

Решения MX80 и MX104

*Универсальное оборудование для построения
теле^{ко}ммуникационной сети*

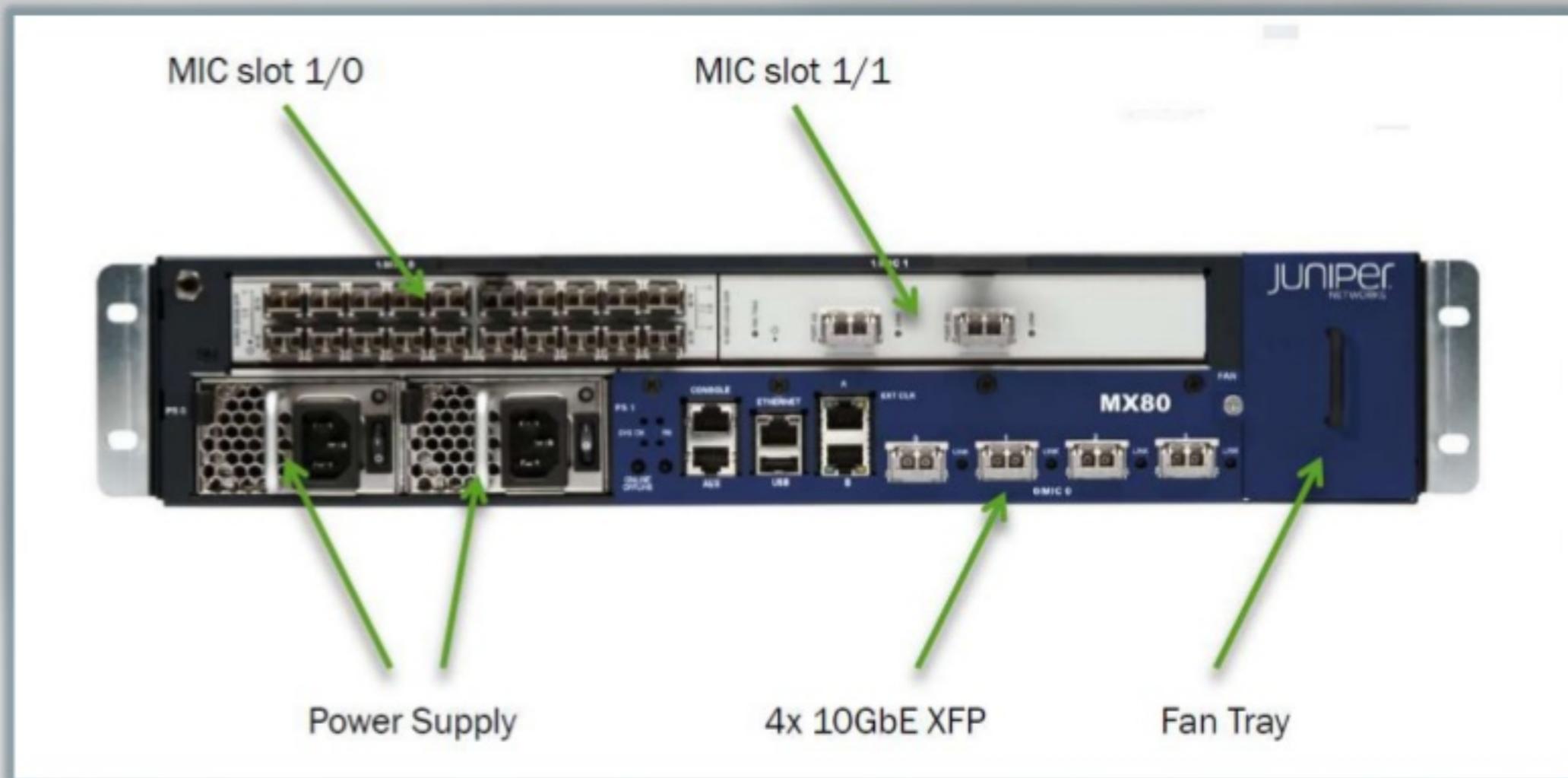
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Обзор MX Midrange

