DOMAINS

| Access and Aggregation | Edge | Core | Data Center | WAN | Campus and Branch | Consumer and Business Device |

There are seven specific domains in the network. Juniper uses these domains, together or individually, as entry points for innovative architectural design that create platforms for significant business advantage. We call this approach...

NEW NETWORK PLATFORM ARCHITECTURE | Purpose built, domain designed

In stark opposition to the legacy approach, Juniper architects these platforms—design innovations, enabled by software—to create business value. They are built to best leverage the locations or location in the network being used. We look at the application demands, the business objective and the opportunities for efficiency, performance and ROI and build the right solution for the job.

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THE THREE UNIQUE ADVANTAGES OF THIS APPROACH:

NEW NETWORK
PLATFORM ARCHITECTURE

Juniper Technology

Integrated and individual network systems that provide breakthrough performance, efficiency, simplicity and security, redefining what's possible from a network.

Junos Software

Open standard based, software ecosystem allowing partners and 3rd parties the ability to develop, manage, integrate and extend the power of the network through the platform of software.

Juniper People

Best of breed network innovators who employ tested prescriptive design, along with scholarship, experience and creativity to invent solutions for customers and partners everywhere.

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WHY A "PLATFORM ARCHITECTURE"?

The new network approach to designing network architectures sees each area of the network as a platform for delivering greater efficiency, business value, performance and new business opportunity.
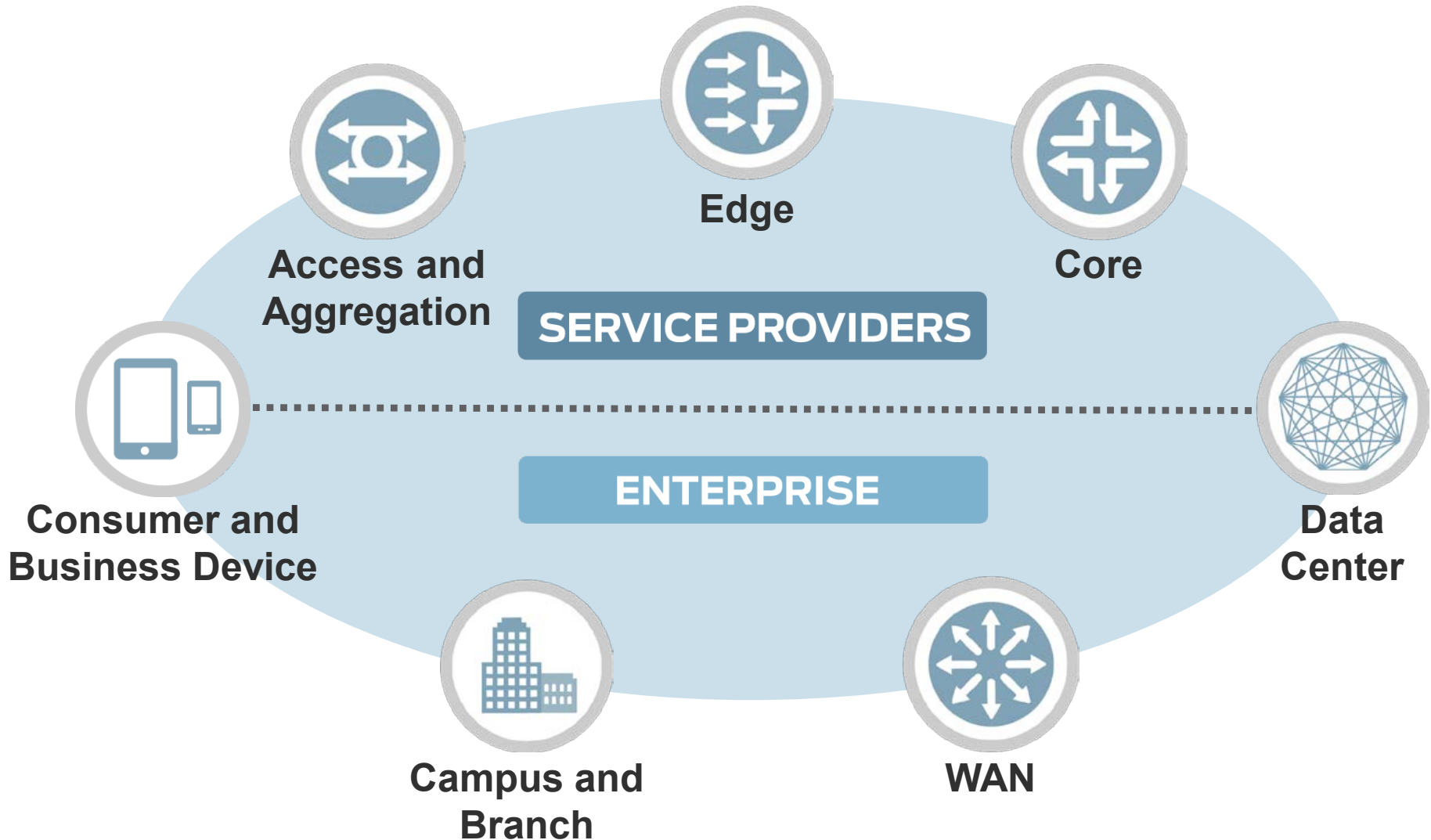
1) "Platform" creates differentiation for both Junos Software and highlights the power of our partner ecosystem. Our mission is to create platforms for development and opportunity across the network. This is what sets us apart from the competition.

2) We are setting an architectural agenda to address the challenges of modern day network demands. This is the story of prescriptive design. It's how we assemble our solutions.

We understand the business issues, business opportunities and consumer demands that are happening in the network now and create new network platform architectures to tackle these challenges.

