27/11/24 9) configure OSPF rouding Protocol configure OSPF routine Router-PT Router 1 Router PI 40.0.0.1 Faclo 40.0.0.40 det gateway: Topology Description: topology consests of 2 pc's and 3 routers. PCO: (10.0.0.10)

· connected to Router o vea the fastethernet 0/0 enterface

refault gateway 10.0.0.1

PC1 (40.0.0,10): connected to router à via tre face parente olo interface · Peraut gateway 40.0.0.10 met est al 小さ インルトコルナンナロー コートレート 子のかって オロサーコーナー ROWERO FOR MALLE 13 ST (17-18-00) IN EN . Interjaces: . Paste etnernet 0 (10.0.0.1): connected to pet (11-11-11-12) · seral 210 (20.0.0.1): connected to touter 1. gatemany for Pco, forwarding traffic Router : · Interfaces: . serial 2/0 (20.0.0.2) : connected to poutero . serial 310 (30.0.0.1): connected to Rouleys central router, relaying traffic between Routero, and Routers. 2 year Commence otherwise and the the was and one . Interfaces: . sexal 3(0 (30.0.0.2): connected to Router . Fast exernet 0 (40.010. L): connected oledonie souto PCI gatenacy for PCI, formandeng trayfic to Routers. to the total of the second ာန်းရနေမြို့ ပြုချိန်း မြို့သည် အသင်္ခြေများ မြောင့်

Procedure:

confequre op address to all Interfaces.

In Router 0:

Router (config + 1) # 20 address 10.0.0.1

Router (config-11) # no shuddown Router # exit.

Router (confrg) # enterface serial 2/0 Router (confrg) # ?p address 20.0.0.1

pouter (conjeg) # encapsulation ppp pouter (conjeg-ij) clock rase 64000 pouter (conjeg-ij) # no shuddown Router (conjeg-ij) # exit

In Routers:

Router (config) # Enterface Serial 210

Router (config-2) # ep address 20.0.0.2

Router (config-if) # encapsulation ppp

Router (config-if) # no shutdown

Router (config-if) # exit

Router (config-if) # exit

Router (config-9) # enterface scriat 3/0
Power (config-9) # 2p address 30.0.0.1

Router (config.) # encapsulation ppp Router (config.) # no shutdown Router (config.-il) #exit

Router (config) # enterface serial 3/0 200.0.00 30.0.0.2 Router (config-if) # encapsulation ppp pouter (compeg-if) # no Shutdown Bonter (contact - 61) # 6x2F Router (config) # interface fastetuernes 2/0 Router (config-if) #ip address 40.0.0.1 Router (config-2f) # no shutdown Router Cconfign exerting Step 3: Now, Enable ip routing by configuring ospt routing protocol en au vouters. Router (config) # router 0 spt 1 Router (config- router) # router-1d Router (configuronter) # network 10.0.0.0 0.258.258.258 varea 3 Router (confeq - router) # network : Router (config- router) the exet Router (config) # souter ospt 1 Pouter (conjeg- vouter) # vouter-ed 22.2. Router (config -router) # network 20.0.0.0 0.25.25 area 1

Router (config-router) # network
30.0.0.0.0.265.255.265 area 0
touter (config-router) # exit.

Router 2:

Router (config) # router ospt 1

Router (config) # router -!d: 3.3.3.3

Router (config) # nemore 30.0.0.0

0.217.287.287 area 0

Router (config) # nemore 40.0.0.0

0.267.287.287 area 2

Router(config) # exit

step4: Now week routing table of 12.

C 10.0.0.0/8 is directly connected, Far 2/0

C 20.0.0.0/8 is directly connected, Sanardo

O IA 40.0.0.0/8 [No/129] via 20.0.0.2,

00:04123 (Serial 2/0

OJA 30.0.0.0/8 /110/129) vea 20.0.0.2,

00:07:29, se mail 3/0

configure loopback:

Router o:

Router (config-i) # westace loopback o Router (config-i) # 2p add 172.16.1. 252 255.265-0-0

Router (config- ? 1) # querface. 200p back 0 Router (config-if) # ip add 172.16.1-253 25 Router (config-if) # no shuddown the the good on Jerosbuch Router (config- ?) # inscripance soopbacko Pouter (config - ?) # 2p add 172.16.1.254.25 Router (config-97) # no shutdown. steps: Now; thece Routing table of R3, -> Showip route bries . arifo: 00:00 01 A - 20.0.0 / 8 /110/128] VEQ 30.0.0.1,00:18, Serval 3/0 motors CHO. O. O. 8/8 96 directly connected, farlo C 30. 0.0.8/8 is directly connected, senal3/0 children perend it thouses steps: create virtual lank between RI, R2, by thes we create a virtual sink to connect area 3 to area o. Router (Router-config) # router ospf 1 Router (Ronfig- rouser) # area & virtual-link 2.2.2.2 Rouser (Rouser - config) # Feb 10 ---- , from LOADING to FULL & loading Done 10 8 81 7 65. 1

routers: Router (Router - corps) # router ospf1. Router (config- router) # area & virtual. -lank 1.1.1.1 Router (config - router) # exit Step 7; R2 and . R3 get updates about eouters: show ip route OIA 20.0.0.0/8 [110/128] via 30.0.0.1, 00:00:01:16, serial 2/0 c 40.0.0.0/8 95 directly connected, fastethernet 2/0 01A 10.0.0.0/8 [110/128] Vea 30.00.1, 00:01:56 , serial 1/0 c 30.0.0.018 is directly connected, Serial 3/o. connecterating step 8: Check 10.0.0.10 to 40.0.0.10 seo command bromby PC> pring 40.0.0.10 Pinging 40.0.0.10 with 32 bytes of pata: Reply from 40.0.0.10: bytes=32 time: gms 77 - 17 TTL= 125 Reply from 40.0.0.10: bytes = 32 time= 7012 TTL=125 40.0.0.10: bytes=32 time. 6 ms 77 L= 125 40.0.0.10 : bytes=32 Hme=6ms TTL = 120

Ping stadistice: for 40.0.0.10:
Packets ! send = 4, Received = 4, los = 0
(0-1.2055)

Observation:

The experiment demonstrates now OSPF dynamically learns and advertises routers, enabling efficient and scalable routing appears across multiple areas.

of Rousing tables on all rousers must display networks from all greas with OIA indicating inter-area rouses.