

Next Generation Network

Cisco series:

ASR 1000

Cisco 7600

Catalyst 6500

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About Us

Number of internet backbone systems we have introduced to internet service providers so far is significant and it relies on our belief that a cutting edge internet backbone system not only has to be highly reliable and available, but able to transmit all types of information and services (data, voice, video), too. That kind of internet backbone system is an integral part of Next Generation Network (NGN).

Next generation network

Conceptual model of NGN architecture consists of 4 layers:



1. Access layer

Represents the infrastructure to the end user's device (xDSL, Fiber Optic, HFC, Wireless, etc);

2. Transport layer (IP/MPLS)

Represents system's core dedicated to high-speed forwarding of complete traffic between access and service layer;

3. Control layer

Controls all other layers;

4. Service layer

Maintains all necessary services which reach end users through access and transport layers.

IP/MPLS Systems



IP/MPLS systems (Transport Layer) are implemented within telecommunication and access networks which demand substantial volumes of traffic aggregation and large number of network services (data, voice, video). Therefore, design of network has to enable high level of network availability and accessibility of all services by implementation of key network protocols (MPLS, BGP, VPN, QoS, etc). Being fully aware of the fact that our ISP clients appreciate high levels of quality and reliability of equipment and that those systems must support advanced services and extensive workload up to maximum declared capacity, we have based our solutions on refurbished Cisco ASR 1000, Cisco 7600 and Catalyst 6500 core platforms. These platforms secure safe and convergent end-to-end services throughout ISP's network.

Cisco Catalyst 6500 Multilayer switch



Catalyst 6500 is a series of modular multilayer switches which is suitable for use in almost any part of an ISP network (core, edge, access) and it is hard to imagine an implementation of internet backbone system without them. They excel in full redundancy (power supply, processor, cards) and there are chassis with 3, 6, 9 or 13 slots.

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Core of the device is supervisor (processor) and, depending on supervisor's model, maximum performance is set at 720 Mpps (Forwarding Rate), with 2 or 10 GE interfaces. Supervisor also supports key protocols (MPLS L2/L3VPN, EoMPLS , QoS, etc) for internet backbone implementation in accordance with NGN architecture.



There are different combinations of cards with LAN and WAN ports and, depending on size of chassis, it is possible to implement up to 534 Gigabit Ethernet, up to 180 10GE or up to 44 40GE ports. Users also have large number of service modules of different purpose (security, content services, control management, etc).

Cisco 7600 Router



Although Cisco Systems still devotes a large portion of its development efforts to Catalyst 6500 series of switches, Cisco 7600 series of routers has also been in its focus. Until recently, these two platforms used identical components (processors and line cards), but now they are separated into two independent series. Cisco 7600 series offers more chassis models which differ by number of slots for interface cards: 3, 4, 6, 9 and 13, with the possibility of using redundant processor and power supply.



Same as Catalyst 6500 series, key element is processor (supervisor), which – depending on a specific model – has maximum performance up to 720 Gpps (Backplane Capacity), GE or 10GE interfaces and support for IP/Multiprotocol Label Switching (MPLS) services, QoS, IP Forwarding, etc.



Cisco ASR 1000 Router

The fact this series of routers is so ubiquitous in the market is the ultimate proof it offers the best value and performance for money. Compact, modular and scalable, this series consists of two types of routers – integrated routers (fixed configuration) and modular routers. Integrated routers (ASR 1001 and ASR 1002 Fixed) have integrated processor and cards and they are dedicated to parts of network with smaller traffic aggregation. For larger systems, use of modular routers is recommended. Depending on client's needs, there are chassis with 3 (ASR 1002), 8 (ASR 1004), 12 (ASR 1006) or 24 slots (ASR 1013). Full hardware redundancy is available only in ASR 1006 and ASR 1013 models.





Entire ASR routers series is based on new generation Cisco QuantumFlow Processors which support the processing speed of up to 100 Gbps. Each configuration of modular ASR routers consists of two types of processors – Route Processor (RP) and Embedded Services Processor (ESP). RP are processors dedicated to forwarding the traffic to ESP and there are first (ASR1000–RP1) and second generation (ASR1000–RP2) of them.

ESP processors are dedicated to performing the most important L2 and L3 protocols (MPLS L2/L3VPN, EoMPLS , QoS, etc), but also for other advanced services not supported by other platforms: Network-Based Application Recognition (NBAR), Flexible Packet Matching (FPM), Application Visibility and Control (AVC), Broadband Aggregation and Unified Border Element . Depending on bandwidth, there are 5 Gbps processors (ASR1000-ESP5), 10 Gbps (ASR1000-ESP10), 20 Gbps (ASR1000-ESP20), 40 Gbps (ASR1000-ESP40) and 100 Gbps (ASR1000-ESP100).



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