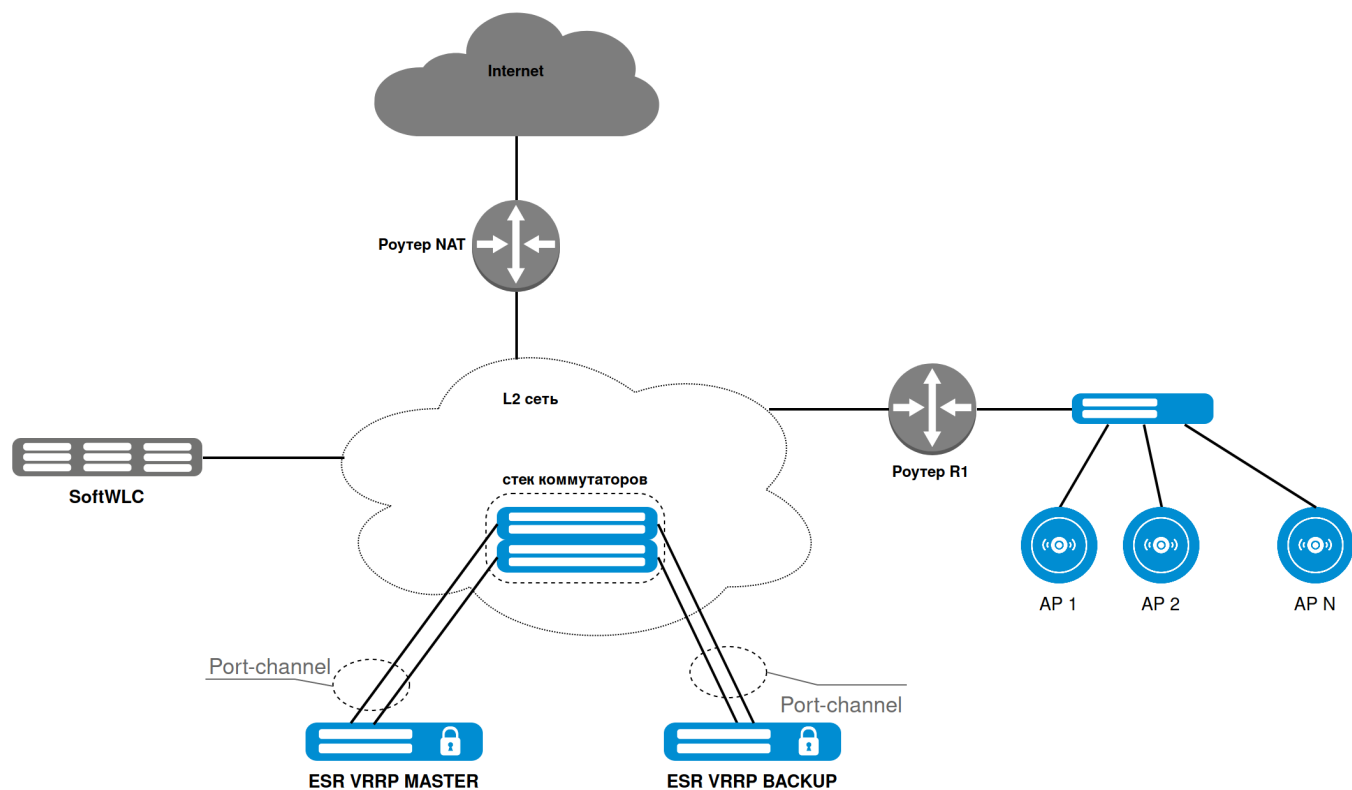


ESR wireless-controller VRRP

-
- ESR
- ESR EMS
-
-
- ESR, VRRP master
- ESR, VRRP
-

ESR, wireless-controller, . 1:



. 1.

. 1 :

- ESR VRRP, "Active-Standby";
- , ESR , . ESR, .

ESR VRRP MASTER. VRRP ESR VRRP BACKUP. " " (NAT . 1) . VRRP (ESR wireless-controller " ").

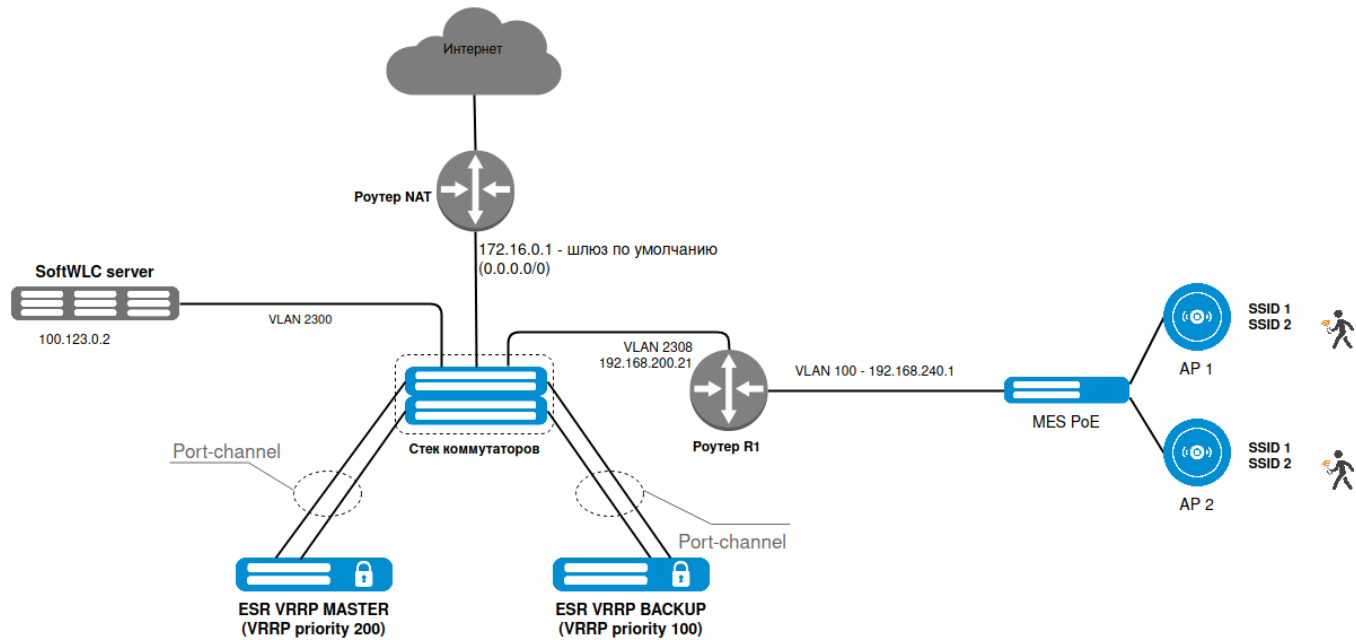
ESR - "port-channel".

