

Sandvine Service Delivery Engine (SDE) Platform

Rapid Enablement of New Services with Standards-based Network Policy Control

The Service Delivery Engine (SDE) is an integral part of Sandvine's industry-leading network policy control system, along with the Policy Traffic Switch (PTS) and Subscriber Policy Broker (SPB). The SDE platform serves as the policy decision interface to external network elements and systems, handles subscriber entitlement changes, and provides policy control across access network technologies and policy enforcement points. It enables service providers to rapidly roll out a broad spectrum of network policy control solutions that increase network profitability and ensure subscriber satisfaction in their Internet service offerings.

Solutions that the SDE platform makes possible include:

- Application-aware offline charging for postpaid billing, and quota management
- Event notification to Billing and Operations Support Systems (B/OSS)
- Automatic procurement of subscriber profile and entitlement information from external systems
- Consistent Quality of Service (QoS) and network services across access technologies

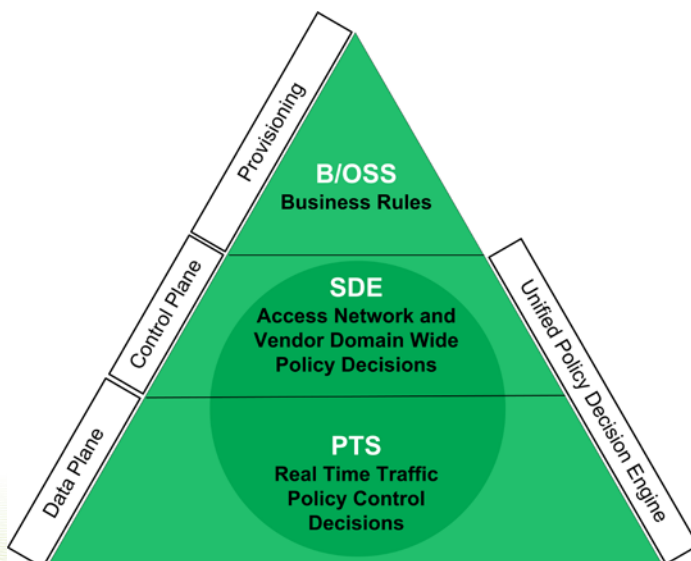
Supported Interfaces

- Diameter
- LDAP
- RADIUS (incl CoA)
- DHCP, DHCPv6, Lease query
- GTP-C
- SOAP server
- PCMM
- Usage Records (UDRs)

Bringing Intelligence to the Network Where It Is Needed

Network policy has an optimal hierarchy which is critical to the scalability and performance of solutions. The underlying foundation is deep packet inspection technology that operates at the data plane, processing multiple Gbps of throughput. At the next layer is control plane policy. Unnecessary signaling between these two layers reduces performance and increases the complexity of policies. Sandvine addresses this hierarchy by unifying the policy engine across the PTS and SDE platforms. This allows Sandvine's network policy solutions to execute the right policy, at the right location in the network, for maximum scalability and performance.

Network Policy Control Hierarchy



SDE Key Benefits

- High performance processing platform that supports a high rate of transactions per second
- Open standards including PCMM, RADIUS, DHCP, DIAMETER, GTP-C, LDAP, and SOAP web services
- Unified policy engine, integrated with Policy Traffic Switch (PTS) and Subscriber Policy Broker (SPB)
- Ability to enforce policy on third party network elements
- IPv6 and LTE support
- Carrier-class reliability with redundancy and high availability
- Proven platform deployed in hundreds of service providers, including many of the world's largest

SDE Features Meet the Needs of Large-scale Communications Service Providers

Multitude of interfaces for interacting with external systems

- Enables the SDE to interact with other systems for provisioning and notifications as well as to enforce network policies on third party enforcement platforms
- Access technology agnostic

Sandvine Unified Policy Engine

- Proven policy engine with hundreds of deployments around the world
- Allows policy to be executed at the optimal location for maximum scalability and performance
- Rapid solution development and deployment

Carrier Class

- Designed for mission-critical applications

High Performance

- Tens of thousands of transactions per second (TPS) on a single element (varies by interface)

Shared element management system with the Sandvine PTS and SPB platforms

- Allows knowledge and skills to be shared across deployments, reducing training and operational costs

Platform Requirements

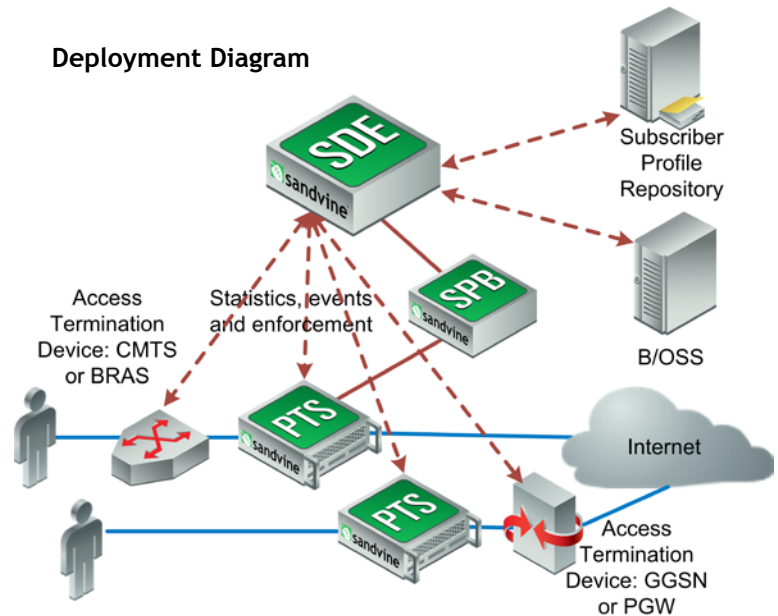
Operating system

- RedHat Enterprise Linux (RHEL) version 5.6

Recommended Hardware

- Exact hardware requirements vary based on the deployment use case
- Processor: 2 Xeon 5620 processors
- RAM: 32GB of RAM
- Storage: 300GB (SAS w/ RAID 1 or better)
- Network: Two 1Gbps Ethernet

Deployment Diagram



SDE is a Platform for Network Policy Control Based Solutions

The SDE is an integral part of Sandvine's industry-leading network policy control system along with Sandvine's PTS and SPB. The SDE platform serves as the policy decision interface to all external network elements and systems. The integrated system enables a variety of products which provide solutions to challenges often faced by Service Providers. For example, Sandvine's Fairshare Traffic Management alleviates network congestion, while Sandvine's Usage Management helps increase service profitability through quota management. For more information about these, and other network policy based solutions, refer to www.sandvine.com.