

Пример настройки DAS3 series DSLAM для предоставления трех сервисов (Интернет, Voice и Видео).

В данном примере рассматривается конфигурирование DAS-3238 rev.B (f/w ver. 2.43) В рамках данного примера предполагается, что трафик (три сервиса) с вышестоящего коммутатора приходит уже тегированным и приоритизированным. Задача DSLAM поместить трафик в соответствии с DSCP приоритетом и внутренним приоритетом 802.1p в нужную приоритетную очередь и определить гарантированную полосу пропускания для каждого из сервисов в направлениях Upstream/Downstream. Представленный пример является полностью рабочим.

Для Internet VC использовались параметры VPI/VCI 10/40.
VLAN Internet сервиса – VID 21.

Для IPTV VC использовались параметры VPI/VCI 10/50.
VLAN IPTV сервиса – VID 20.

Для Voice VC использовались параметры VPI/VCI 10/60.
VLAN Voice сервиса – VID 1.

Все настройки производились с DSLAM, находящимся в Default конфигурации.

Изменяем настройки ETH интерфейса (Uplink). В данном случае для управления устройством используется VLAN с VID 21:

```
modify ethernet intf ifname eth-1 disable
modify ethernet intf ifname eth-1 ip 192.168.10.35 mask 255.255.255.0 mgmtvlanid
21 enable
```

Выключаем созданные в default конфигурации ATM VC интерфейсы, изменяем настройки VPI/VCI и включаем интерфейсы в работу:

```
modify atm vc intf ifname aal5-1 disable
modify atm vc intf ifname aal5-2 disable
modify atm vc intf ifname aal5-3 disable
modify atm vc intf ifname aal5-4 disable
modify atm vc intf ifname aal5-5 disable
modify atm vc intf ifname aal5-6 disable
modify atm vc intf ifname aal5-7 disable
modify atm vc intf ifname aal5-8 disable
modify atm vc intf ifname aal5-9 disable
modify atm vc intf ifname aal5-10 disable
modify atm vc intf ifname aal5-11 disable
modify atm vc intf ifname aal5-12 disable
modify atm vc intf ifname aal5-13 disable
modify atm vc intf ifname aal5-14 disable
modify atm vc intf ifname aal5-15 disable
modify atm vc intf ifname aal5-16 disable
modify atm vc intf ifname aal5-17 disable
modify atm vc intf ifname aal5-18 disable
modify atm vc intf ifname aal5-19 disable
modify atm vc intf ifname aal5-20 disable
modify atm vc intf ifname aal5-21 disable
modify atm vc intf ifname aal5-22 disable
modify atm vc intf ifname aal5-23 disable
modify atm vc intf ifname aal5-24 disable
```


Выключаем созданные в default конфигурации Bridge интерфейсы:

```
modify bridge port intf portid 1 status disable
modify bridge port intf portid 2 status disable
modify bridge port intf portid 3 status disable
modify bridge port intf portid 4 status disable
modify bridge port intf portid 5 status disable
modify bridge port intf portid 6 status disable
modify bridge port intf portid 7 status disable
modify bridge port intf portid 8 status disable
modify bridge port intf portid 9 status disable
modify bridge port intf portid 10 status disable
modify bridge port intf portid 11 status disable
modify bridge port intf portid 12 status disable
modify bridge port intf portid 13 status disable
modify bridge port intf portid 14 status disable
modify bridge port intf portid 15 status disable
modify bridge port intf portid 16 status disable
modify bridge port intf portid 17 status disable
modify bridge port intf portid 18 status disable
modify bridge port intf portid 19 status disable
modify bridge port intf portid 20 status disable
modify bridge port intf portid 21 status disable
modify bridge port intf portid 22 status disable
modify bridge port intf portid 23 status disable
modify bridge port intf portid 24 status disable
modify bridge port intf portid 25 status disable
modify bridge port intf portid 26 status disable
modify bridge port intf portid 27 status disable
modify bridge port intf portid 28 status disable
modify bridge port intf portid 29 status disable
modify bridge port intf portid 30 status disable
modify bridge port intf portid 31 status disable
modify bridge port intf portid 32 status disable
modify bridge port intf portid 33 status disable
modify bridge port intf portid 34 status disable
modify bridge port intf portid 35 status disable
modify bridge port intf portid 36 status disable
modify bridge port intf portid 37 status disable
modify bridge port intf portid 38 status disable
modify bridge port intf portid 39 status disable
modify bridge port intf portid 40 status disable
modify bridge port intf portid 41 status disable
modify bridge port intf portid 42 status disable
modify bridge port intf portid 43 status disable
modify bridge port intf portid 44 status disable
modify bridge port intf portid 45 status disable
modify bridge port intf portid 46 status disable
modify bridge port intf portid 47 status disable
modify bridge port intf portid 48 status disable
```

Создаем ATM VC интерфейсы для IPTV услуги:

```
create atm vc intf ifname aal5-49 vpi 10 vci 50 lowif atm-1
create atm vc intf ifname aal5-50 vpi 10 vci 50 lowif atm-2
create atm vc intf ifname aal5-51 vpi 10 vci 50 lowif atm-3
create atm vc intf ifname aal5-52 vpi 10 vci 50 lowif atm-4
create atm vc intf ifname aal5-53 vpi 10 vci 50 lowif atm-5
create atm vc intf ifname aal5-54 vpi 10 vci 50 lowif atm-6
create atm vc intf ifname aal5-55 vpi 10 vci 50 lowif atm-7
```

```

create atm vc intf ifname aal5-56 vpi 10 vci 50 lowif atm-8
create atm vc intf ifname aal5-57 vpi 10 vci 50 lowif atm-9
create atm vc intf ifname aal5-58 vpi 10 vci 50 lowif atm-10
create atm vc intf ifname aal5-59 vpi 10 vci 50 lowif atm-11
create atm vc intf ifname aal5-60 vpi 10 vci 50 lowif atm-12
create atm vc intf ifname aal5-61 vpi 10 vci 50 lowif atm-13
create atm vc intf ifname aal5-62 vpi 10 vci 50 lowif atm-14
create atm vc intf ifname aal5-63 vpi 10 vci 50 lowif atm-15
create atm vc intf ifname aal5-64 vpi 10 vci 50 lowif atm-16
create atm vc intf ifname aal5-65 vpi 10 vci 50 lowif atm-17
create atm vc intf ifname aal5-66 vpi 10 vci 50 lowif atm-18
create atm vc intf ifname aal5-67 vpi 10 vci 50 lowif atm-19
create atm vc intf ifname aal5-68 vpi 10 vci 50 lowif atm-20
create atm vc intf ifname aal5-69 vpi 10 vci 50 lowif atm-21
create atm vc intf ifname aal5-70 vpi 10 vci 50 lowif atm-22
create atm vc intf ifname aal5-71 vpi 10 vci 50 lowif atm-23
create atm vc intf ifname aal5-72 vpi 10 vci 50 lowif atm-24
create atm vc intf ifname aal5-73 vpi 10 vci 50 lowif atm-25
create atm vc intf ifname aal5-74 vpi 10 vci 50 lowif atm-26
create atm vc intf ifname aal5-75 vpi 10 vci 50 lowif atm-27
create atm vc intf ifname aal5-76 vpi 10 vci 50 lowif atm-28
create atm vc intf ifname aal5-77 vpi 10 vci 50 lowif atm-29
create atm vc intf ifname aal5-78 vpi 10 vci 50 lowif atm-30
create atm vc intf ifname aal5-79 vpi 10 vci 50 lowif atm-31
create atm vc intf ifname aal5-80 vpi 10 vci 50 lowif atm-32
create atm vc intf ifname aal5-81 vpi 10 vci 50 lowif atm-33
create atm vc intf ifname aal5-82 vpi 10 vci 50 lowif atm-34
create atm vc intf ifname aal5-83 vpi 10 vci 50 lowif atm-35
create atm vc intf ifname aal5-84 vpi 10 vci 50 lowif atm-36
create atm vc intf ifname aal5-85 vpi 10 vci 50 lowif atm-37
create atm vc intf ifname aal5-86 vpi 10 vci 50 lowif atm-38
create atm vc intf ifname aal5-87 vpi 10 vci 50 lowif atm-39
create atm vc intf ifname aal5-88 vpi 10 vci 50 lowif atm-40
create atm vc intf ifname aal5-89 vpi 10 vci 50 lowif atm-41
create atm vc intf ifname aal5-90 vpi 10 vci 50 lowif atm-42
create atm vc intf ifname aal5-91 vpi 10 vci 50 lowif atm-43
create atm vc intf ifname aal5-92 vpi 10 vci 50 lowif atm-44
create atm vc intf ifname aal5-93 vpi 10 vci 50 lowif atm-45
create atm vc intf ifname aal5-94 vpi 10 vci 50 lowif atm-46
create atm vc intf ifname aal5-95 vpi 10 vci 50 lowif atm-47
create atm vc intf ifname aal5-96 vpi 10 vci 50 lowif atm-48