, 1.

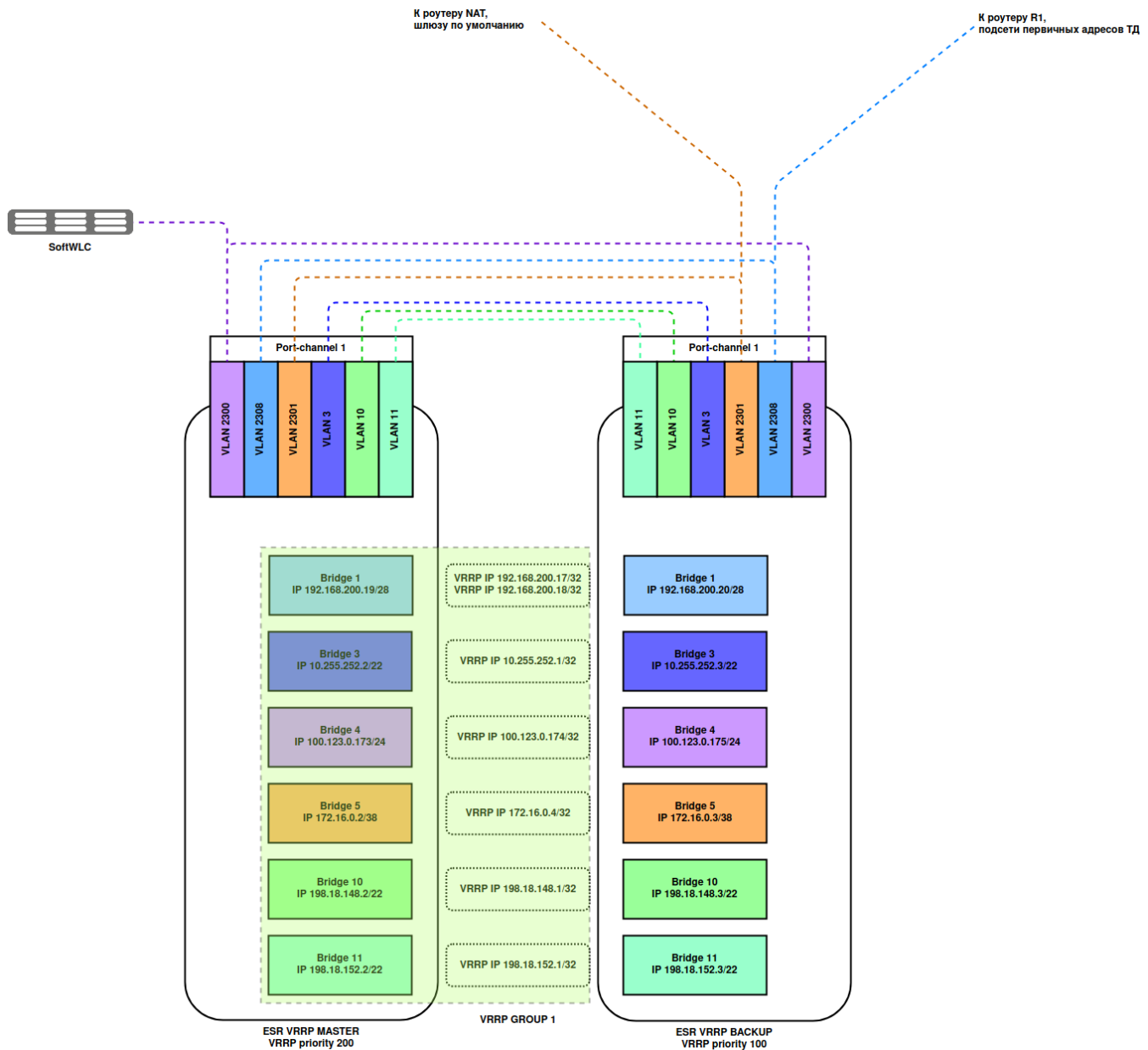
	Bridge	VLAN		ESR VRRP MASTER	VRRP IP	ESR VRRP BACKUP
				IP address		IP address

GRE	bridge 1	2308	192.168.200.16/28	192.168.200.19/28	192.168.200.17/32 192.168.200.18/32	192.168.200.20/28
()	bridge 3	3	10.255.252.0/23	10.255.252.2/23	10.255.252.1/32	10.255.252.3/23
SoftWLC	bridge 4	2300	100.123.0.0/24	100.123.0.173/24	100.123.0.174/32	100.123.0.175/24
	bridge 5	2301	172.16.0.0/28	172.16.0.2/28	172.16.0.4/32	172.16.0.3/28
SSID1	bridge 10	10	198.18.148.0/22	198.18.148.2/22	198.18.148.1/32	198.18.148.3/22
SSID2	bridge 11	11	198.18.152.0/22	198.18.152.2/22	198.18.152.1/32	198.18.152.3/22
	--	100	192.168.240.0/23	--	--	--

1.
. 2:



. 2.
, . 3, ESR:



.3.