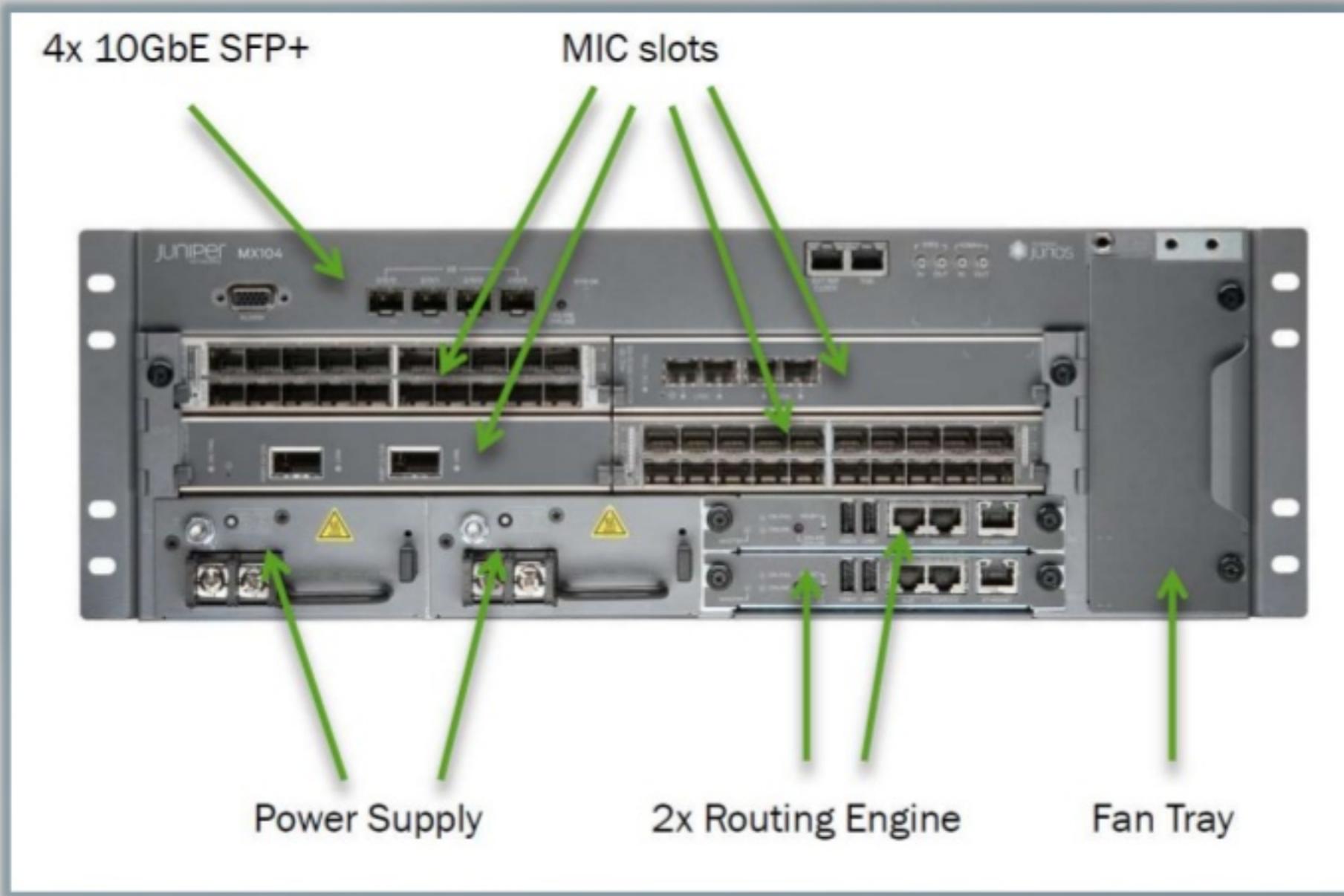


	MX5	MX10	MX40	MX80	MX104
Capacity	20Gbps	40Gbps	60Gbps	80Gbps	80Gbps
Height (RU)	2	2	2	2	3.5
Slots	открыто (1 MIC) + MS-MIC slot	открыто (2 MIC) + MS-MIC slot	открыто (2 MIC) + MS-MIC slot	открыто (2 MIC) + MS-MIC slot	открыто (4 MIC) + MS-MIC slot
BW / Slot*	20Gbps (20x1G)	40Gbps (20x1G+1MIC)	60Gbps (2MIC+2x10G)	80Gbps (2MIC+4x10G)	80Gbps (4MIC+4x10G)
10GE Ports (MAX)	2	4	6	8	12
Redundant RE	No	No	No	No	Yes
Redundant Fabric	No	No	No	No	No
Redundant Power	Yes – AC/DC	Yes – AC/DC	Yes – AC/DC	Yes - AC/DC	Yes – AC/DC

Внешний вид MX5-80



Внешний вид MX104



Возможности применения

Broadband Edge (BRAS) – PPP,DHCP, L2TP терминация, Dynamic policy & service activation, день/ночь скорость, квоты по траффику, Flow-s, CG-NAT, логирование сессий, accounting, COA, H-QoS.

