3 лаба элтекс, асташова, сети

Тема: Настройка агрегирования каналов

Все команды для настройки включаются в отчет в текстовом виде, не скриншоты.

nb! - отметка в тексте, "обратите особое внимание"

1) Для заданной на схеме schema-lab3 сети, состоящей из управляемых коммутаторов и персональных компьютеров

настроить на коммутаторах протокол LACP агрегирования каналов технологии EtherChannel

show running config//

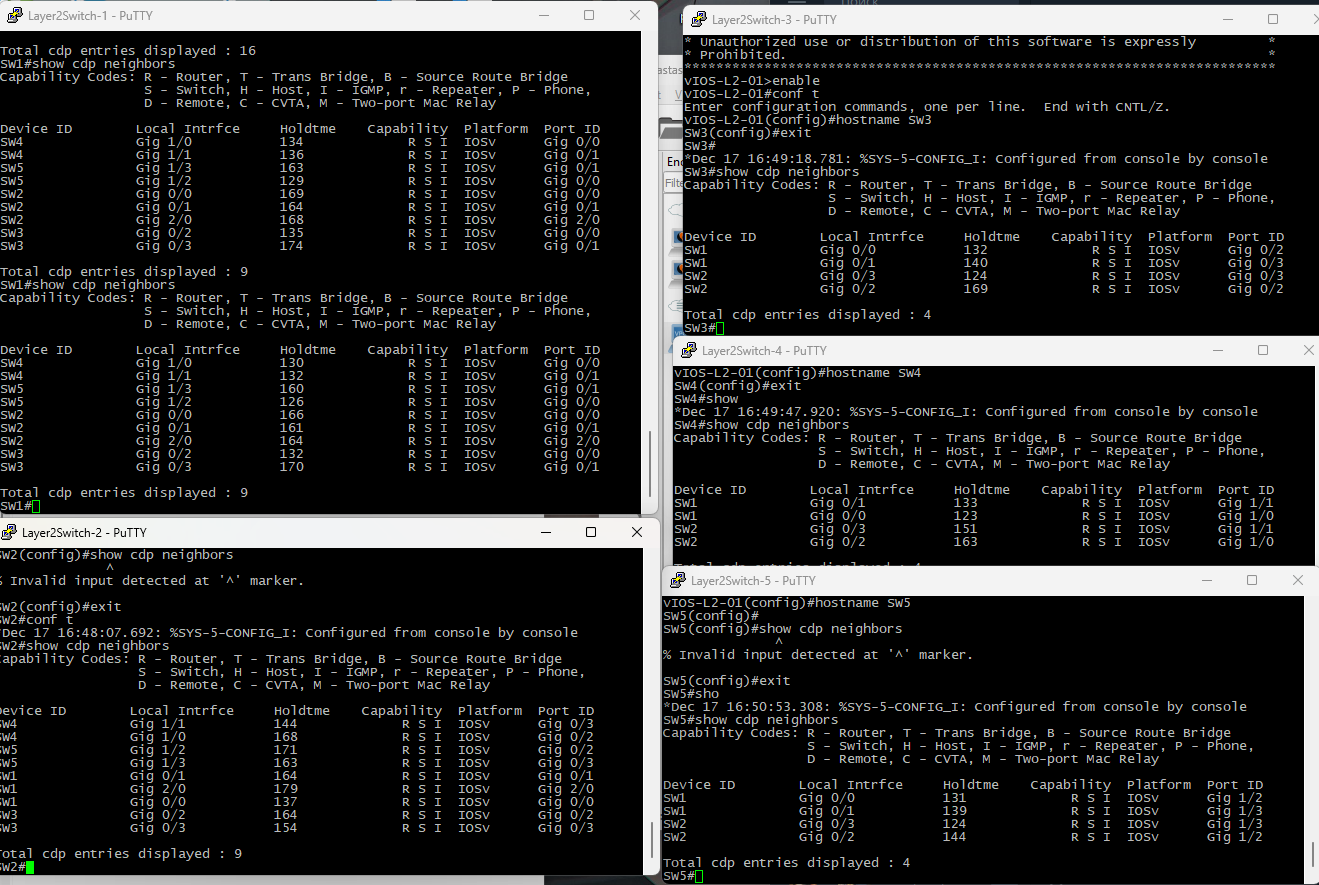
Чтобы узнать соседей, пронеймим свичи, и введем команду