1. vlan 2301, 172.16.0.1 (-NAT). router-NAT, NAT .
2. ESR vlan 2300, 100.123.0.0/24, SoftWLC (ip- 100.123.0.2).
3. IP 192.168.240.0/23 DHCP-relay / DHCP- SoftWLC. 43 11 12, 2 GRE : 192.168.200.17 192.168.200.18 (. v1.19_ 43 DHCP).
 . 2 EoGRE , DHCP 11 12 :
 - Management GRE 192.168.200.17 vlan id = 1, .
 - Data GRE 192.168.200.18 vlan id = N, , , SSID (vlan 10 11).
4. Management GRE (vlan id 1) DHCP, DHCP-relay ESR, SoftWLC. DHCP, SoftWLC, IP 10.255.252.0/23, VRRP 10.255.252.1 3 ESR. 43.10 SoftWLC : 100.123.0.2, (. v1.19_ 43 DHCP). SoftWLC.
5. SoftWLC SSID 1 SSID 2, 10 11 vlan . c vlan 10 11 Data GRE ESR. DHCP , DHCP-relay ESR SoftWLC. bridge 10 ESR 198.18.148.0/22, 198.18.148.1. bridge 11 ESR 198.18.152.0/22, 198.18.152.1.

1 .3, VRRP- - , .. ESR (EMS PCRF ESR).

VRRP:

- VRRP , "vrrp group 1". , - VRRP MASTER BACKUP VRRP, ESR VRRP .
- VRRP - ESR VRRP MASTER - 200, ESR VRRP BACKUP 100.
- "vrrp preempt disable", VRRP, , "master" - (, , VRRP ,).

VRRP Bridge ESR :

```

bridge <>
  vrrp id < >
  vrrp ip <IP- VRRP>
  vrrp priority <>
  vrrp group < >
  vrrp preempt disable
  vrrp
exit

```

WiFi :

```

bridge <>
  ports vrrp filtering enable
  ports vrrp filtering exclude vlan
exit

```

"ports vrrp filtering enable" VRRP- , "ports vrrp filtering exclude vlan" VRRP- vlan Bridge VRRP.



! , "vrrp preempt disable" VRRP "vrrp preempt delay < >" 180 . , . , , VRRP , gre keepalive.

VRRP : .

ESR

ESR , .3. wireless-controller SoftGRE. , wireless-controller (ESR L3 (WiFi L3)).

, ESR:

```

object-group service dhcp_server
  port-range 67
exit
object-group service dhcp_client
  port-range 68
exit
object-group network MGMT
  ip prefix 192.168.200.16/28
  ip prefix 10.255.252.0/23
exit
object-group network SoftWLC
  ip address-range 100.123.0.2
exit

no spanning-tree

security zone trusted
exit
security zone untrusted
exit
security zone gre
exit
security zone user
exit

vlan 3,10,11,2300-2301,2308
exit

ip dhcp-relay

ip telnet server
ip ssh server

```

port-channel, vlan , ESR:

```

interface port-channel 1
 mode switchport
 switchport forbidden default-vlan
 switchport general acceptable-frame-type tagged-only
 switchport general allowed vlan add 3,10-11,2300-2301,2308 tagged
exit
interface gigabitethernet 1/0/1
 mode switchport
 channel-group 1 mode auto
exit
interface gigabitethernet 1/0/2
 mode switchport
 channel-group 1 mode auto
exit

```



!

port-channel tengigabitethernet - port-channel:

```

interface port-channel 1
 mode switchport
 speed 10G
exit
interface tengigabitethernet 1/0/1
 mode switchport
 channel-group 1 mode auto
exit
interface tengigabitethernet 1/0/2
 mode switchport
 channel-group 1 mode auto
exit

```

"speed 1000M" .

Bridge vlan VRRP:

```

bridge 1
 vlan 2308
 security-zone gre
 ip address 192.168.200.19/28
 vrrp id 1
 vrrp ip 192.168.200.17/32
 vrrp ip 192.168.200.18/32 secondary
 vrrp priority 200
 vrrp group 1
 vrrp preempt disable
 vrrp
 enable
exit
bridge 3
 vlan 3
 unknown-unicast-forwarding disable
 security-zone trusted
 ip address 10.255.252.2/23
 ip helper-address 100.123.0.2
 vrrp id 3
 vrrp ip 10.255.252.1/32
 vrrp priority 200
 vrrp group 1
 vrrp preempt disable
 vrrp
 ip tcp adjust-mss 1400
 protected-ports local