```

Создаем ЕоА интерфейсы поверх созданных АТМ VC интерфейсов для IPTV услуги:

```

create eoa intf ifname eoa-49 lowif aal5-49
create eoa intf ifname eoa-50 lowif aal5-50
create eoa intf ifname eoa-51 lowif aal5-51
create eoa intf ifname eoa-52 lowif aal5-52
create eoa intf ifname eoa-53 lowif aal5-53
create eoa intf ifname eoa-54 lowif aal5-54
create eoa intf ifname eoa-55 lowif aal5-55
create eoa intf ifname eoa-56 lowif aal5-56
create eoa intf ifname eoa-57 lowif aal5-57
create eoa intf ifname eoa-58 lowif aal5-58
create eoa intf ifname eoa-59 lowif aal5-59
create eoa intf ifname eoa-60 lowif aal5-60
create eoa intf ifname eoa-61 lowif aal5-61
create eoa intf ifname eoa-62 lowif aal5-62
create eoa intf ifname eoa-63 lowif aal5-63
create eoa intf ifname eoa-64 lowif aal5-64

```

```
create eoa intf ifname eoa-65 lowif aal5-65
create eoa intf ifname eoa-66 lowif aal5-66
create eoa intf ifname eoa-67 lowif aal5-67
create eoa intf ifname eoa-68 lowif aal5-68
create eoa intf ifname eoa-69 lowif aal5-69
create eoa intf ifname eoa-70 lowif aal5-70
create eoa intf ifname eoa-71 lowif aal5-71
create eoa intf ifname eoa-72 lowif aal5-72
create eoa intf ifname eoa-73 lowif aal5-73
create eoa intf ifname eoa-74 lowif aal5-74
create eoa intf ifname eoa-75 lowif aal5-75
create eoa intf ifname eoa-76 lowif aal5-76
create eoa intf ifname eoa-77 lowif aal5-77
create eoa intf ifname eoa-78 lowif aal5-78
create eoa intf ifname eoa-79 lowif aal5-79
create eoa intf ifname eoa-80 lowif aal5-80
create eoa intf ifname eoa-81 lowif aal5-81
create eoa intf ifname eoa-82 lowif aal5-82
create eoa intf ifname eoa-83 lowif aal5-83
create eoa intf ifname eoa-84 lowif aal5-84
create eoa intf ifname eoa-85 lowif aal5-85
create eoa intf ifname eoa-86 lowif aal5-86
create eoa intf ifname eoa-87 lowif aal5-87
create eoa intf ifname eoa-88 lowif aal5-88
create eoa intf ifname eoa-89 lowif aal5-89
create eoa intf ifname eoa-90 lowif aal5-90
create eoa intf ifname eoa-91 lowif aal5-91
create eoa intf ifname eoa-92 lowif aal5-92
create eoa intf ifname eoa-93 lowif aal5-93
create eoa intf ifname eoa-94 lowif aal5-94
create eoa intf ifname eoa-95 lowif aal5-95
create eoa intf ifname eoa-96 lowif aal5-96
```

Создаем Bridge интерфейсы поверх созданных ЕоА интерфейсов для IPTV услуги:

```
create bridge port intf portid 49 ifname eoa-49
create bridge port intf portid 50 ifname eoa-50
create bridge port intf portid 51 ifname eoa-51
create bridge port intf portid 52 ifname eoa-52
create bridge port intf portid 53 ifname eoa-53
create bridge port intf portid 54 ifname eoa-54
create bridge port intf portid 55 ifname eoa-55
create bridge port intf portid 56 ifname eoa-56
create bridge port intf portid 57 ifname eoa-57
create bridge port intf portid 58 ifname eoa-58
create bridge port intf portid 59 ifname eoa-59
create bridge port intf portid 60 ifname eoa-60
create bridge port intf portid 61 ifname eoa-61
create bridge port intf portid 62 ifname eoa-62
create bridge port intf portid 63 ifname eoa-63
create bridge port intf portid 64 ifname eoa-64
create bridge port intf portid 65 ifname eoa-65
create bridge port intf portid 66 ifname eoa-66
create bridge port intf portid 67 ifname eoa-67
create bridge port intf portid 68 ifname eoa-68
create bridge port intf portid 69 ifname eoa-69
create bridge port intf portid 70 ifname eoa-70
create bridge port intf portid 71 ifname eoa-71
create bridge port intf portid 72 ifname eoa-72
create bridge port intf portid 73 ifname eoa-73
```

```

create bridge port intf portid 74 ifname eoa-74
create bridge port intf portid 75 ifname eoa-75
create bridge port intf portid 76 ifname eoa-76
create bridge port intf portid 77 ifname eoa-77
create bridge port intf portid 78 ifname eoa-78
create bridge port intf portid 79 ifname eoa-79
create bridge port intf portid 80 ifname eoa-80
create bridge port intf portid 81 ifname eoa-81
create bridge port intf portid 82 ifname eoa-82
create bridge port intf portid 83 ifname eoa-83
create bridge port intf portid 84 ifname eoa-84
create bridge port intf portid 85 ifname eoa-85
create bridge port intf portid 86 ifname eoa-86
create bridge port intf portid 87 ifname eoa-87
create bridge port intf portid 88 ifname eoa-88
create bridge port intf portid 89 ifname eoa-89
create bridge port intf portid 90 ifname eoa-90
create bridge port intf portid 91 ifname eoa-91
create bridge port intf portid 92 ifname eoa-92
create bridge port intf portid 93 ifname eoa-93
create bridge port intf portid 94 ifname eoa-94
create bridge port intf portid 95 ifname eoa-95
create bridge port intf portid 96 ifname eoa-96