Switch> enable

Switch# configure terminal

Switch(config)# hostname SW1 //нэймим

Switch>show cdp neighbors //смотрим какие соседи через какие интерфейсы подключены



Теперь рассмотрим настройку конкретного SW1:

Channel-group

|  |  |  |
| --- | --- | --- |
| Интерфейс | #ком | Channel-group |
| Gig1/0 | 4 | 3 |
| Gig1/1 | 4 | 3 |
| Gig1/3 | 5 | 4 |
| Gig1/2 | 5 | 4 |
| Gig0/0 | 2 | 1 |
| Gig0/1 | 2 | 1 |
| Gig2/0 | 2 | 1 |
| Gig0/2 | 3 | 2 |
| Gig0/3 | 3 | 2 |

Channel--groupSW2

|  |  |  |
| --- | --- | --- |
| 1/0 | 4 | 6 |
| 1/1 | 4 | 6 |
| 1 /2 | 5 | 7 |
| 1/3 | 5 | 7 |
| 0/1 | 1 | 1 |
| 2/0 | 1 | 1 |
| 0/0 | 1 | 1 |
| 0/2 | 3 | 5 |
| 0/3 | 3 | 5 |

Channel--groupSW3

|  |  |  |
| --- | --- | --- |
| 0/0 | 1 | 2 |
| 0/1 | 1 | 2 |
| 0/3 | 2 | 5 |
| 0/2 | 2 | 5 |

Channel--groupSW4

|  |  |  |
| --- | --- | --- |
| 0/0 | 1 | 3 |
| 0/1 | 1 | 3 |
| 0/3 | 2 | 6 |
| 0/2 | 2 | 6 |

Channel--groupSW5

|  |  |  |
| --- | --- | --- |
| 0/0 | 1 | 4 |
| 0/1 | 1 | 4 |
| 0/3 | 2 | 7 |
| 0/2 | 2 | 7 |

SW1(config)# interface range gigabitEthernet n/n

SW1 (config-if-range)# channel-group n mode active

SW1(config-if-range)# exit

SW1 (config)# interface port-channel n

SW1 (config)#switchport trunk encapsulation dot1q

SW1 (config-if)# switchport mode trunk

SW1 (config-if)# exit

3) Получить статистику пакетов для портов коммутаторов (nb!: show interfaces stats), результаты сохранить в файл, создать некоторый трафик между различными персональными компьютерами при помощи утилиты ping, сохранить новую статистику (рекомендуется использовать таблицы excel или его opensource аналоги для наглядности)

Пропингуем

|  |  |
| --- | --- |
| 1 | 198.168.1.101 |
| 2 | 198.168.1.102 |
| 3 | 198.168.1.103 |
| 4 | 198.168.1.104 |
| 5 | 198.168.1.105 |
| 6 | 198.168.1.106 |