Infrastructure Edge Router – IP/MPLS, Pseudowire, EVPN, L2VPN, L3VPN, IPSec.

Border router – граничный маршрутизатор сети (BGP), WAN aggregations.



55m – PPS
70Gbps – Performance
1+Mil – Forwarding Information Base
4Mil – Routing Information Base

Subscriber Management функционал

MX80 и MX104 имеют схожие характеристики по BRAS функционалу.

Logical interfaces – **16 000**

DHCP client bindings – **16 000**

DHCP subscriber VLANs (C-VLANs) per chassis – **16 000**

PPPoE interfaces per chassis – **8 000**

MX5-80 поддерживает H-QoS на модульных устройствах (кроме встроенных 10 Gbps портов).

MX140 – поддерживает H-QoS на всех портах.

User Case: DHCP, C-VLAN, OSPF

```
root@BRAS-ISP-1> show subscribers summary
```

Subscribers by State
Active: 13351
Total: 13351

Subscribers by Client Type
DHCP: 6668
VLAN: 6683
Total: 13351

```
root@BRAS-ISP-1> show route summary
```

Router ID: 10.10.70.88

inet.0: 41653 destinations, 41655 routes (41653 active, 0 holddown, 0 hidden)

Direct: 50 routes, 50 active

Local: 10 routes, 10 active

OSPF: 34913 routes, 34911 active

Static: 2 routes, 2 active

IGMP: 1 routes, 1 active

PIM: 2 routes, 2 active

Access-internal: 6677 routes, 6677 active

```
root@BRAS-ISP-1> show chassis routing-engine
```

Routing Engine status:

Temperature 45 degrees C / 113 degrees F

CPU temperature 56 degrees C / 132 degrees F

DRAM 2048 MB (2048 MB installed)

Memory utilization 60 percent

CPU utilization:

User 1 percent

Background 0 percent

Kernel 11 percent

Interrupt 3 percent

Idle 85 percent

User Case: 6 BGP Full View + 7 000 DHCP

```
itbiz@jun> show route summary  
Autonomous system number: 49X8X  
Router ID: xxx.101.192.1  
inet.0: 568624 destinations, 3801318 routes (568621 active, 0 holddown, 0 hidden)
```

Direct: 27 routes, 27 active
Local: 25 routes, 25 active
OSPF: 2 routes, 2 active
BGP: 3794253 routes, 561556 active
Static: 1 routes, 1 active
Aggregate: 12 routes, 12 active
Access-internal: 6998 routes, 6998 active

```
itbiz@jun> show chassis routing-engine  
Routing Engine status:  
Temperature 41 degrees C / 105 degrees F  
CPU temperature 54 degrees C / 129 degrees F  
DRAM 2048 MB (2048 MB installed)  
Memory utilization 95 percent  
CPU utilization:  
User 9 percent  
Background 0 percent  
Kernel 13 percent  
Interrupt 2 percent  
Idle 76 percent
```

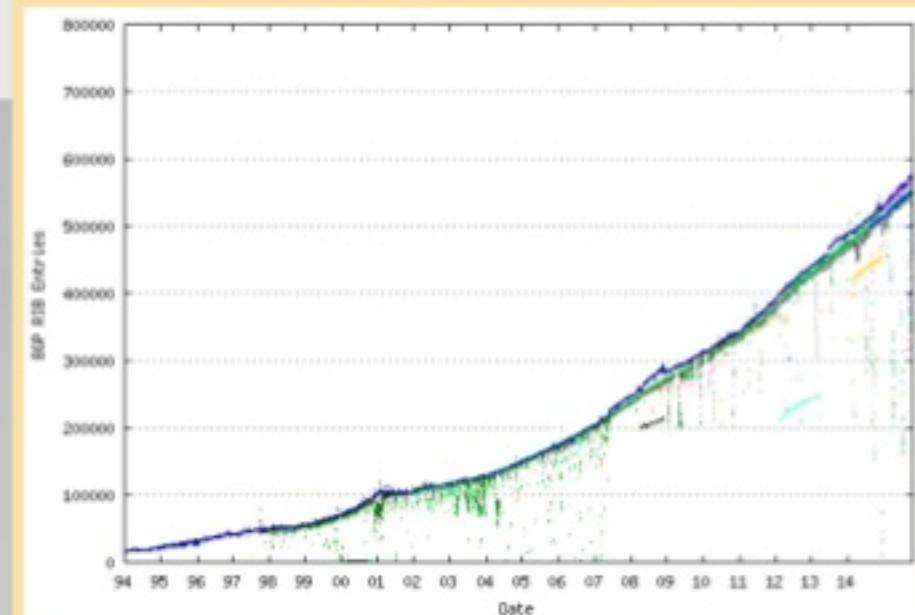
```
itbiz@jun> show subscribers summary
```

