IP SLA configuration



IP SLA troubleshooting

```
R1# show ip sla configuration 99
IP SLAs Infrastructure Engine-II
Entry number: 99
Owner:
Tag:
Type of operation to perform: echo
Target address/Source address: 192.168.2.1/0.0.0.0
Type Of Service parameter: 0x0
Request size (ARR data portion): 28
Operation timeout (milliseconds): 5000
Verify data: No
Vrf Name:
Schedule:
   Operation frequency (seconds): 10  (not considered if randomly scheduled)
   Next Scheduled Start Time: Start Time already passed
   Group Scheduled : FALSE
   Randomly Scheduled : FALSE
   Life (seconds): Forever
   Entry Ageout (seconds): never
   Recurring (Starting Everyday): FALSE
   Status of entry (SNMP RowStatus): Active
Threshold (milliseconds): 5000 (not considered if react RTT is configured)
Distribution Statistics:
   Number of statistic hours kept: 2
   Number of statistic distribution buckets kept: 1
   Statistic distribution interval (milliseconds): 20
History Statistics:
   Number of history Lives kept: 0
   Number of history Buckets kept: 15
   History Filter Type: None
Enhanced History:
```

Offset-list

- Increase incomming/outgoing metrics on routes
- Applicable only to routes learned via distance-vector protocol

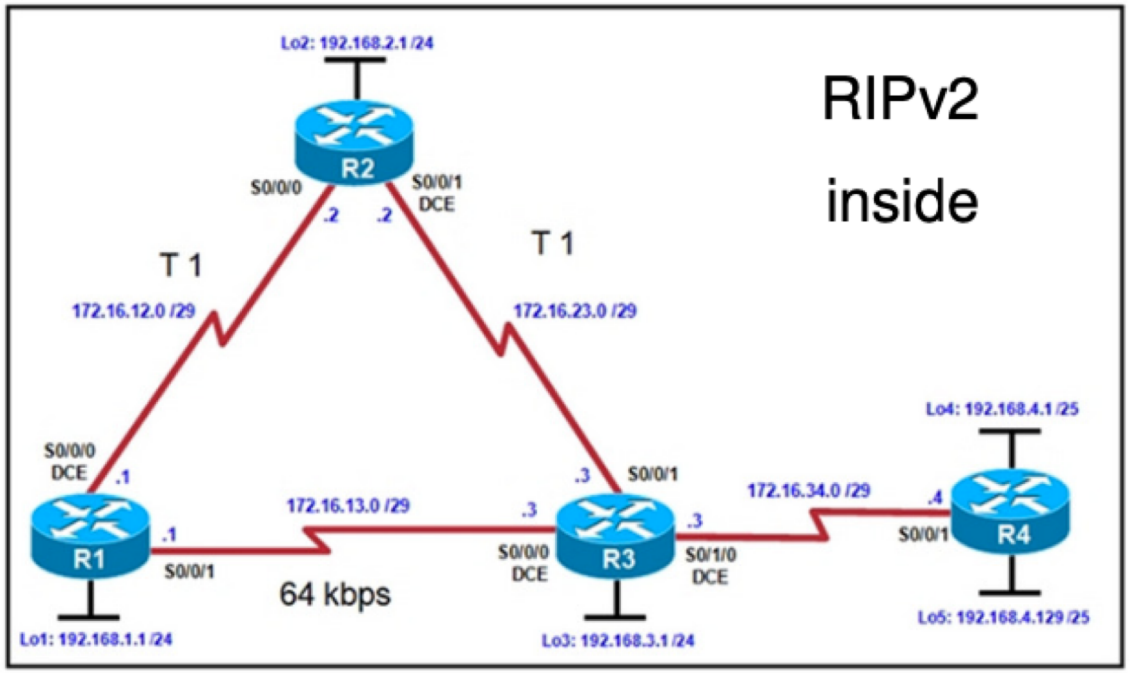
- **Configuration:**

  Router(config)# router {rip|eigrp AS}

  Router(config-router)#

  offset-list <ACL> {in|out} <INC_METRIC> <INTERFACE>

Offset-lists example



- In a given topology on R3, make sure, that path R1-R2-R3-R4 will be used between 192.168.1.0/24 and 192.168.4.0/24

Router(config-router)# offset-list 1 in 5 serial 0/0/0
Router(config)# access-list 1 permit 192.168.1.0 0.0.0.255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