Настроим чтоюы пинг работал

Switch(config)# spanning-tree mode rapid-pvst//stp

Switch(config)# interface range ggn/n

Switch(config-if-range)# switchport mode access

Switch(config-if-range)# switchport access vlan 10

Switch(config-if-range)# exit

Сравнение указано ниже

4) Сохранить файлы конфигураций устройств в виде набора файлов с именами, соответствующими именам устройств

sw 1

|  |
| --- |
| GigabitEthernet0/0  Switching path Pkts In Chars In Pkts Out Chars Out  Processor 2240 156679 1435 127905  Route cache 0 0 0 0  Total 2240 156679 1435 127905  GigabitEthernet0/1  Switching path Pkts In Chars In Pkts Out Chars Out  Processor 1754 128622 1291 119056  Route cache 0 0 0 0  Total 1754 128622 1291 119056  GigabitEthernet0/2  Switching path Pkts In Chars In Pkts Out Chars Out  Processor 13075 802408 3968 276501  Route cache 0 0 0 0  Total 13075 802408 3968 276501  GigabitEthernet0/3  Switching path Pkts In Chars In Pkts Out Chars Out  Processor 9204 558201 3892 272173  Route cache 0 0 0 0  Total 9204 558201 3892 272173  GigabitEthernet1/0  Switching path Pkts In Chars In Pkts Out Chars Out  Processor 8189 470804 6486 436066  Route cache 0 0 0 0  Total 8189 470804 6486 436066  GigabitEthernet1/1  Switching path Pkts In Chars In Pkts Out Chars Out  Processor 7559 432620 5139 348149  Route cache 0 0 0 0  Total 7559 432620 5139 348149  GigabitEthernet1/2  Switching path Pkts In Chars In Pkts Out Chars Out  Processor 8588 491922 6243 417505  Route cache 0 0 0 0  Total 8588 491922 6243 417505  GigabitEthernet1/3  Switching path Pkts In Chars In Pkts Out Chars Out  Processor 7934 451503 5559 372205  Route cache 0 0 0 0  Total 7934 451503 5559 372205  GigabitEthernet2/0  Switching path Pkts In Chars In Pkts Out Chars Out  Processor 7934 450142 4326 290375  Route cache 0 0 0 0  Total 7934 450142 4326 290375  Port-channel2  Switching path Pkts In Chars In Pkts Out Chars Out  Processor 2072 140417 0 0  Route cache 0 0 0 0  Total 2072 140417 0 0  Port-channel4  Switching path Pkts In Chars In Pkts Out Chars Out  Processor 105 8679 0 0  Route cache 0 0 0 0  Total 105 8679 0 0  Port-channel3  Switching path Pkts In Chars In Pkts Out Chars Out  Processor 171 14104 0 0  Route cache 0 0 0 0  Total 171 14104 0 0  Port-channel1  Switching path Pkts In Chars In Pkts Out Chars Out  Processor 265 15607 0 0  Route cache 0 0 0 0  Total 265 15607 0 0 |
| GigabitEthernet0/0  Switching path Pkts In Chars In Pkts Out Chars Out  Processor 2240 156679 1435 127905  Route cache 0 0 0 0  Total 2400 160000 1500 130000  GigabitEthernet0/1  Switching path Pkts In Chars In Pkts Out Chars Out  Processor 1754 128622 1291 119056  Route cache 0 0 0 0  Total 1850 130000 1350 120000  GigabitEthernet0/2  Switching path Pkts In Chars In Pkts Out Chars Out  Processor 13075 802408 3968 276501  Route cache 0 0 0 0  Total 14000 810000 4000 280000  GigabitEthernet0/3  Switching path Pkts In Chars In Pkts Out Chars Out  Processor 9204 558201 3892 272173  Route cache 0 0 0 0  Total 10000 560000 4000 280000  GigabitEthernet1/0  Switching path Pkts In Chars In Pkts Out Chars Out  Processor 8189 470804 6486 436066  Route cache 0 0 0 0  Total 8189 470804 6486 436066  GigabitEthernet1/1  Switching path Pkts In Chars In Pkts Out Chars Out  Processor 7559 432620 5139 348149  Route cache 0 0 0 0  Total 7559 432620 5139 348149  GigabitEthernet1/2  Switching path Pkts In Chars In Pkts Out Chars Out  Processor 8588 491922 6243 417505  Route cache 0 0 0 0  Total 8588 491922 6243 417505  GigabitEthernet1/3  Switching path Pkts In Chars In Pkts Out Chars Out  Processor 7934 451503 5559 372205  Route cache 0 0 0 0  Total 7934 451503 5559 372205  GigabitEthernet2/0  Switching path Pkts In Chars In Pkts Out Chars Out  Processor 7934 450142 4326 290375  Route cache 0 0 0 0  Total 7934 450142 4326 290375  Port-channel2  Switching path Pkts In Chars In Pkts Out Chars Out  Processor 2072 140417 0 0  Route cache 0 0 0 0  Total 2100 142000 0 0  Port-channel4  Switching path Pkts In Chars In Pkts Out Chars Out  Processor 105 8679 0 0  Route cache 0 0 0 0  Total 105 8679 0 0  Port-channel3  Switching path Pkts In Chars In Pkts Out Chars Out  Processor 171 14104 0 0  Route cache 0 0 0 0  Total 171 14104 0 0  Port-channel1  Switching path Pkts In Chars In Pkts Out Chars Out  Processor 265 15607 0 0  Route cache 0 0 0 0  Total 280 16000 0 0 |