```

```
protected-ports exclude vlan
ports vrrp filtering enable
ports vrrp filtering exclude vlan
enable
exit
bridge 4
vlan 2300
security-zone trusted
ip address 100.123.0.173/24
vrrp id 23
vrrp ip 100.123.0.175/32
vrrp priority 200
vrrp group 1
vrrp preempt disable
vrrp
ip tcp adjust-mss 1400
enable
exit
bridge 5
vlan 2301
security-zone untrusted
ip address 172.16.0.2/28
vrrp id 5
vrrp ip 172.16.0.4/32
vrrp priority 200
vrrp group 1
vrrp preempt disable
vrrp
ip tcp adjust-mss 1400
enable
exit
bridge 10
vlan 10
unknown-unicast-forwarding disable
security-zone user
ip firewall disable
ip address 198.18.148.2/22
vrrp id 10
vrrp ip 198.18.148.1/32
vrrp priority 200
vrrp group 1
vrrp preempt disable
vrrp
ip tcp adjust-mss 1400
location data10
protected-ports radius
protected-ports exclude vlan
ports vrrp filtering enable
ports vrrp filtering exclude vlan
enable
exit
bridge 11
vlan 11
unknown-unicast-forwarding disable
security-zone user
ip firewall disable
ip address 198.18.152.2/22
ip helper-address 100.123.0.2
vrrp id 11
vrrp ip 198.18.152.1/32
vrrp priority 200
vrrp group 1
vrrp preempt disable
vrrp
ip tcp adjust-mss 1400
location data11
protected-ports radius
protected-ports exclude vlan
ports vrrp filtering enable
ports vrrp filtering exclude vlan
enable
```

```
exit
```

```
bridge 1
  vlan 2308
  security-zone gre
  ip address 192.168.200.20/28
  vrrp id 1
  vrrp ip 192.168.200.17/32
  vrrp ip 192.168.200.18/32 secondary
  vrrp priority 100
  vrrp group 1
  vrrp preempt disable
  vrrp
  enable
```

```
exit
```

```
bridge 3
  vlan 3
  unknown-unicast-forwarding disable
  security-zone trusted
  ip address 10.255.252.3/23
  ip helper-address 100.123.0.2
  vrrp id 3
  vrrp ip 10.255.252.1/32
  vrrp priority 100
  vrrp group 1
  vrrp preempt disable
  vrrp
  ip tcp adjust-mss 1400
  protected-ports local
  protected-ports exclude vlan
  ports vrrp filtering enable
  ports vrrp filtering exclude vlan
  enable
```

```
exit
```

```
bridge 4
  vlan 2300
  security-zone trusted
  ip address 100.123.0.175/24
  vrrp id 23
  vrrp ip 100.123.0.174/32
  vrrp priority 100
  vrrp group 1
  vrrp preempt disable
  vrrp
  ip tcp adjust-mss 1400
  enable
```

```
exit
```

```
bridge 5
  vlan 2301
  security-zone untrusted
  ip address 172.16.0.3/28
  vrrp id 5
  vrrp ip 172.16.0.4/32
  vrrp priority 100
  vrrp group 1
  vrrp preempt disable
  vrrp
  ip tcp adjust-mss 1400
  enable
```

```
exit
```

```
bridge 10
  vlan 10
  unknown-unicast-forwarding disable
  security-zone user
  ip firewall disable
  ip address 198.18.148.3/22
  vrrp id 10
  vrrp ip 198.18.148.1/32
```

```

vrrp priority 100
vrrp group 1
vrrp preempt disable
vrrp
ip tcp adjust-mss 1400
location data10
protected-ports radius
protected-ports exclude vlan
ports vrrp filtering enable
ports vrrp filtering exclude vlan
enable
exit
bridge 11
vlan 11
unknown-unicast-forwarding disable
security-zone user
ip firewall disable
ip address 198.18.152.3/22
ip helper-address 100.123.0.2
vrrp id 11
vrrp ip 198.18.152.1/32
vrrp priority 100
vrrp group 1
vrrp preempt disable
vrrp
ip tcp adjust-mss 1400
location data11
protected-ports radius
protected-ports exclude vlan
ports vrrp filtering enable
ports vrrp filtering exclude vlan
enable
exit

```

IP- VRRP.

- :

```

ip route 0.0.0.0/0 172.16.0.1
ip route 192.168.240.0/23 192.168.200.21

```

:-

```

radius-server host 100.123.0.2
key ascii-text testing123
timeout 2
source-address 100.123.0.173
auth-port 31812
acct-port 31813
retransmit 3
dead-interval 10
exit
aaa radius-profile PCRF
radius-server host 100.123.0.2
exit
das-server COA
key ascii-text testing123
port 3799
clients object-group SoftWLC
exit
aaa das-profile COA
das-server COA
exit

```



```
radius-server host 100.123.0.2
  key ascii-text testing123
  timeout 2
  source-address 100.123.0.175
  auth-port 31812
  acct-port 31813
  retransmit 3
  dead-interval 10
exit
aaa radius-profile PCRF
  radius-server host 100.123.0.2
exit
das-server COA
  key ascii-text testing123
  port 3799
  clients object-group SoftWLC
exit
aaa das-profile COA
  das-server COA
exit
```

wireless-controller:

```
tunnel softgre 1
  description "mgmt"
  mode management
  local address 192.168.200.17
  default-profile
  enable
exit
tunnel softgre 1.1
  bridge-group 3
  enable
exit
tunnel softgre 2
  description "data"
  mode data
  local address 192.168.200.18
  default-profile
  enable
exit

wireless-controller
  peer-address 100.123.0.175
  nas-ip-address 100.123.0.173
  vrrp-group 1
  data-tunnel configuration radius
  aaa das-profile COA
  aaa radius-profile PCRF
  enable
exit
```

```

tunnel softgre 1
  description "mgmt"
  mode management
  local address 192.168.200.17
  default-profile
  enable
exit
tunnel softgre 1.1
  bridge-group 3
  enable
exit
tunnel softgre 2
  description "data"
  mode data
  local address 192.168.200.18
  default-profile
  enable
exit

wireless-controller
  peer-address 100.123.0.173
  nas-ip-address 100.123.0.175
  vrrp-group 1
  data-tunnel configuration radius
  aaa das-profile COA
  aaa radius-profile PCRF
  enable
exit

```

wireless-controller "vrrp-group 1". VRRP master , "peer-address", VRRP backup .

:

```

security zone-pair gre self
  rule 1
    action permit
    match protocol gre
    enable
  exit
  rule 2
    action permit
    match protocol icmp
    enable
  exit
  rule 3
    action permit
    match protocol vrrp
    enable
  exit
exit

security zone-pair trusted self
  rule 1
    action permit
    match source-address MGMT
    enable
  exit
  rule 2
    action permit
    match protocol vrrp
    enable
  exit
exit

security zone-pair trusted trusted
  rule 1
    action permit
    match source-address MGMT

```

```

        enable
    exit
exit

security zone-pair trusted user
    rule 1
        action permit
        enable
    exit
exit

security zone-pair trusted gre
    rule 1
        action permit
        enable
    exit
exit

security zone-pair user self
    rule 1
        action permit
        match protocol udp
        match source-port dhcp_client
        match destination-port dhcp_server
        enable
    exit
    rule 2
        action permit
        match protocol vrrp
        enable
    exit
exit

security zone-pair user trusted
    rule 1
        action permit
        match protocol udp
        match source-port dhcp_client
        match destination-port dhcp_server
        enable
    exit
exit

security zone-pair user untrusted
    rule 1
        action permit
        enable
    exit
exit

security zone-pair untrusted self
    rule 1
        action permit
        match protocol vrrp
        enable
    exit
exit

```

, self VRRP.