```

Создаем ATM VC интерфейсы для Voice услуги:

```

create atm vc intf ifname aal5-97 vpi 10 vci 60 lowif atm-1
create atm vc intf ifname aal5-98 vpi 10 vci 60 lowif atm-2
create atm vc intf ifname aal5-99 vpi 10 vci 60 lowif atm-3
create atm vc intf ifname aal5-100 vpi 10 vci 60 lowif atm-4
create atm vc intf ifname aal5-101 vpi 10 vci 60 lowif atm-5
create atm vc intf ifname aal5-102 vpi 10 vci 60 lowif atm-6
create atm vc intf ifname aal5-103 vpi 10 vci 60 lowif atm-7
create atm vc intf ifname aal5-104 vpi 10 vci 60 lowif atm-8
create atm vc intf ifname aal5-105 vpi 10 vci 60 lowif atm-9
create atm vc intf ifname aal5-106 vpi 10 vci 60 lowif atm-10
create atm vc intf ifname aal5-107 vpi 10 vci 60 lowif atm-11
create atm vc intf ifname aal5-108 vpi 10 vci 60 lowif atm-12
create atm vc intf ifname aal5-109 vpi 10 vci 60 lowif atm-13
create atm vc intf ifname aal5-110 vpi 10 vci 60 lowif atm-14
create atm vc intf ifname aal5-111 vpi 10 vci 60 lowif atm-15
create atm vc intf ifname aal5-112 vpi 10 vci 60 lowif atm-16
create atm vc intf ifname aal5-113 vpi 10 vci 60 lowif atm-17
create atm vc intf ifname aal5-114 vpi 10 vci 60 lowif atm-18
create atm vc intf ifname aal5-115 vpi 10 vci 60 lowif atm-19
create atm vc intf ifname aal5-116 vpi 10 vci 60 lowif atm-20
create atm vc intf ifname aal5-117 vpi 10 vci 60 lowif atm-21
create atm vc intf ifname aal5-118 vpi 10 vci 60 lowif atm-22
create atm vc intf ifname aal5-119 vpi 10 vci 60 lowif atm-23
create atm vc intf ifname aal5-120 vpi 10 vci 60 lowif atm-24
create atm vc intf ifname aal5-121 vpi 10 vci 60 lowif atm-25
create atm vc intf ifname aal5-122 vpi 10 vci 60 lowif atm-26
create atm vc intf ifname aal5-123 vpi 10 vci 60 lowif atm-27
create atm vc intf ifname aal5-124 vpi 10 vci 60 lowif atm-28
create atm vc intf ifname aal5-125 vpi 10 vci 60 lowif atm-29
create atm vc intf ifname aal5-126 vpi 10 vci 60 lowif atm-30
create atm vc intf ifname aal5-127 vpi 10 vci 60 lowif atm-31
create atm vc intf ifname aal5-128 vpi 10 vci 60 lowif atm-32
create atm vc intf ifname aal5-129 vpi 10 vci 60 lowif atm-33
create atm vc intf ifname aal5-130 vpi 10 vci 60 lowif atm-34

```

```
create atm vc intf ifname aal5-131 vpi 10 vci 60 lowif atm-35
create atm vc intf ifname aal5-132 vpi 10 vci 60 lowif atm-36
create atm vc intf ifname aal5-133 vpi 10 vci 60 lowif atm-37
create atm vc intf ifname aal5-134 vpi 10 vci 60 lowif atm-38
create atm vc intf ifname aal5-135 vpi 10 vci 60 lowif atm-39
create atm vc intf ifname aal5-136 vpi 10 vci 60 lowif atm-40
create atm vc intf ifname aal5-137 vpi 10 vci 60 lowif atm-41
create atm vc intf ifname aal5-138 vpi 10 vci 60 lowif atm-42
create atm vc intf ifname aal5-139 vpi 10 vci 60 lowif atm-43
create atm vc intf ifname aal5-140 vpi 10 vci 60 lowif atm-44
create atm vc intf ifname aal5-141 vpi 10 vci 60 lowif atm-45
create atm vc intf ifname aal5-142 vpi 10 vci 60 lowif atm-46
create atm vc intf ifname aal5-143 vpi 10 vci 60 lowif atm-47
create atm vc intf ifname aal5-144 vpi 10 vci 60 lowif atm-48
```

Создаем ЕоА интерфейсы поверх созданных АТМ ВС интерфейсов для Voice услуги:

```
create eoa intf ifname eoa-97 lowif aal5-97
create eoa intf ifname eoa-98 lowif aal5-98
create eoa intf ifname eoa-99 lowif aal5-99
create eoa intf ifname eoa-100 lowif aal5-100
create eoa intf ifname eoa-101 lowif aal5-101
create eoa intf ifname eoa-102 lowif aal5-102
create eoa intf ifname eoa-103 lowif aal5-103
create eoa intf ifname eoa-104 lowif aal5-104
create eoa intf ifname eoa-105 lowif aal5-105
create eoa intf ifname eoa-106 lowif aal5-106
create eoa intf ifname eoa-107 lowif aal5-107
create eoa intf ifname eoa-108 lowif aal5-108
create eoa intf ifname eoa-109 lowif aal5-109
create eoa intf ifname eoa-110 lowif aal5-110
create eoa intf ifname eoa-111 lowif aal5-111
create eoa intf ifname eoa-112 lowif aal5-112
create eoa intf ifname eoa-113 lowif aal5-113
create eoa intf ifname eoa-114 lowif aal5-114
create eoa intf ifname eoa-115 lowif aal5-115
create eoa intf ifname eoa-116 lowif aal5-116
create eoa intf ifname eoa-117 lowif aal5-117
create eoa intf ifname eoa-118 lowif aal5-118
create eoa intf ifname eoa-119 lowif aal5-119
create eoa intf ifname eoa-120 lowif aal5-120
create eoa intf ifname eoa-121 lowif aal5-121
create eoa intf ifname eoa-122 lowif aal5-122
create eoa intf ifname eoa-123 lowif aal5-123
create eoa intf ifname eoa-124 lowif aal5-124
create eoa intf ifname eoa-125 lowif aal5-125
create eoa intf ifname eoa-126 lowif aal5-126
create eoa intf ifname eoa-127 lowif aal5-127
create eoa intf ifname eoa-128 lowif aal5-128
create eoa intf ifname eoa-129 lowif aal5-129
create eoa intf ifname eoa-130 lowif aal5-130
create eoa intf ifname eoa-131 lowif aal5-131
create eoa intf ifname eoa-132 lowif aal5-132
create eoa intf ifname eoa-133 lowif aal5-133
create eoa intf ifname eoa-134 lowif aal5-134
create eoa intf ifname eoa-135 lowif aal5-135
create eoa intf ifname eoa-136 lowif aal5-136
create eoa intf ifname eoa-137 lowif aal5-137
create eoa intf ifname eoa-138 lowif aal5-138
create eoa intf ifname eoa-139 lowif aal5-139
create eoa intf ifname eoa-140 lowif aal5-140
create eoa intf ifname eoa-141 lowif aal5-141
```



```
create eoa intf ifname eoa-142 lowif aal5-142
create eoa intf ifname eoa-143 lowif aal5-143
create eoa intf ifname eoa-144 lowif aal5-144
```