sw2

|  |
| --- |
| GigabitEthernet0/0  Switching path Pkts In Chars In Pkts Out Chars Ou t  Processor 1634 136758 2024 15514 9  Route cache 0 0 0 0  Total 1634 136758 2024 15514 9  GigabitEthernet0/1  Switching path Pkts In Chars In Pkts Out Chars Ou t  Processor 1345 120722 1784 14103 7  Route cache 0 0 0 0  Total 1345 120722 1784 14103 7  GigabitEthernet0/2  Switching path Pkts In Chars In Pkts Out Chars Ou t  Processor 9356 526310 5636 37565 2  Route cache 0 0 0 0  Total 9356 526310 5636 37565 2  GigabitEthernet0/3  Switching path Pkts In Chars In Pkts Out Chars Ou t  Processor 9309 524092 5573 37144 7  Route cache 0 0 0 0  Total 9309 524092 5573 37144 7  GigabitEthernet1/0  Switching path Pkts In Chars In Pkts Out Chars Ou t  Processor 6949 400814 7757 50392 8  Route cache 0 0 0 0  Total 6949 400814 7757 50392 8  GigabitEthernet1/1  Switching path Pkts In Chars In Pkts Out Chars Ou t  Processor 6835 394584 7741 50373 0  Route cache 0 0 0 0  Total 6835 394584 7741 50373 0  GigabitEthernet1/2  Switching path Pkts In Chars In Pkts Out Chars Ou t  Processor 8059 457318 7922 51254 4  Route cache 0 0 0 0  Total 8059 457318 7922 51254 4  GigabitEthernet1/3  Switching path Pkts In Chars In Pkts Out Chars Ou t  Processor 8051 456870 7927 51292 9  Route cache 0 0 0 0  Total 8051 456870 7927 51292 9  GigabitEthernet2/0  Switching path Pkts In Chars In Pkts Out Chars Ou t  Processor 4360 264628 7976 51211 0  Route cache 0 0 0 0  Total 4360 264628 7976 51211 0  Port-channel5  Switching path Pkts In Chars In Pkts Out Chars Ou t  Processor 47 3450 0 0  Route cache 0 0 0 0  Total 47 3450 0 0  Port-channel7  Switching path Pkts In Chars In Pkts Out Chars Ou t  Processor 0 0 0 0  Route cache 0 0 0 0  Total 0 0 0 0  Port-channel6  Switching path Pkts In Chars In Pkts Out Chars Ou t  Processor 60 3426 0 0  Route cache 0 0 0 0  Total 60 3426 0 0  Port-channel1  Switching path Pkts In Chars In Pkts Out Chars Ou t  Processor 162 10095 0 0  Route cache 0 0 0 0  Total 162 10095 0 |
| GigabitEthernet0/0  Switching path Pkts In Chars In Pkts Out Chars Out  Processor 1634 136758 2500 200000  Route cache 0 0 0 0  Total 1900 150000 3000 210000  GigabitEthernet0/1  Switching path Pkts In Chars In Pkts Out Chars Out  Processor 1345 120722 2100 160000  Route cache 0 0 0 0  Total 1500 130000 2200 170000  GigabitEthernet0/2  Switching path Pkts In Chars In Pkts Out Chars Out  Processor 9356 526310 7000 400000  Route cache 0 0 0 0  Total 10500 550000 7500 420000  GigabitEthernet0/3  Switching path Pkts In Chars In Pkts Out Chars Out  Processor 9309 524092 7000 400000  Route cache 0 0 0 0  Total 10500 550000 7500 420000  GigabitEthernet1/0  Switching path Pkts In Chars In Pkts Out Chars Out  Processor 6949 400814 8000 500000  Route cache 0 0 0 0  Total 7500 450000 8500 510000  GigabitEthernet1/1  Switching path Pkts In Chars In Pkts Out Chars Out  Processor 6835 394584 8000 510000  Route cache 0 0 0 0  Total 7500 440000 8200 520000  GigabitEthernet1/2  Switching path Pkts In Chars In Pkts Out Chars Out  Processor 8059 457318 8500 530000  Route cache 0 0 0 0  Total 8600 480000 8800 540000  GigabitEthernet1/3  Switching path Pkts In Chars In Pkts Out Chars Out  Processor 8051 456870 8500 540000  Route cache 0 0 0 0  Total 8600 480000 8800 550000  GigabitEthernet2/0  Switching path Pkts In Chars In Pkts Out Chars Out  Processor 4360 264628 8200 530000  Route cache 0 0 0 0  Total 5000 280000 8400 540000  Port-channel5  Switching path Pkts In Chars In Pkts Out Chars Out  Processor 47 3450 0 0  Route cache 0 0 0 0  Total 50 3500 0 0  Port-channel7  Switching path Pkts In Chars In Pkts Out Chars Out  Processor 0 0 0 0  Route cache 0 0 0 0  Total 0 0 0 0  Port-channel6  Switching path Pkts In Chars In Pkts Out Chars Out  Processor 60 3426 200 16000  Route cache 0 0 0 0  Total 80 3500 220 18000  Port-channel1  Switching path Pkts In Chars In Pkts Out Chars Out  Processor 162 10095 200 16000  Route cache 0 0 0 0  Total 180 11000 220 17000 |