ESR :

```

#!/usr/bin/clish
#18
#1.11.4
hostname esr-master

object-group service dhcp_server
    port-range 67

```

```
exit
object-group service dhcp_client
  port-range 68
exit

object-group network MGMT
  ip prefix 192.168.200.16/28
  ip prefix 10.255.252.0/23
exit
object-group network SoftWLC
  ip address-range 100.123.0.2
exit

radius-server host 100.123.0.2
  key ascii-text encrypted 88B11079B9014FAAF7B9
  timeout 2
  source-address 100.123.0.173
  auth-port 31812
  acct-port 31813
  retransmit 3
  dead-interval 10
exit
aaa radius-profile PCRF
  radius-server host 100.123.0.2
exit
das-server COA
  key ascii-text encrypted 88B11079B9014FAAF7B9
  port 3799
  clients object-group SoftWLC
exit
aaa das-profile COA
  das-server COA
exit

vlan 3,10-11,2300-2301,2308
exit

no spanning-tree

security zone trusted
exit
security zone untrusted
exit
security zone gre
exit
security zone user
exit

bridge 1
  vlan 2308
  security-zone gre
  ip address 192.168.200.19/28
  vrrp id 1
  vrrp ip 192.168.200.17/32
  vrrp ip 192.168.200.18/32 secondary
  vrrp priority 200
  vrrp group 1
  vrrp preempt disable
  vrrp
  enable
exit
bridge 3
  vlan 3
  unknown-unicast-forwarding disable
  security-zone trusted
  ip address 10.255.252.2/23
  ip helper-address 100.123.0.2
  vrrp id 3
  vrrp ip 10.255.252.1/32
  vrrp priority 200
```

```
vrrp group 1
vrrp preempt disable
vrrp
ip tcp adjust-mss 1400
protected-ports local
protected-ports exclude vlan
ports vrrp filtering enable
ports vrrp filtering exclude vlan
enable
exit
bridge 4
vlan 2300
security-zone trusted
ip address 100.123.0.173/24
vrrp id 23
vrrp ip 100.123.0.175/32
vrrp priority 200
vrrp group 1
vrrp preempt disable
vrrp
ip tcp adjust-mss 1400
enable
exit
bridge 5
vlan 2301
security-zone untrusted
ip address 172.16.0.2/28
vrrp id 5
vrrp ip 172.16.0.4/32
vrrp priority 200
vrrp group 1
vrrp preempt disable
vrrp
ip tcp adjust-mss 1400
enable
exit
bridge 10
vlan 10
unknown-unicast-forwarding disable
security-zone user
ip firewall disable
ip address 198.18.148.2/22
vrrp id 10
vrrp ip 198.18.148.1/32
vrrp priority 200
vrrp group 1
vrrp preempt disable
vrrp
ip tcp adjust-mss 1400
location data10
protected-ports radius
protected-ports exclude vlan
ports vrrp filtering enable
ports vrrp filtering exclude vlan
enable
exit
bridge 11
vlan 11
unknown-unicast-forwarding disable
security-zone user
ip firewall disable
ip address 198.18.152.2/22
ip helper-address 100.123.0.2
vrrp id 11
vrrp ip 198.18.152.1/32
vrrp priority 200
vrrp group 1
vrrp preempt disable
vrrp
ip tcp adjust-mss 1400
location data11
```

```
protected-ports radius
protected-ports exclude vlan
ports vrrp filtering enable
ports vrrp filtering exclude vlan
enable
exit

interface port-channel 1
mode switchport
switchport forbidden default-vlan
switchport general acceptable-frame-type tagged-only
switchport general allowed vlan add 3,10-11,2300-2301,2308 tagged
exit
interface gigabitethernet 1/0/1
mode switchport
channel-group 1 mode auto
exit
interface gigabitethernet 1/0/2
mode switchport
channel-group 1 mode auto
exit
tunnel softgre 1
description "mgmt"
mode management
local address 192.168.200.17
default-profile
enable
exit
tunnel softgre 1.1
bridge-group 3
enable
exit
tunnel softgre 2
description "data"
mode data
local address 192.168.200.18
default-profile
enable
exit

security zone-pair gre self
rule 1
action permit
match protocol gre
enable
exit
rule 2
action permit
match protocol icmp
enable
exit
rule 3
action permit
match protocol vrrp
enable
exit
exit
security zone-pair trusted self
rule 1
action permit
match source-address MGMT
enable
exit
rule 2
action permit
match protocol vrrp
enable
exit
exit
security zone-pair trusted trusted
rule 1
```

```

        action permit
        match source-address MGMT
        enable
    exit
exit
security zone-pair trusted user
    rule 1
        action permit
        enable
    exit
exit
security zone-pair trusted gre
    rule 1
        action permit
        enable
    exit
exit
security zone-pair user self
    rule 1
        action permit
        match protocol udp
        match source-port dhcp_client
        match destination-port dhcp_server
        enable
    exit
    rule 2
        action permit
        match protocol vrrp
        enable
    exit
exit
security zone-pair user trusted
    rule 1
        action permit
        match protocol udp
        match source-port dhcp_client
        match destination-port dhcp_server
        enable
    exit
exit
security zone-pair user untrusted
    rule 1
        action permit
        enable
    exit
exit
security zone-pair untrusted self
    rule 1
        action permit
        match protocol vrrp
        enable
    exit
exit

ip dhcp-relay

ip route 0.0.0.0/0 172.16.0.1
ip route 192.168.240.0/23 192.168.200.21

wireless-controller
    peer-address 100.123.0.175
    nas-ip-address 100.123.0.173
    vrrp-group 1
    data-tunnel configuration radius
    aaa das-profile COA
    aaa radius-profile PCRF
    enable
exit
ip telnet server
ip ssh server