Создаем Bridge интерфейсы поверх созданных ЕоА интерфейсов для Voice услуги:

```
create bridge port intf portid 97 ifname eoa-97
create bridge port intf portid 98 ifname eoa-98
create bridge port intf portid 99 ifname eoa-99
create bridge port intf portid 100 ifname eoa-100
create bridge port intf portid 101 ifname eoa-101
create bridge port intf portid 102 ifname eoa-102
create bridge port intf portid 103 ifname eoa-103
create bridge port intf portid 104 ifname eoa-104
create bridge port intf portid 105 ifname eoa-105
create bridge port intf portid 106 ifname eoa-106
create bridge port intf portid 107 ifname eoa-107
create bridge port intf portid 108 ifname eoa-108
create bridge port intf portid 109 ifname eoa-109
create bridge port intf portid 110 ifname eoa-110
create bridge port intf portid 111 ifname eoa-111
create bridge port intf portid 112 ifname eoa-112
create bridge port intf portid 113 ifname eoa-113
create bridge port intf portid 114 ifname eoa-114
create bridge port intf portid 115 ifname eoa-115
create bridge port intf portid 116 ifname eoa-116
create bridge port intf portid 117 ifname eoa-117
create bridge port intf portid 118 ifname eoa-118
create bridge port intf portid 119 ifname eoa-119
create bridge port intf portid 120 ifname eoa-120
create bridge port intf portid 121 ifname eoa-121
create bridge port intf portid 122 ifname eoa-122
create bridge port intf portid 123 ifname eoa-123
create bridge port intf portid 124 ifname eoa-124
create bridge port intf portid 125 ifname eoa-125
create bridge port intf portid 126 ifname eoa-126
create bridge port intf portid 127 ifname eoa-127
create bridge port intf portid 128 ifname eoa-128
create bridge port intf portid 129 ifname eoa-129
create bridge port intf portid 130 ifname eoa-130
create bridge port intf portid 131 ifname eoa-131
create bridge port intf portid 132 ifname eoa-132
create bridge port intf portid 133 ifname eoa-133
create bridge port intf portid 134 ifname eoa-134
create bridge port intf portid 135 ifname eoa-135
create bridge port intf portid 136 ifname eoa-136
create bridge port intf portid 137 ifname eoa-137
create bridge port intf portid 138 ifname eoa-138
create bridge port intf portid 139 ifname eoa-139
create bridge port intf portid 140 ifname eoa-140
create bridge port intf portid 141 ifname eoa-141
create bridge port intf portid 142 ifname eoa-142
create bridge port intf portid 143 ifname eoa-143
create bridge port intf portid 144 ifname eoa-144
```

Создаем IRL профили для обеспечения гарантированной полосы пропускания Upstream для каждого из трех сервисов (Internet – 256Kbit/s, Voice – 256Kbit/s, IGMP - 128Kbit/s):

```
create irl profile profilename Inet irltype sr2cm cir 256 cbs 1000 conformation
colorgreen violateaction drop
create irl profile profilename VoIP irltype sr2cm cir 256 cbs 1000 conformation
colorgreen violateaction drop
create irl profile profilename IGMP irltype sr2cm cir 128 cbs 1000 conformation
colorgreen violateaction drop
```

Привязываем созданные IRL профили к нужным aal5 интерфейсам:

```
create irl map ifname aal5-1 profilename Inet
create irl map ifname aal5-2 profilename Inet
create irl map ifname aal5-3 profilename Inet
create irl map ifname aal5-4 profilename Inet
create irl map ifname aal5-5 profilename Inet
create irl map ifname aal5-6 profilename Inet
create irl map ifname aal5-7 profilename Inet
create irl map ifname aal5-8 profilename Inet
create irl map ifname aal5-9 profilename Inet
create irl map ifname aal5-10 profilename Inet
create irl map ifname aal5-11 profilename Inet
create irl map ifname aal5-12 profilename Inet
create irl map ifname aal5-13 profilename Inet
create irl map ifname aal5-14 profilename Inet
create irl map ifname aal5-15 profilename Inet
create irl map ifname aal5-16 profilename Inet
create irl map ifname aal5-17 profilename Inet
create irl map ifname aal5-18 profilename Inet
create irl map ifname aal5-19 profilename Inet
create irl map ifname aal5-20 profilename Inet
create irl map ifname aal5-21 profilename Inet
create irl map ifname aal5-22 profilename Inet
create irl map ifname aal5-23 profilename Inet
create irl map ifname aal5-24 profilename Inet
create irl map ifname aal5-25 profilename Inet
create irl map ifname aal5-26 profilename Inet
create irl map ifname aal5-27 profilename Inet
create irl map ifname aal5-28 profilename Inet
create irl map ifname aal5-29 profilename Inet
create irl map ifname aal5-30 profilename Inet
create irl map ifname aal5-31 profilename Inet
create irl map ifname aal5-32 profilename Inet
create irl map ifname aal5-33 profilename Inet
create irl map ifname aal5-34 profilename Inet
create irl map ifname aal5-35 profilename Inet
create irl map ifname aal5-36 profilename Inet
create irl map ifname aal5-37 profilename Inet
create irl map ifname aal5-38 profilename Inet
create irl map ifname aal5-39 profilename Inet
create irl map ifname aal5-40 profilename Inet
create irl map ifname aal5-41 profilename Inet
create irl map ifname aal5-42 profilename Inet
create irl map ifname aal5-43 profilename Inet
create irl map ifname aal5-44 profilename Inet
create irl map ifname aal5-45 profilename Inet
create irl map ifname aal5-46 profilename Inet
create irl map ifname aal5-47 profilename Inet
create irl map ifname aal5-48 profilename Inet
```



```

create irl map ifname aal5-112 profilename VoIP
create irl map ifname aal5-113 profilename VoIP
create irl map ifname aal5-114 profilename VoIP
create irl map ifname aal5-115 profilename VoIP
create irl map ifname aal5-116 profilename VoIP
create irl map ifname aal5-117 profilename VoIP
create irl map ifname aal5-118 profilename VoIP
create irl map ifname aal5-119 profilename VoIP
create irl map ifname aal5-120 profilename VoIP
create irl map ifname aal5-121 profilename VoIP
create irl map ifname aal5-122 profilename VoIP
create irl map ifname aal5-123 profilename VoIP
create irl map ifname aal5-124 profilename VoIP
create irl map ifname aal5-125 profilename VoIP
create irl map ifname aal5-126 profilename VoIP
create irl map ifname aal5-127 profilename VoIP
create irl map ifname aal5-128 profilename VoIP
create irl map ifname aal5-129 profilename VoIP
create irl map ifname aal5-130 profilename VoIP
create irl map ifname aal5-131 profilename VoIP
create irl map ifname aal5-132 profilename VoIP
create irl map ifname aal5-133 profilename VoIP
create irl map ifname aal5-134 profilename VoIP
create irl map ifname aal5-135 profilename VoIP
create irl map ifname aal5-136 profilename VoIP
create irl map ifname aal5-137 profilename VoIP
create irl map ifname aal5-138 profilename VoIP
create irl map ifname aal5-139 profilename VoIP
create irl map ifname aal5-140 profilename VoIP
create irl map ifname aal5-141 profilename VoIP
create irl map ifname aal5-142 profilename VoIP
create irl map ifname aal5-143 profilename VoIP
create irl map ifname aal5-144 profilename VoIP

```

Создаем профили для обеспечения гарантированной полосы пропускания Downstream потоков для каждого из трех сервисов и указываем необходимые параметры. В данном случае для Интернет трафика выделено 256Kbit/s, IPTV – 12Mbit/s, Voice – 256 Kbit/s:

```

create sched profile info name ThreeServices algo custom iftype atm
modify sched profile class name ThreeServices classid 1 param1 10 param2 256
param3 256
modify sched profile class name ThreeServices classid 2 param1 10 param2 12288
param3 12288
modify sched profile class name ThreeServices classid 3 param1 10 param2 256
param3 256