Subscribers by State
Configured: 5
Active: 11395
Total: 11400

Subscribers by Client Type

DHCP: 7015
VLAN: 4385
Total: 11400

Growth of the BGP Table - 1994 to Present



User Case: 9 000 PPPoE + NAT 300k Sessions

```
itbiz@bras-11> show subscribers summary
```

Subscribers by State

Active: 9159

Total: 9159

Subscribers by Client Type

VLAN: 80

PPPoE: 9079

Total: 9159

```
itbiz@bras-11> show services sessions count
```

Interface	Service set	Sessions count
ms-0/2/0	NAT-SERVICE-SET	329963

```
itbiz@bras-11> show services service-sets summary
```

Service sets	CPU
Interface configured	Bytes used Policy bytes used utilization
ms-0/2/0 2	1764660596 (14.60%) 11899264 (2.21%) 23.79 %

```
itbiz@bras-11> show chassis routing-engine
```

Routing Engine status:

Temperature 41 degrees C / 105 degrees F

CPU temperature 53 degrees C / 127 degrees F

DRAM 2048 MB (2048 MB installed)

Memory utilization 74 percent

CPU utilization:

User 5 percent

Background 0 percent

Kernel 11 percent

Interrupt 5 percent

Idle 79 percent

User Case: Разные логические системы для разных функций

```
itbiz@border.goldenlinks.com.ua> show route summary logical-system all
```

logical-system: BGP

Autonomous system number: 49620

Router ID: 1.1.1.1

inet.0: 557194 destinations, 1695003 routes (556843 active, 0 holddown, 1822 hidden)

 Direct: 20 routes, 20 active

 Local: 20 routes, 20 active

 BGP: 1694922 routes, 556762 active

 Static: 40 routes, 40 active

 Aggregate: 1 routes, 1 active

logical-system: FIREWALL

Router ID: 10.0.0.1

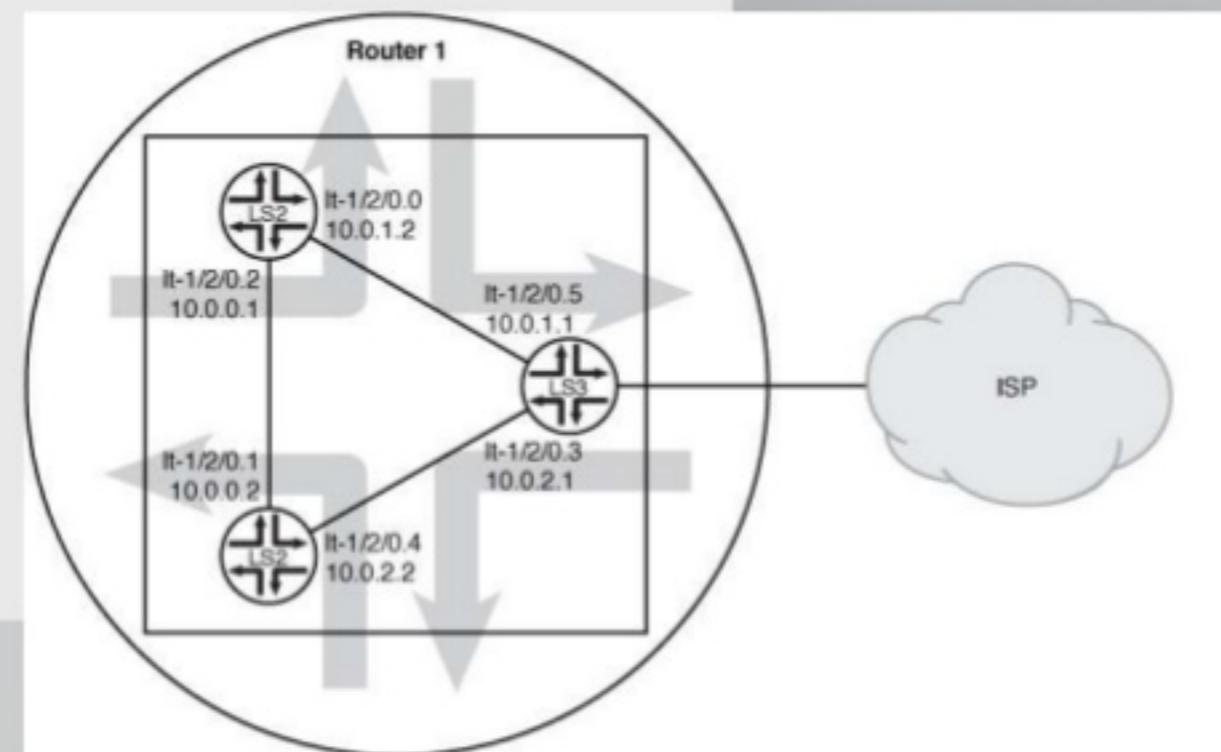
inet.0: 1242 destinations, 1245 routes (1242 active, 0 holddown, 0 hidden)