```

```
#!/usr/bin/clish
#18
#1.11.4
hostname esr-backup

object-group service dhcp_server
  port-range 67
exit
object-group service dhcp_client
  port-range 68
exit

object-group network MGMT
  ip prefix 192.168.200.16/28
  ip prefix 10.255.252.0/23
exit
object-group network SoftWLC
  ip address-range 100.123.0.2
exit

radius-server host 100.123.0.2
  key ascii-text encrypted 88B11079B9014FAAF7B9
  timeout 2
  source-address 100.123.0.175
  auth-port 31812
  acct-port 31813
  retransmit 3
  dead-interval 10
exit
aaa radius-profile PCRF
  radius-server host 100.123.0.2
exit
das-server COA
  key ascii-text encrypted 88B11079B9014FAAF7B9
  port 3799
  clients object-group SoftWLC
exit
aaa das-profile COA
  das-server COA
exit

vlan 3,10-11,2300-2301,2308
exit

no spanning-tree

security zone trusted
exit
security zone untrusted
exit
security zone gre
exit
security zone user
exit

bridge 1
  vlan 2308
  security-zone gre
  ip address 192.168.200.20/28
  vrrp id 1
  vrrp ip 192.168.200.17/32
  vrrp ip 192.168.200.18/32 secondary
  vrrp priority 100
  vrrp group 1
  vrrp preempt disable
  vrrp
  enable
```



```
exit
bridge 3
  vlan 3
  unknown-unicast-forwarding disable
  security-zone trusted
  ip address 10.255.252.3/23
  ip helper-address 100.123.0.2
  vrrp id 3
  vrrp ip 10.255.252.1/32
  vrrp priority 100
  vrrp group 1
  vrrp preempt disable
  vrrp
  ip tcp adjust-mss 1400
  protected-ports local
  protected-ports exclude vlan
  ports vrrp filtering enable
  ports vrrp filtering exclude vlan
  enable
exit
bridge 4
  vlan 2300
  security-zone trusted
  ip address 100.123.0.175/24
  vrrp id 23
  vrrp ip 100.123.0.174/32
  vrrp priority 100
  vrrp group 1
  vrrp preempt disable
  vrrp
  ip tcp adjust-mss 1400
  enable
exit
bridge 5
  vlan 2301
  security-zone untrusted
  ip address 172.16.0.3/28
  vrrp id 5
  vrrp ip 172.16.0.4/32
  vrrp priority 100
  vrrp group 1
  vrrp preempt disable
  vrrp
  ip tcp adjust-mss 1400
  enable
exit
bridge 10
  vlan 10
  unknown-unicast-forwarding disable
  security-zone user
  ip firewall disable
  ip address 198.18.148.3/22
  vrrp id 10
  vrrp ip 198.18.148.1/32
  vrrp priority 100
  vrrp group 1
  vrrp preempt disable
  vrrp
  ip tcp adjust-mss 1400
  location data10
  protected-ports radius
  protected-ports exclude vlan
  ports vrrp filtering enable
  ports vrrp filtering exclude vlan
  enable
exit
bridge 11
  vlan 11
  unknown-unicast-forwarding disable
  security-zone user
  ip firewall disable
```

```
ip address 198.18.152.3/22
ip helper-address 100.123.0.2
vrrp id 11
vrrp ip 198.18.152.1/32
vrrp priority 100
vrrp group 1
vrrp preempt disable
vrrp
ip tcp adjust-mss 1400
location datall
protected-ports radius
protected-ports exclude vlan
ports vrrp filtering enable
ports vrrp filtering exclude vlan
enable
exit

interface port-channel 1
mode switchport
switchport forbidden default-vlan
switchport general acceptable-frame-type tagged-only
switchport general allowed vlan add 3,10-11,2300-2301,2308 tagged
exit
interface gigabitethernet 1/0/1
mode switchport
channel-group 1 mode auto
exit
interface gigabitethernet 1/0/2
mode switchport
channel-group 1 mode auto
exit
tunnel softgre 1
description "mgmt"
mode management
local address 192.168.200.17
default-profile
enable
exit
tunnel softgre 1.1
bridge-group 3
enable
exit
tunnel softgre 2
description "data"
mode data
local address 192.168.200.18
default-profile
enable
exit

security zone-pair gre self
rule 1
action permit
match protocol gre
enable
exit
rule 2
action permit
match protocol icmp
enable
exit
rule 3
action permit
match protocol vrrp
enable
exit
exit
security zone-pair trusted self
rule 1
action permit
match source-address MGMT
```

```

        enable
    exit
    rule 2
        action permit
        match protocol vrrp
        enable
    exit
exit
security zone-pair trusted trusted
    rule 1
        action permit
        match source-address MGMT
        enable
    exit
exit
security zone-pair trusted user
    rule 1
        action permit
        enable
    exit
exit
security zone-pair trusted gre
    rule 1
        action permit
        enable
    exit
exit
security zone-pair user self
    rule 1
        action permit
        match protocol udp
        match source-port dhcp_client
        match destination-port dhcp_server
        enable
    exit
    rule 2
        action permit
        match protocol vrrp
        enable
    exit
exit
security zone-pair user trusted
    rule 1
        action permit
        match protocol udp
        match source-port dhcp_client
        match destination-port dhcp_server
        enable
    exit
exit
security zone-pair user untrusted
    rule 1
        action permit
        enable
    exit
exit
security zone-pair untrusted self
    rule 1
        action permit
        match protocol vrrp
        enable
    exit
exit

ip dhcp-relay

ip route 192.168.240.0/23 192.168.200.21
ip route 0.0.0.0/0 172.16.0.1

wireless-controller

```

```

peer-address 100.123.0.173
nas-ip-address 100.123.0.175
vrrp-group 1
data-tunnel configuration radius
aaa das-profile COA
aaa radius-profile PCRF
enable
exit
ip telnet server
ip ssh server

```

ESR EMS

EMS ESR c - 100.123.0.173 100.123.0.175 . VRRP 100.123.0.174 WiFi, EMS .

ESR-VRRP-MASTER - EMS, , ESR "+", :

4.