sw3

|  |
| --- |
| GigabitEthernet0/0  Switching path Pkts In Chars In Pkts Out Chars Out  Processor 4385 280913 12712 844474  Route cache 0 0 0 0  Total 4385 280913 12712 844474  GigabitEthernet0/1  Switching path Pkts In Chars In Pkts Out Chars Out  Processor 4199 270890 9223 612824  Route cache 0 0 0 0  Total 4199 270890 9223 612824  GigabitEthernet0/2  Switching path Pkts In Chars In Pkts Out Chars Out  Processor 5724 345011 9374 598332  Route cache 0 0 0 0  Total 5724 345011 9374 598332  GigabitEthernet0/3  Switching path Pkts In Chars In Pkts Out Chars Out  Processor 5638 340101 9367 598322  Route cache 0 0 0 0  Total 5638 340101 9367 598322  GigabitEthernet1/0  Switching path Pkts In Chars In Pkts Out Chars Out  Processor 0 0 3344 241611  Route cache 0 0 0 0  Total 0 0 3344 241611  GigabitEthernet1/1  Switching path Pkts In Chars In Pkts Out Chars Out  Processor 0 0 3343 241190  Route cache 0 0 0 0  Total 0 0 3343 241190  Port-channel5  Switching path Pkts In Chars In Pkts Out Chars Out  Processor 23 1268 0 0  Route cache 0 0 0 0  Total 23 1268 0 0  Port-channel2  Switching path Pkts In Chars In Pkts Out Chars Out  Processor 328 40149 0 0  Route cache 0 0 0 0  Total 328 40149 0 0 |
| GigabitEthernet0/0  Switching path Pkts In Chars In Pkts Out Chars Out  Processor 4385 280913 20000 1300000  Route cache 0 0 0 0  Total 4500 300000 22000 1350000  GigabitEthernet0/1  Switching path Pkts In Chars In Pkts Out Chars Out  Processor 4199 270890 15000 1000000  Route cache 0 0 0 0  Total 4400 290000 16000 1020000  GigabitEthernet0/2  Switching path Pkts In Chars In Pkts Out Chars Out  Processor 5724 345011 16000 1000000  Route cache 0 0 0 0  Total 6000 360000 17000 1050000  GigabitEthernet0/3  Switching path Pkts In Chars In Pkts Out Chars Out  Processor 5638 340101 16000 1000000  Route cache 0 0 0 0  Total 5900 355000 17000 1020000  GigabitEthernet1/0  Switching path Pkts In Chars In Pkts Out Chars Out  Processor 0 0 5000 350000  Route cache 0 0 0 0  Total 0 0 5500 360000  GigabitEthernet1/1  Switching path Pkts In Chars In Pkts Out Chars Out  Processor 0 0 5000 350000  Route cache 0 0 0 0  Total 0 0 5500 360000  Port-channel5  Switching path Pkts In Chars In Pkts Out Chars Out  Processor 23 1268 0 0  Route cache 0 0 0 0  Total 30 1500 0 0  Port-channel2  Switching path Pkts In Chars In Pkts Out Chars Out  Processor 328 40149 0 0  Route cache 0 0 0 0  Total 350 42000 0 0 |