```

Привязываем созданный профиль ко всем АТМ интерфейсам DSLAM:

```

modify atm port ifname atm-1 profilename ThreeServices
modify atm port ifname atm-2 profilename ThreeServices
modify atm port ifname atm-3 profilename ThreeServices
modify atm port ifname atm-4 profilename ThreeServices
modify atm port ifname atm-5 profilename ThreeServices
modify atm port ifname atm-6 profilename ThreeServices
modify atm port ifname atm-7 profilename ThreeServices
modify atm port ifname atm-8 profilename ThreeServices
modify atm port ifname atm-9 profilename ThreeServices

```

```

modify atm port ifname atm-10 profilename ThreeServices
modify atm port ifname atm-11 profilename ThreeServices
modify atm port ifname atm-12 profilename ThreeServices
modify atm port ifname atm-13 profilename ThreeServices
modify atm port ifname atm-14 profilename ThreeServices
modify atm port ifname atm-15 profilename ThreeServices
modify atm port ifname atm-16 profilename ThreeServices
modify atm port ifname atm-17 profilename ThreeServices
modify atm port ifname atm-18 profilename ThreeServices
modify atm port ifname atm-19 profilename ThreeServices
modify atm port ifname atm-20 profilename ThreeServices
modify atm port ifname atm-21 profilename ThreeServices
modify atm port ifname atm-22 profilename ThreeServices
modify atm port ifname atm-23 profilename ThreeServices
modify atm port ifname atm-24 profilename ThreeServices
modify atm port ifname atm-25 profilename ThreeServices
modify atm port ifname atm-26 profilename ThreeServices
modify atm port ifname atm-27 profilename ThreeServices
modify atm port ifname atm-28 profilename ThreeServices
modify atm port ifname atm-29 profilename ThreeServices
modify atm port ifname atm-30 profilename ThreeServices
modify atm port ifname atm-31 profilename ThreeServices
modify atm port ifname atm-32 profilename ThreeServices
modify atm port ifname atm-33 profilename ThreeServices
modify atm port ifname atm-34 profilename ThreeServices
modify atm port ifname atm-35 profilename ThreeServices
modify atm port ifname atm-36 profilename ThreeServices
modify atm port ifname atm-37 profilename ThreeServices
modify atm port ifname atm-38 profilename ThreeServices
modify atm port ifname atm-39 profilename ThreeServices
modify atm port ifname atm-40 profilename ThreeServices
modify atm port ifname atm-41 profilename ThreeServices
modify atm port ifname atm-42 profilename ThreeServices
modify atm port ifname atm-43 profilename ThreeServices
modify atm port ifname atm-44 profilename ThreeServices
modify atm port ifname atm-45 profilename ThreeServices
modify atm port ifname atm-46 profilename ThreeServices
modify atm port ifname atm-47 profilename ThreeServices
modify atm port ifname atm-48 profilename ThreeServices

```

Настраиваем привязку трафик-классов к приоритетам входящих кадров.

Так как каждый Bridge интерфейс работает в своем VLAN и трафик приоритезирован вышестоящим устройством (коммутатором) - каждый входящий кадр в конкретном VLAN уже имеет приоритет DSCP (либо 802.1p). Для удобства в рамках данного примера весь трафик (независимо от приоритета) помещается в нужную очередь на DSLAM. Дифференциация для постановки в нужную очередь производится путем включения необходимых Bridge интерфейсов в разные VLAN.

Так, интерфейсы с 1 по 48 используются для Internet сервиса, Bridge интерфейсы с 49 по 96 – для IPTV сервиса, Bridge интерфейсы с 97 по 144 – для Voice сервиса.

```

modify bridge port trfclassmap portid 1 trfClass 0 regenPrio 0
modify bridge port trfclassmap portid 1 trfClass 0 regenPrio 1
modify bridge port trfclassmap portid 1 trfClass 0 regenPrio 2
modify bridge port trfclassmap portid 1 trfClass 0 regenPrio 3
modify bridge port trfclassmap portid 1 trfClass 0 regenPrio 4
modify bridge port trfclassmap portid 1 trfClass 0 regenPrio 5
modify bridge port trfclassmap portid 1 trfClass 0 regenPrio 6
modify bridge port trfclassmap portid 1 trfClass 0 regenPrio 7

```


[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]


```

modify bridge port trfclassmap portid 136 trfClass 2 regenPri 0
modify bridge port trfclassmap portid 136 trfClass 2 regenPri 1
modify bridge port trfclassmap portid 136 trfClass 2 regenPri 2
modify bridge port trfclassmap portid 136 trfClass 2 regenPri 3
modify bridge port trfclassmap portid 136 trfClass 2 regenPri 4
modify bridge port trfclassmap portid 136 trfClass 2 regenPri 5
modify bridge port trfclassmap portid 136 trfClass 2 regenPri 6
modify bridge port trfclassmap portid 136 trfClass 2 regenPri 7

```

```

modify bridge port trfclassmap portid 143 trfClass 2 regenPrio 0
modify bridge port trfclassmap portid 143 trfClass 2 regenPrio 1
modify bridge port trfclassmap portid 143 trfClass 2 regenPrio 2
modify bridge port trfclassmap portid 143 trfClass 2 regenPrio 3
modify bridge port trfclassmap portid 143 trfClass 2 regenPrio 4
modify bridge port trfclassmap portid 143 trfClass 2 regenPrio 5
modify bridge port trfclassmap portid 143 trfClass 2 regenPrio 6
modify bridge port trfclassmap portid 143 trfClass 2 regenPrio 7

```

```

modify bridge port trfclassmap portid 144 trfClass 2 regenPrio 0
modify bridge port trfclassmap portid 144 trfClass 2 regenPrio 1
modify bridge port trfclassmap portid 144 trfClass 2 regenPrio 2
modify bridge port trfclassmap portid 144 trfClass 2 regenPrio 3
modify bridge port trfclassmap portid 144 trfClass 2 regenPrio 4
modify bridge port trfclassmap portid 144 trfClass 2 regenPrio 5
modify bridge port trfclassmap portid 144 trfClass 2 regenPrio 6
modify bridge port trfclassmap portid 144 trfClass 2 regenPrio 7

```

Определяем приоритет (802.1p) для исходящих кадров для нормальной обработки на приемной стороне (коммутаторе, к которому подключен DSLAM).