, :

- " " - ESR "ESR-VRRP-MASTER".
- "" - , ESR, "ESR1000".
- "IP " - ESR "100.123.0.173".

"".

ESR (- " ) "":

Описание	нет
IP адрес	100.123.0.173
SNMP порт	161
SNMP транспорт	UDP ▼
Файловый протокол	TFTP ▼
Таймаут обмена, мс	60000
Read community / User v3	*****
Write community / Password v3	*****
Версия SNMP	v2c ▼
Регистрация трапов	Accept ▼
Выведено из обслуживания	<input type="checkbox"/>
Дата 'Выведено из обслуживания'	01.02.2021 16:36:38
Статус	AVAILABLE
Время статуса	17.03.2021 12:03:04
Telnet/SSH login	admin
Telnet/SSH password	password
SSH порт	22
MAC адрес	A8:F9:4B:AA:23:A0
Получение статуса VRRP	<input checked="" type="checkbox"/>
BRAS сервис	<input type="checkbox"/>
Режим ESR	Station ▼
ОТТ (Over-the-top)	None ▼
Режим кластера	None ▼
Дата инициализации устройства	02.12.2020 15:22:12

. 5.

"" :

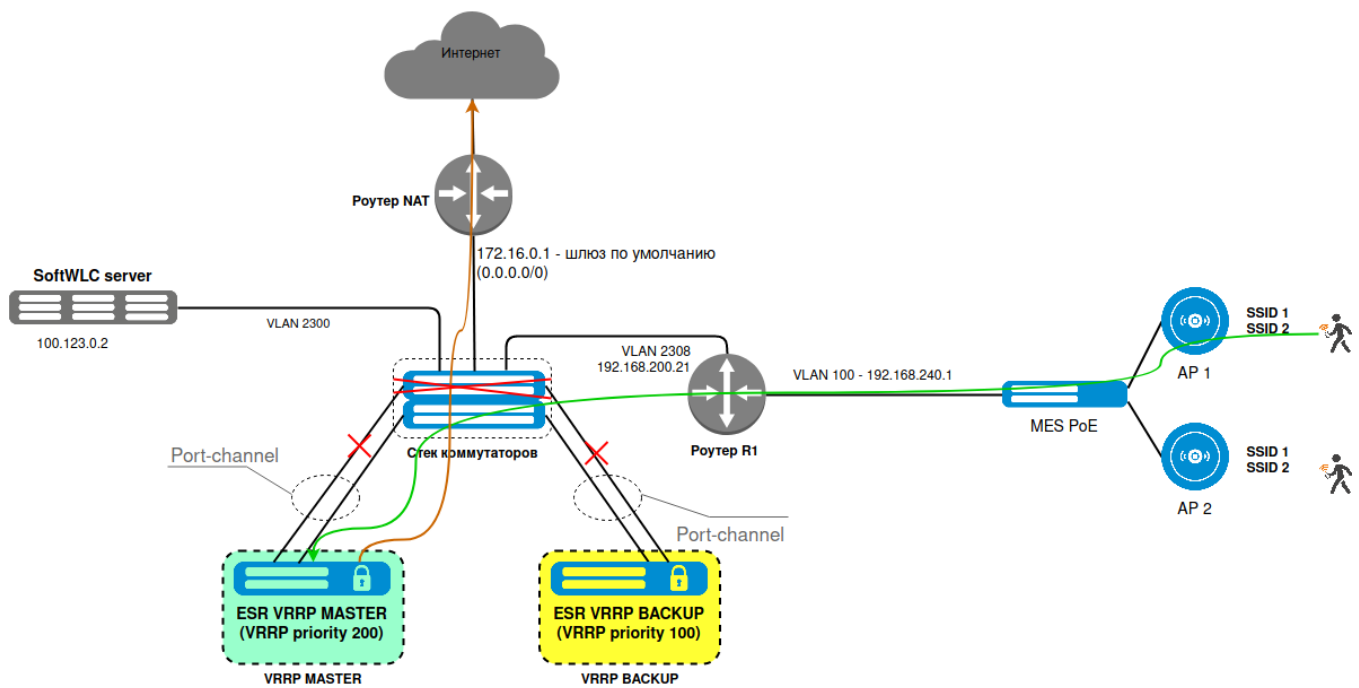
- "" - "FTP".
- "Read community" - SNMP RO community, "public11".
- "Write community" - SNMP RW community, "private1".
- " VRRP" - . VRRP ESR.



ESR-100/200 " ESR" "StationCE".

"Station", ESR - .

radius, ESR. EMS "RADIUS" " ". ESR (IP ESR) "":