 Direct: 114 routes, 114 active

 Local: 114 routes, 114 active

 Static: 15 routes, 12 active

 Access-internal: 1002 routes, 1002 active

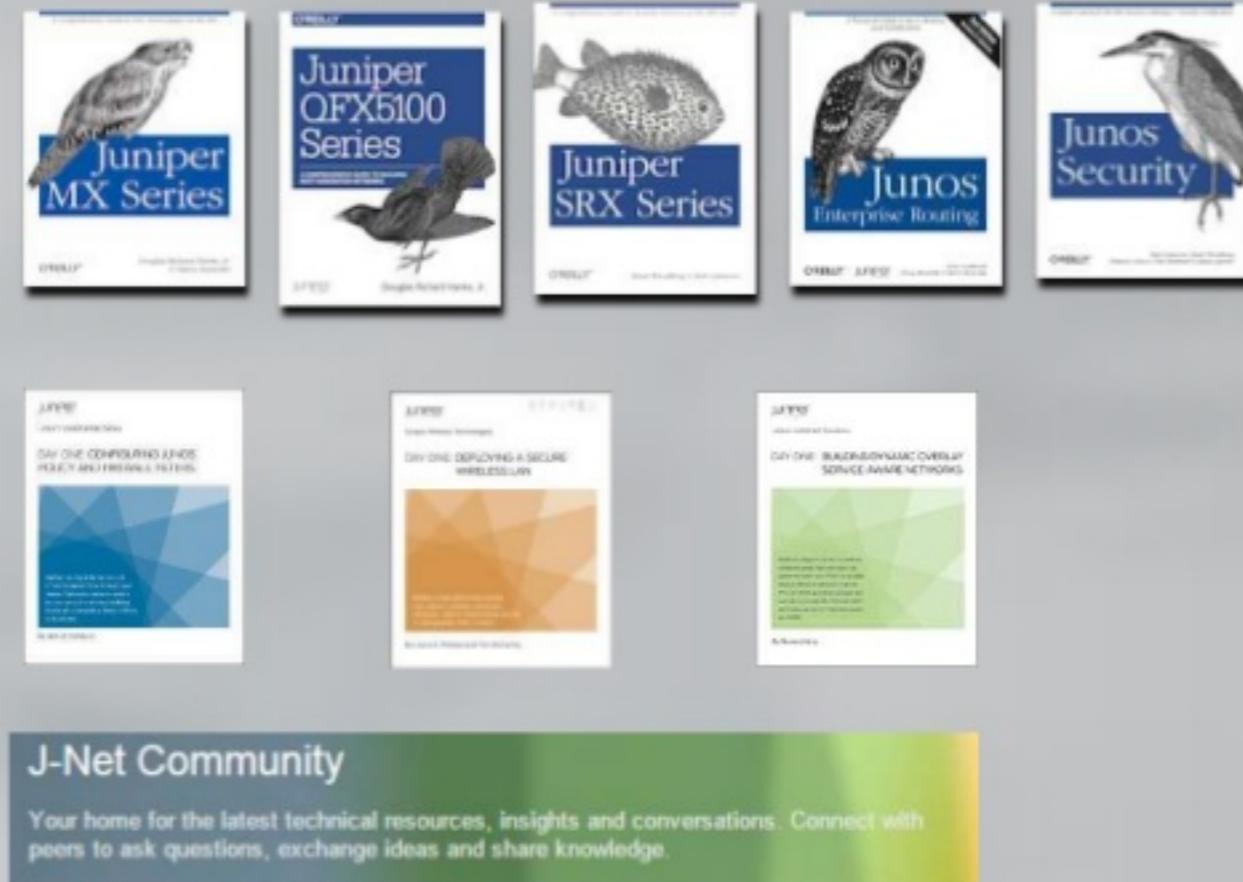


Большой спектр доступной информации

Juniper сотрудничает с организацией O'Reilly Media.

Библиотека Day One содержит большое количество FAQ в стиле Best Practicles.

Активное форумное сообщество.



THANK YOU