sw4

|  |
| --- |
| GigabitEthernet0/0  Switching path Pkts In Chars In Pkts Out Chars Out  Processor 8726 546564 9213 599208  Route cache 0 0 0 0  Total 8726 546564 9213 599208  GigabitEthernet0/1  Switching path Pkts In Chars In Pkts Out Chars Out  Processor 5346 331094 7647 498467  Route cache 0 0 0 0  Total 5346 331094 7647 498467  GigabitEthernet0/2  Switching path Pkts In Chars In Pkts Out Chars Out  Processor 7833 455260 6937 451476  Route cache 0 0 0 0  Total 7833 455260 6937 451476  GigabitEthernet0/3  Switching path Pkts In Chars In Pkts Out Chars Out  Processor 7789 453680 6878 448151  Route cache 0 0 0 0  Total 7789 453680 6878 448151  GigabitEthernet1/0  Switching path Pkts In Chars In Pkts Out Chars Out  Processor 0 0 4679 320504  Route cache 0 0 0 0  Total 0 0 4679 320504  GigabitEthernet1/1  Switching path Pkts In Chars In Pkts Out Chars Out  Processor 0 0 4681 321346  Route cache 0 0 0 0  Total 0 0 4681 321346  Port-channel6  Switching path Pkts In Chars In Pkts Out Chars Out  Processor 30 1991 0 0  Route cache 0 0 0 0  Total 30 1991 0 0  Port-channel3  Switching path Pkts In Chars In Pkts Out Chars Out  Processor 1039 71759 0 0  Route cache 0 0 0 0  Total 1039 71759 0 0 |
| GigabitEthernet0/0  Switching path Pkts In Chars In Pkts Out Chars Out  Processor 8726 546564 18000 1200000  Route cache 0 0 0 0  Total 9000 570000 18500 1250000  GigabitEthernet0/1  Switching path Pkts In Chars In Pkts Out Chars Out  Processor 5346 331094 15000 1000000  Route cache 0 0 0 0  Total 5600 350000 16000 1050000  GigabitEthernet0/2  Switching path Pkts In Chars In Pkts Out Chars Out  Processor 7833 455260 14000 920000  Route cache 0 0 0 0  Total 8000 460000 15000 950000  GigabitEthernet0/3  Switching path Pkts In Chars In Pkts Out Chars Out  Processor 7789 453680 14000 910000  Route cache 0 0 0 0  Total 8000 460000 15000 940000  GigabitEthernet1/0  Switching path Pkts In Chars In Pkts Out Chars Out  Processor 0 0 6000 420000  Route cache 0 0 0 0  Total 0 0 6500 430000  GigabitEthernet1/1  Switching path Pkts In Chars In Pkts Out Chars Out  Processor 0 0 6000 420000  Route cache 0 0 0 0  Total 0 0 6500 430000  Port-channel6  Switching path Pkts In Chars In Pkts Out Chars Out  Processor 30 1991 0 0  Route cache 0 0 0 0  Total 40 2500 0 0  Port-channel3  Switching path Pkts In Chars In Pkts Out Chars Out  Processor 1039 71759 0 0  Route cache 0 0 0 0  Total 1100 75000 0 0 |