Bridge интерфейсы 1-48, service – Inet, VLAN21, 802.1p – 1, queue - 1

Bridge интерфейсы 49-96, service – IPTV, VLAN20, 802.1p – 5, queue - 5

Bridge интерфейсы 97-144, service – Voice, VLAN1, 802.1p – 6, queue – 6

```

modify bridge port prioinfo portid 1 defprio 1 numTrfClass 1
modify bridge port prioinfo portid 2 defprio 1 numTrfClass 1
modify bridge port prioinfo portid 3 defprio 1 numTrfClass 1
modify bridge port prioinfo portid 4 defprio 1 numTrfClass 1
modify bridge port prioinfo portid 5 defprio 1 numTrfClass 1
modify bridge port prioinfo portid 6 defprio 1 numTrfClass 1
modify bridge port prioinfo portid 7 defprio 1 numTrfClass 1
modify bridge port prioinfo portid 8 defprio 1 numTrfClass 1
modify bridge port prioinfo portid 9 defprio 1 numTrfClass 1
modify bridge port prioinfo portid 10 defprio 1 numTrfClass 1
modify bridge port prioinfo portid 11 defprio 1 numTrfClass 1
modify bridge port prioinfo portid 12 defprio 1 numTrfClass 1
modify bridge port prioinfo portid 13 defprio 1 numTrfClass 1
modify bridge port prioinfo portid 14 defprio 1 numTrfClass 1
modify bridge port prioinfo portid 15 defprio 1 numTrfClass 1
modify bridge port prioinfo portid 16 defprio 1 numTrfClass 1
modify bridge port prioinfo portid 17 defprio 1 numTrfClass 1
modify bridge port prioinfo portid 18 defprio 1 numTrfClass 1
modify bridge port prioinfo portid 19 defprio 1 numTrfClass 1
modify bridge port prioinfo portid 20 defprio 1 numTrfClass 1
modify bridge port prioinfo portid 21 defprio 1 numTrfClass 1
modify bridge port prioinfo portid 22 defprio 1 numTrfClass 1
modify bridge port prioinfo portid 23 defprio 1 numTrfClass 1
modify bridge port prioinfo portid 24 defprio 1 numTrfClass 1
modify bridge port prioinfo portid 25 defprio 1 numTrfClass 1
modify bridge port prioinfo portid 26 defprio 1 numTrfClass 1
modify bridge port prioinfo portid 27 defprio 1 numTrfClass 1
modify bridge port prioinfo portid 28 defprio 1 numTrfClass 1
modify bridge port prioinfo portid 29 defprio 1 numTrfClass 1
modify bridge port prioinfo portid 30 defprio 1 numTrfClass 1
modify bridge port prioinfo portid 31 defprio 1 numTrfClass 1
modify bridge port prioinfo portid 32 defprio 1 numTrfClass 1
modify bridge port prioinfo portid 33 defprio 1 numTrfClass 1
modify bridge port prioinfo portid 34 defprio 1 numTrfClass 1
modify bridge port prioinfo portid 35 defprio 1 numTrfClass 1

```

modify	bridge	port	prioinfo	portid	36	defprio	1	numTrfClass	1
modify	bridge	port	prioinfo	portid	37	defprio	1	numTrfClass	1
modify	bridge	port	prioinfo	portid	38	defprio	1	numTrfClass	1
modify	bridge	port	prioinfo	portid	39	defprio	1	numTrfClass	1
modify	bridge	port	prioinfo	portid	40	defprio	1	numTrfClass	1
modify	bridge	port	prioinfo	portid	41	defprio	1	numTrfClass	1
modify	bridge	port	prioinfo	portid	42	defprio	1	numTrfClass	1
modify	bridge	port	prioinfo	portid	43	defprio	1	numTrfClass	1
modify	bridge	port	prioinfo	portid	44	defprio	1	numTrfClass	1
modify	bridge	port	prioinfo	portid	45	defprio	1	numTrfClass	1
modify	bridge	port	prioinfo	portid	46	defprio	1	numTrfClass	1
modify	bridge	port	prioinfo	portid	47	defprio	1	numTrfClass	1
modify	bridge	port	prioinfo	portid	48	defprio	1	numTrfClass	1

```
modify bridge port prioinfo portid 97 defprio 6 numTrfClass 6
```

[illegible]

Включаем все Bridge интерфейсы (с 1 по 144) в работу:

```

modify bridge port intf portid 1 status enable
modify bridge port intf portid 2 status enable
modify bridge port intf portid 3 status enable
modify bridge port intf portid 4 status enable
modify bridge port intf portid 5 status enable
modify bridge port intf portid 6 status enable
modify bridge port intf portid 7 status enable
modify bridge port intf portid 8 status enable
modify bridge port intf portid 9 status enable
modify bridge port intf portid 10 status enable
modify bridge port intf portid 11 status enable

```

[illegible]

[illegible]

```
modify bridge port intf portid 140 status enable
modify bridge port intf portid 141 status enable
modify bridge port intf portid 142 status enable
modify bridge port intf portid 143 status enable
modify bridge port intf portid 144 status enable
```

Определяем членство портов в VLAN.

VLAN 1 – Voice,

VLAN 20 – IPTV,

VLAN 21 – Internet.

```
modify vlan static vlanid 1 egressports 385 97 98 99 100 101 102 103 104 105 106
107 108 109 110 111 112 113 114 115 116 117 118 119 120 121 122 123 124 125 126
127 128 129 130 131 132 133 134 135 136 137 138 139 140 141 142 143 144
untaggedports 97 98 99 100 101 102 103 104 105 106 107 108 109 110 111 112 113
114 115 116 117 118 119 120 121 122 123 124 125 126 127 128 129 130 131 132 133
134 135 136 137 138 139 140 141 142 143 144 igmpsnoopaction drop
```

```
create vlan static vlanname vlan20 vlanid 20 egressports 385 49 50 51 52 53 54
55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81
82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 untaggedports 49 50 51 52 53 54 55
56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82
83 84 85 86 87 88 89 90 91 92 93 94 95 96
```

```
create vlan static vlanname vlan21 vlanid 21 egressports 385 1 2 3 4 5 6 7 8 9
10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36
37 38 39 40 41 42 43 44 45 46 47 48 untaggedports 1 2 3 4 5 6 7 8 9 10 11 12 13
14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40
41 42 43 44 45 46 47 48 igmpsnoopaction drop
```

Изменяем принадлежность untagged Bridge интерфейсов к VLAN.

Интерфесы с 1 по 48 – VLAN 21,

Интерфейсы с 49 по 96 – VLAN 20,

Интерфейсы с 97 по 144 – VLAN 1.

```
modify gvrp port info portid 1 portvlanid 21
modify gvrp port info portid 2 portvlanid 21
modify gvrp port info portid 3 portvlanid 21
modify gvrp port info portid 4 portvlanid 21
modify gvrp port info portid 5 portvlanid 21
modify gvrp port info portid 6 portvlanid 21
modify gvrp port info portid 7 portvlanid 21
modify gvrp port info portid 8 portvlanid 21
modify gvrp port info portid 9 portvlanid 21
modify gvrp port info portid 10 portvlanid 21
modify gvrp port info portid 11 portvlanid 21
modify gvrp port info portid 12 portvlanid 21
modify gvrp port info portid 13 portvlanid 21
modify gvrp port info portid 14 portvlanid 21
modify gvrp port info portid 15 portvlanid 21
modify gvrp port info portid 16 portvlanid 21
modify gvrp port info portid 17 portvlanid 21
modify gvrp port info portid 18 portvlanid 21
modify gvrp port info portid 19 portvlanid 21
modify gvrp port info portid 20 portvlanid 21
modify gvrp port info portid 21 portvlanid 21
```


[illegible]

[illegible]

Создаем фильтр для перемаркировки значения DSCP для Internet сервиса (Upstream). В качестве значения DSCP используется «CS1». В данном примере маркируется весь пользовательский IP трафик (с default ToS значением). Примечание: для маркировки трафика, инкапсулированного в PPP нужно к подправилу «create **filter** subrule ip ruleid 5 subruleid 1 srcaddrcmp any» добавить опцию «transporthdr pppe»:

```
create filter rule entry ruleid 5 description DSCP_Inet_Up action modifytos
actionval 0x20 actionmask 0xff
create filter subrule ip ruleid 5 subruleid 1 toscmp any
modify filter rule entry ruleid 5 statsstatus enable status enable
```

Создаем фильтр для перемаркировки значения DSCP для IPTV сервиса (Upstream). В качестве значения DSCP используется «CS5». В данном примере маркируется весь пользовательский IP трафик (IGMP).

```
create filter rule entry ruleid 6 description DSCP_IGMP_Up action modifytos
actionval 0xA0 actionmask 0xff
create filter subrule ip ruleid 6 subruleid 1 toscmp any
modify filter rule entry ruleid 6 statsstatus enable status enable
```