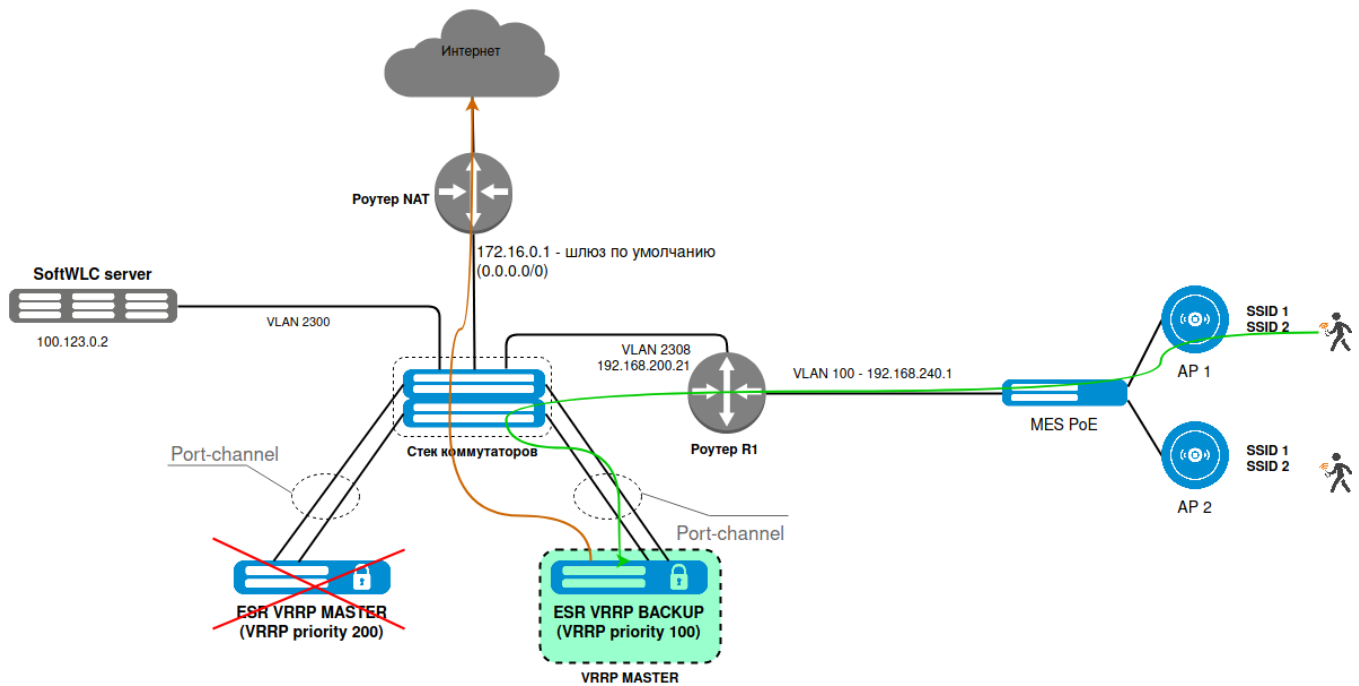


. 8.

(gi1/0/1 gi1/0/2), port-channel ESR., .. , port-channel, - , .

ESR, VRRP master

. 9 ESR, VRRP MASTER:

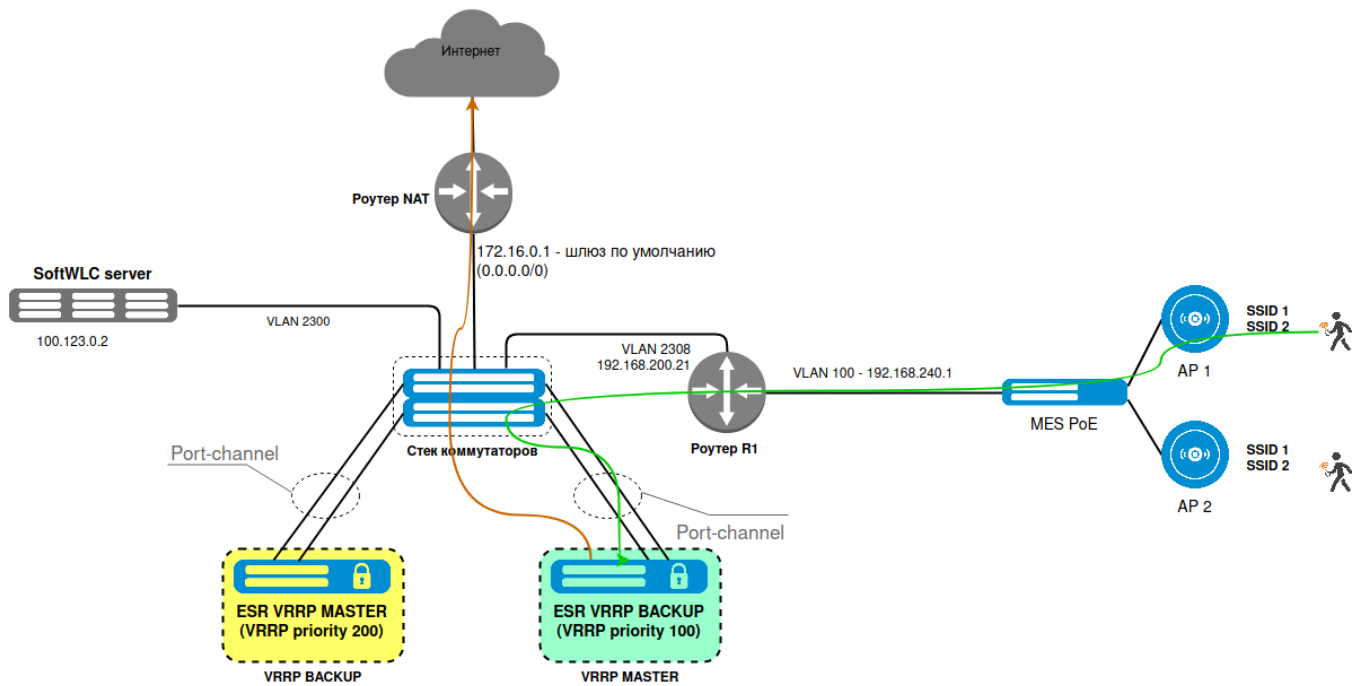


. 9.

, ESR VRRP BACKUP, VRRP, VRRP MASTER, VRRP ESR MASTER.

ESR, VRRP

. 10, ESR VRRP MASTER :



. 10.

ESX VRRP MASTER, VRRP ESX VRRP BACKUP, VRRP master, "vrrp preempt disable" VRRP, VRRP backup . . .

, ESX, spanning-tree. , ESX, "forwarding" . ESX VRRP MASTER, , , ESX VRRP . :

1. , ESX, "forwarding", spanning-tree.
2. ESX, VRRP "vrrp timers advertise" "forwarding" . , ESX VRRP MASTER , ESX.

port-channel MES:

```
interface gigabitethernet 1/0/1
 channel-group 1 mode auto
exit
!
interface gigabitethernet 2/0/1
 channel-group 1 mode auto
exit
interface port-channel 1
 switchport mode general
 switchport general allowed vlan add 3,10-11,2300-2301,2308 tagged
 spanning-tree disable
 spanning-tree bpdv filtering
 switchport forbidden default-vlan
 switchport general acceptable-frame-type tagged-only
 speed 1000
exit
```