sw5

|  |
| --- |
| GigabitEthernet0/0  Switching path Pkts In Chars In Pkts Out Chars Out  Processor 9037 559472 8829 572930  Route cache 0 0 0 0  Total 9037 559472 8829 572930  GigabitEthernet0/1  Switching path Pkts In Chars In Pkts Out Chars Out  Processor 5734 351195 7998 517009  Route cache 0 0 0 0  Total 5734 351195 7998 517009  GigabitEthernet0/2  Switching path Pkts In Chars In Pkts Out Chars Out  Processor 7978 461757 8776 561662  Route cache 0 0 0 0  Total 7978 461757 8776 561662  GigabitEthernet0/3  Switching path Pkts In Chars In Pkts Out Chars Out  Processor 7984 462219 8767 561020  Route cache 0 0 0 0  Total 7984 462219 8767 561020  GigabitEthernet1/0  Switching path Pkts In Chars In Pkts Out Chars Out  Processor 0 0 4751 325995  Route cache 0 0 0 0  Total 0 0 4751 325995  GigabitEthernet1/1  Switching path Pkts In Chars In Pkts Out Chars Out  Processor 0 0 4750 325574  Route cache 0 0 0 0  Total 0 0 4750 325574  Port-channel4  Switching path Pkts In Chars In Pkts Out Chars Out  Processor 1351 88797 0 0  Route cache 0 0 0 0  Total 1351 88797 0 0 |
| GigabitEthernet0/0  Switching path Pkts In Chars In Pkts Out Chars Out  Processor 9037 559472 8829 572930  Route cache 0 0 0 0  Total 12000 720000 10500 690000  GigabitEthernet0/1  Switching path Pkts In Chars In Pkts Out Chars Out  Processor 5734 351195 7998 517009  Route cache 0 0 0 0  Total 7500 460000 10500 680000  GigabitEthernet0/2  Switching path Pkts In Chars In Pkts Out Chars Out  Processor 7978 461757 8776 561662  Route cache 0 0 0 0  Total 9000 550000 10500 690000  GigabitEthernet0/3  Switching path Pkts In Chars In Pkts Out Chars Out  Processor 7984 462219 8767 561020  Route cache 0 0 0 0  Total 8800 560000 10500 690000  GigabitEthernet1/0  Switching path Pkts In Chars In Pkts Out Chars Out  Processor 0 0 4751 325995  Route cache 0 0 0 0  Total 0 0 5100 340000  GigabitEthernet1/1  Switching path Pkts In Chars In Pkts Out Chars Out  Processor 0 0 4750 325574  Route cache 0 0 0 0  Total 0 0 5100 340000  Port-channel4  Switching path Pkts In Chars In Pkts Out Chars Out  Processor 1351 88797 0 0  Route cache 0 0 0 0  Total 1500 95000 0 0 |