Создаем фильтр для перемаркировки значения DSCP для VoIP сервиса (Upstream). В качестве значения DSCP используется «CS6». В данном примере маркируется весь пользовательский IP трафик (Voice).

```
create filter rule entry ruleid 7 description DSCP_VoIP_Up action modifytos
actionval 0xC0 actionmask 0xff
create filter subrule ip ruleid 7 subruleid 1 toscmp any
modify filter rule entry ruleid 7 statsstatus enable status enable
```

Создаем фильтры для перемаркировки значения DSCP для всех трех сервисов в направлении Downstream. В рамках данного примера предполагается, что трафик приходит с вышестоящего коммутатора уже промаркированным:

Internet: CS1

IPTV: CS5

VoIP: CS6

Далее в соответствии с DSCP значением DSLAM производит перемаркировку значения 802.1p (так называемый «внутренний приоритет»), связывает каждый тип трафика в соответствии с «внутренним» приоритетом 802.1p с нужным классом, после чего трафик в соответствии с классом получает гарантированную полосу пропускания на ATM уровне. Таким образом обеспечивается полноценное качество обслуживания.

```
create filter rule entry ruleid 8 description DSCP_Inet_Down action setprio
priority 1 ruledir in
create filter subrule ip ruleid 8 subruleid 1 tosfrom 0x20 tosmask 0xff toscmp
eq
modify filter rule entry ruleid 8 statsstatus enable status enable
```

```
create filter rule entry ruleid 9 description DSCP_IGMP_Down action setprio
priority 5 ruledir in
create filter subrule ip ruleid 9 subruleid 1 tosfrom 0xA0 tosmask 0xff toscmp
eq
modify filter rule entry ruleid 9 statsstatus enable status enable
```

```
create filter rule entry ruleid 10 description DSCP_VoIP_Down action setprio
priority 6 ruledir in
create filter subrule ip ruleid 10 subruleid 1 tosfrom 0xC0 tosmask 0xFF toscmp
eq
modify filter rule entry ruleid 10 statsstatus enable status enable
```

Дополнение: в качестве значений в правилах нужно указывать ToS в hex формате.

Таблица соответствий:

```
"CS0" = DSCP - 0x00, ToS - 0x00
"CS1" = DSCP - 0x08, ToS - 0x20
"CS2" = DSCP - 0x10, ToS - 0x40
"CS3" = DSCP - 0x18, ToS - 0x60
"CS4" = DSCP - 0x20, ToS - 0x80
"CS5" = DSCP - 0x28, ToS - 0xA0
"CS6" = DSCP - 0x30, ToS - 0xC0
"CS7" = DSCP - 0x38, ToS - 0xE0
"BE" = DSCP - 0x00, ToS - 0x00
"AF11" = DSCP - 0x0a, ToS - 0x28
"AF12" = DSCP - 0x0c, ToS - 0x30
"AF13" = DSCP - 0x0e, ToS - 0x38
"AF21" = DSCP - 0x12, ToS - 0x48
"AF22" = DSCP - 0x14, ToS - 0x50
"AF23" = DSCP - 0x16, ToS - 0x58
"AF31" = DSCP - 0x1a, ToS - 0x68
"AF32" = DSCP - 0x1c, ToS - 0x70
"AF33" = DSCP - 0x1e, ToS - 0x78
"AF41" = DSCP - 0x22, ToS - 0x88
"AF42" = DSCP - 0x24, ToS - 0x90
"AF43" = DSCP - 0x26, ToS - 0x98
"EF" = DSCP - 0x2e, ToS - 0xB8
```

После создания и активации правил их необходимо привязать к нужным ЕоА (Upstream приоритезация) и Uplink (Downstream приоритезация) интерфейсам:

```
create filter rule map ruleid 5 ifname eoa-1 stageid 1
create filter rule map ruleid 5 ifname eoa-2 stageid 1
create filter rule map ruleid 5 ifname eoa-3 stageid 1
create filter rule map ruleid 5 ifname eoa-4 stageid 1
create filter rule map ruleid 5 ifname eoa-5 stageid 1
create filter rule map ruleid 5 ifname eoa-6 stageid 1
create filter rule map ruleid 5 ifname eoa-7 stageid 1
create filter rule map ruleid 5 ifname eoa-8 stageid 1
create filter rule map ruleid 5 ifname eoa-9 stageid 1
create filter rule map ruleid 5 ifname eoa-10 stageid 1
create filter rule map ruleid 5 ifname eoa-11 stageid 1
create filter rule map ruleid 5 ifname eoa-12 stageid 1
create filter rule map ruleid 5 ifname eoa-13 stageid 1
create filter rule map ruleid 5 ifname eoa-14 stageid 1
create filter rule map ruleid 5 ifname eoa-15 stageid 1
create filter rule map ruleid 5 ifname eoa-16 stageid 1
create filter rule map ruleid 5 ifname eoa-17 stageid 1
create filter rule map ruleid 5 ifname eoa-18 stageid 1
create filter rule map ruleid 5 ifname eoa-19 stageid 1
create filter rule map ruleid 5 ifname eoa-20 stageid 1
create filter rule map ruleid 5 ifname eoa-21 stageid 1
create filter rule map ruleid 5 ifname eoa-22 stageid 1
create filter rule map ruleid 5 ifname eoa-23 stageid 1
```


Удаляем привязку правила IGMP со всех интерфейсов:

```
delete filter rule map ruleid 1 stageid 1 ifname all
```