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NEW NETWORK
PLATFORM ARCHITECTURE | Purpose built, domain designed

Edge

Access and Aggregation

Core

SERVICE PROVIDERS

Consumer and Business Device

ENTERPRISE

Data Center

Campus and Branch

WAN

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PROPER USAGE & DEFINITIONS

The following set of definitions and terms should be referred as a general usage guideline when messaging, speaking about and selling New Network Platform Architectures.

New Network Platform Architecture	Juniper's unique approach to designing innovative network architectures that exceed legacy limitations and transform network expectations. Leveraging the power of Junos, network scholarship and proven Juniper technology, these architectures literally create business value and opportunity for service providers, developers and large enterprise. New Network Platform Architecture is the proper name of this approach as such, it should always be set with initial caps or in all capital letters.
"N.N.P.A."	Using New Network Platform Architecture as an acronym "NNPA" is discouraged and should never appear in any official Juniper documentation, marketing or reference manuals.
Domains	These are the 7 places in the network—Edge, Data Center, Core, Access & Aggregation, WAN, Consumer & Enterprise Device and Campus & Branch. Domains are not our solution or approach, rather in language and documentation, they must be referred to and used as what they are: industry accepted locations in the network. For instance... **"Juniper's New Network Platform Architecture for the Edge solves the massive challenges faced by service providers in this critical domain."**

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PROPER USAGE & DEFINITIONS

Purpose built.
Domain designed.

This is the short hand statement that highlights the promise of New Network Platform Architectures. It should always be used as part of the New Network Platform Architectures "lock up" (see below) and never on its own.

JUNIPER NNPA GLOSSARY

Domain	Sector	Definition
Core	SP	This is the SP core network connecting data centers, peering points, and the customer touching edge domain—it is the infrastructure to allow SP customer connectivity to everything else in the SP network. Typically dealing with long-haul optics for longer distance connections as well as passive optical connections in denser metro areas with a large edge presence. Typically MPLS centric for both VPN and traffic engineering support, but can also be standard IP. Here customer or content traffic flows are thought of in aggregate trunks vs per customer or per content frameworks (as is the case for edge and data center).
Edge	SP	This is the point in the SP network where network services are initiated and the IP connection begins. It terminates the Access & Aggregation Network and connects to the Core. It is often thought of as the IP Services point and typically consists of platforms such as customer PE routers, BRAS, CMTS, and EPC/MPC architectures. For many new architectures this is also a point of content caching/CDN as well as distributed application hosting (distributed Cloud). This is typically the ingress/egress IP control point for flows to a customer that then cross the Access & Aggregation network.
Access & Aggregation	SP	This is the SP network (typically L2 or L2.5) that connects directly to a customers location. This is the "on ramp" to the SP network and how / where most enterprise WANs connect to the SP. On one side is the customer device (mobile phone, modem, or CE router/firewall) and on the other is the IP Service complex of the edge domain. The purpose of this domain is "last mile" reach to connect to the customer. Many technologies are leveraged in the aggregation network from ethernet (L2 as well as xPLS based), legacy ATM and TDM, HFC/DOCSIS which connect to many different final access technologies such as RF (via towers supported by CSRs), DSL, PON, DOCSIS, active ethernet, etc. The trend for this domain is toward ethernet based connections with xPLS as the segmentation technology to maintain separation between customer flows (historically based on VLANs, VCs, or channelized OCx connections).

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JUNIPER NNPA GLOSSARY

Domain	Sector	Definition
Data Center	**SP & ENT**	Three primary types of data centers; 1. Public: shared data center offered ubiquitously to all (e.g. Amazon); 2. SP: Part of the MPLS network and as such offer greater security than public data centers as they are part of the extended enterprise network 3. Enterprise: An enterprise owned and managed data center, not part of an SP DC or public DC. This DC could be located in a corporate building or leased from the likes of IBM in one of their facilities, but directly attached to the enterprise network. Technologies of import here are L2 or L3 ethernet networks with a high degree of focus on security—both physical and virtual. We are working to change the legacy 3-tier approach to the ethernet network toward either a 2 tier simplified ethernet architecture or our simplified L2/L3 fabric based 1-layer architecture. In either case, a strong focus on security and how the larger ethernet and security network can adapt to a dynamic application framework as driven by virtualized or cloud based server architectures. QoS for both applications and access to storage (FC, FCoE, and iSCSI) are also critical to drive our simplification agenda.
WAN	**ENT**	Connects Data Centers, the Campus and Branch, and Device users together for the Enterprise; which is typically based on managed or leased SP infrastructure. For larger enterprise (or financial) customers the WAN is typically owned and managed by the customer via leased trunks (either fiber or virtual paths) from the SP. This creates large enterprise MPLS architectures. Most simply leverage the VPN offerings of an SP to manage both network segmentation and QoS profiles. Smaller customers may simply gain internet access from an SP and leverage IPSec tunnels based on their own local router/firewalls to create tunnels through the internet—this type of network lacks QoS metrics, but is less expensive.

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JUNIPER NNPA GLOSSARY

Domain	Sector	Definition
Campus & Branch	**ENT**	Where end users and devices are connected to the network. The campus is usually >50 end users and the network may cover multiple buildings. In the branch, often the entire network infrastructure is a single device, but it can also include other components as required. The larger focus here is around the LAN side issues of connecting devices to the network; switched ethernet and WLAN. There are also concerns of user authentication for networks access (Pulse/UAC) as well as evolved application support for UC, VoIP, and more demanding application performance.
Consumer & Biz Device	**SP & ENT**	This is the end user access point to the network outside a campus & branch location. This would include home, hotels, fixed machine locations, wifi hotspots, mobile (2G, 3G, 4G), etc. This domain is focused on the end device. Typical concerns are around device security and control of how it access the network via different access technologies.

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everywhere