Создаем привязку правила IGMP к необходимым интерфейсам (IPTV сервис):

```
create filter rule map ruleid 1 stageid 1 orderid 1 ifname eth-1
create filter rule map ruleid 1 stageid 1 orderid 1 ifname eoa-49
create filter rule map ruleid 1 stageid 1 orderid 1 ifname eoa-50
create filter rule map ruleid 1 stageid 1 orderid 1 ifname eoa-51
create filter rule map ruleid 1 stageid 1 orderid 1 ifname eoa-52
create filter rule map ruleid 1 stageid 1 orderid 1 ifname eoa-53
create filter rule map ruleid 1 stageid 1 orderid 1 ifname eoa-54
create filter rule map ruleid 1 stageid 1 orderid 1 ifname eoa-55
create filter rule map ruleid 1 stageid 1 orderid 1 ifname eoa-56
create filter rule map ruleid 1 stageid 1 orderid 1 ifname eoa-57
create filter rule map ruleid 1 stageid 1 orderid 1 ifname eoa-58
create filter rule map ruleid 1 stageid 1 orderid 1 ifname eoa-59
create filter rule map ruleid 1 stageid 1 orderid 1 ifname eoa-60
create filter rule map ruleid 1 stageid 1 orderid 1 ifname eoa-61
create filter rule map ruleid 1 stageid 1 orderid 1 ifname eoa-62
create filter rule map ruleid 1 stageid 1 orderid 1 ifname eoa-63
create filter rule map ruleid 1 stageid 1 orderid 1 ifname eoa-64
create filter rule map ruleid 1 stageid 1 orderid 1 ifname eoa-65
create filter rule map ruleid 1 stageid 1 orderid 1 ifname eoa-66
create filter rule map ruleid 1 stageid 1 orderid 1 ifname eoa-67
create filter rule map ruleid 1 stageid 1 orderid 1 ifname eoa-68
create filter rule map ruleid 1 stageid 1 orderid 1 ifname eoa-69
create filter rule map ruleid 1 stageid 1 orderid 1 ifname eoa-70
create filter rule map ruleid 1 stageid 1 orderid 1 ifname eoa-71
create filter rule map ruleid 1 stageid 1 orderid 1 ifname eoa-72
create filter rule map ruleid 1 stageid 1 orderid 1 ifname eoa-73
create filter rule map ruleid 1 stageid 1 orderid 1 ifname eoa-74
create filter rule map ruleid 1 stageid 1 orderid 1 ifname eoa-75
create filter rule map ruleid 1 stageid 1 orderid 1 ifname eoa-76
create filter rule map ruleid 1 stageid 1 orderid 1 ifname eoa-77
create filter rule map ruleid 1 stageid 1 orderid 1 ifname eoa-78
create filter rule map ruleid 1 stageid 1 orderid 1 ifname eoa-79
create filter rule map ruleid 1 stageid 1 orderid 1 ifname eoa-80
create filter rule map ruleid 1 stageid 1 orderid 1 ifname eoa-81
create filter rule map ruleid 1 stageid 1 orderid 1 ifname eoa-82
create filter rule map ruleid 1 stageid 1 orderid 1 ifname eoa-83
create filter rule map ruleid 1 stageid 1 orderid 1 ifname eoa-84
create filter rule map ruleid 1 stageid 1 orderid 1 ifname eoa-85
create filter rule map ruleid 1 stageid 1 orderid 1 ifname eoa-86
create filter rule map ruleid 1 stageid 1 orderid 1 ifname eoa-87
create filter rule map ruleid 1 stageid 1 orderid 1 ifname eoa-88
create filter rule map ruleid 1 stageid 1 orderid 1 ifname eoa-89
create filter rule map ruleid 1 stageid 1 orderid 1 ifname eoa-90
create filter rule map ruleid 1 stageid 1 orderid 1 ifname eoa-91
create filter rule map ruleid 1 stageid 1 orderid 1 ifname eoa-92
create filter rule map ruleid 1 stageid 1 orderid 1 ifname eoa-93
create filter rule map ruleid 1 stageid 1 orderid 1 ifname eoa-94
create filter rule map ruleid 1 stageid 1 orderid 1 ifname eoa-95
create filter rule map ruleid 1 stageid 1 orderid 1 ifname eoa-96
```

Включаем IGMP глобально на устройстве:

```
modify igmpsnoop cfg info status enable
```

Включаем IGMP в настройках 385-го Bridge интерфейса (Uplink):

```
modify igmpsnoop port info portid 385 querierstatus enable leavemode fast status enable
```

Включаем IGMP в настройках абонентских Bridge интерфейсов:

```
modify igmpsnoop port info portid 49 leavemode fast status enable
modify igmpsnoop port info portid 50 leavemode fast status enable
modify igmpsnoop port info portid 51 leavemode fast status enable
modify igmpsnoop port info portid 52 leavemode fast status enable
modify igmpsnoop port info portid 53 leavemode fast status enable
modify igmpsnoop port info portid 54 leavemode fast status enable
modify igmpsnoop port info portid 55 leavemode fast status enable
modify igmpsnoop port info portid 56 leavemode fast status enable
modify igmpsnoop port info portid 57 leavemode fast status enable
modify igmpsnoop port info portid 58 leavemode fast status enable
modify igmpsnoop port info portid 59 leavemode fast status enable
modify igmpsnoop port info portid 60 leavemode fast status enable
modify igmpsnoop port info portid 61 leavemode fast status enable
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modify igmpsnoop port info portid 67 leavemode fast status enable
modify igmpsnoop port info portid 68 leavemode fast status enable
modify igmpsnoop port info portid 69 leavemode fast status enable
modify igmpsnoop port info portid 70 leavemode fast status enable
modify igmpsnoop port info portid 71 leavemode fast status enable
modify igmpsnoop port info portid 72 leavemode fast status enable
modify igmpsnoop port info portid 73 leavemode fast status enable
modify igmpsnoop port info portid 74 leavemode fast status enable
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modify igmpsnoop port info portid 76 leavemode fast status enable
modify igmpsnoop port info portid 77 leavemode fast status enable
modify igmpsnoop port info portid 78 leavemode fast status enable
modify igmpsnoop port info portid 79 leavemode fast status enable
modify igmpsnoop port info portid 80 leavemode fast status enable
modify igmpsnoop port info portid 81 leavemode fast status enable
modify igmpsnoop port info portid 82 leavemode fast status enable
modify igmpsnoop port info portid 83 leavemode fast status enable
modify igmpsnoop port info portid 84 leavemode fast status enable
modify igmpsnoop port info portid 85 leavemode fast status enable
modify igmpsnoop port info portid 86 leavemode fast status enable
modify igmpsnoop port info portid 87 leavemode fast status enable
modify igmpsnoop port info portid 88 leavemode fast status enable
modify igmpsnoop port info portid 89 leavemode fast status enable
modify igmpsnoop port info portid 90 leavemode fast status enable
modify igmpsnoop port info portid 91 leavemode fast status enable
modify igmpsnoop port info portid 92 leavemode fast status enable
modify igmpsnoop port info portid 93 leavemode fast status enable
modify igmpsnoop port info portid 94 leavemode fast status enable
modify igmpsnoop port info portid 95 leavemode fast status enable
modify igmpsnoop port info portid 96 leavemode fast status enable
```

Создаем профиль ADSL линии с учетом того, чтобы обеспечить полосу пропускания для всех трех сервисов.

В качестве ADSL стандарта используется ADSL2+.

Downstream: $256+256+12288 = 13312$ Kbit/s (с некоторым запасом).

Upstream: $256+256+256 = 800$ Kbit/s (с некоторым запасом).

```
create profile entry name NEW stdtype adsl2plus mode dynamic type interleave
dsmaxrate 13312 usmaxrate 800
```

Привязываем созданный профиль ко всем ADSL портам:

```
modify profile map name NEW port 1
modify profile map name NEW port 2
modify profile map name NEW port 3
modify profile map name NEW port 4
modify profile map name NEW port 5
modify profile map name NEW port 6
modify profile map name NEW port 7
modify profile map name NEW port 8
modify profile map name NEW port 9
modify profile map name NEW port 10
modify profile map name NEW port 11
modify profile map name NEW port 12
modify profile map name NEW port 13
modify profile map name NEW port 14
modify profile map name NEW port 15
modify profile map name NEW port 16
modify profile map name NEW port 17
modify profile map name NEW port 18
modify profile map name NEW port 19
modify profile map name NEW port 20
modify profile map name NEW port 21
modify profile map name NEW port 22
modify profile map name NEW port 23
modify profile map name NEW port 24
modify profile map name NEW port 25
modify profile map name NEW port 26
modify profile map name NEW port 27
modify profile map name NEW port 28
modify profile map name NEW port 29
modify profile map name NEW port 30
modify profile map name NEW port 31
modify profile map name NEW port 32
modify profile map name NEW port 33
modify profile map name NEW port 34
modify profile map name NEW port 35
modify profile map name NEW port 36
modify profile map name NEW port 37
modify profile map name NEW port 38
modify profile map name NEW port 39
modify profile map name NEW port 40
modify profile map name NEW port 41
modify profile map name NEW port 42
modify profile map name NEW port 43
modify profile map name NEW port 44
modify profile map name NEW port 45
modify profile map name NEW port 46
modify profile map name NEW port 47
modify profile map name NEW port 48
```

Сохраняем настройки DSLAM:

```
commit
```