



# Traffic Steering/Diversion

## Intelligently redirect traffic and better allocate network resources

### USE CASES FOR TRAFFIC STEERING/DIVERSION

#### Intelligent Steering Cuts Costs

Granular visibility ensures that only desired flows are redirected, significantly minimizing the service and network resources consumed

#### Deploys with More Third-party Elements

Proven interoperability with more third-party elements to support a greater number of use cases such as video optimization, network security, caching, and regulatory filtering

#### More Capabilities, More Use Cases

Asymmetric steering, VNF readiness, traffic intelligence, and carrier grade scale mean greater support for the deployment of future use cases

Traffic steering/diversion is a technique applied to network traffic when additional filtering, modification or optimization is needed. Network operators typically steer traffic for the deployment of value added services (VAS) like security, caching and enrichment to a specific flow of traffic. Network operators have to rely on an intelligent data plane element to steer/divert network traffic through one of these service functions that resides in an “overlay” network.

Network engineers generally try to simplify modern networks by reducing the number of inline elements while also offering more network services that deliver specialty functions (as either physical elements or as virtual network functions (VNFs)). To deliver against these counterbalancing directions, operators need to consider using existing data plane elements to divert traffic reliably, simply, and out-of-band so other functions may then be intelligently applied.

### USE CASE TECHNOLOGY OVERVIEW

Traffic steering can take many forms. It can be provided as a relatively rudimentary port redirection, or it can include extensive traffic intelligence to identify and manage granular traffic flows that minimize inefficiencies in the network.

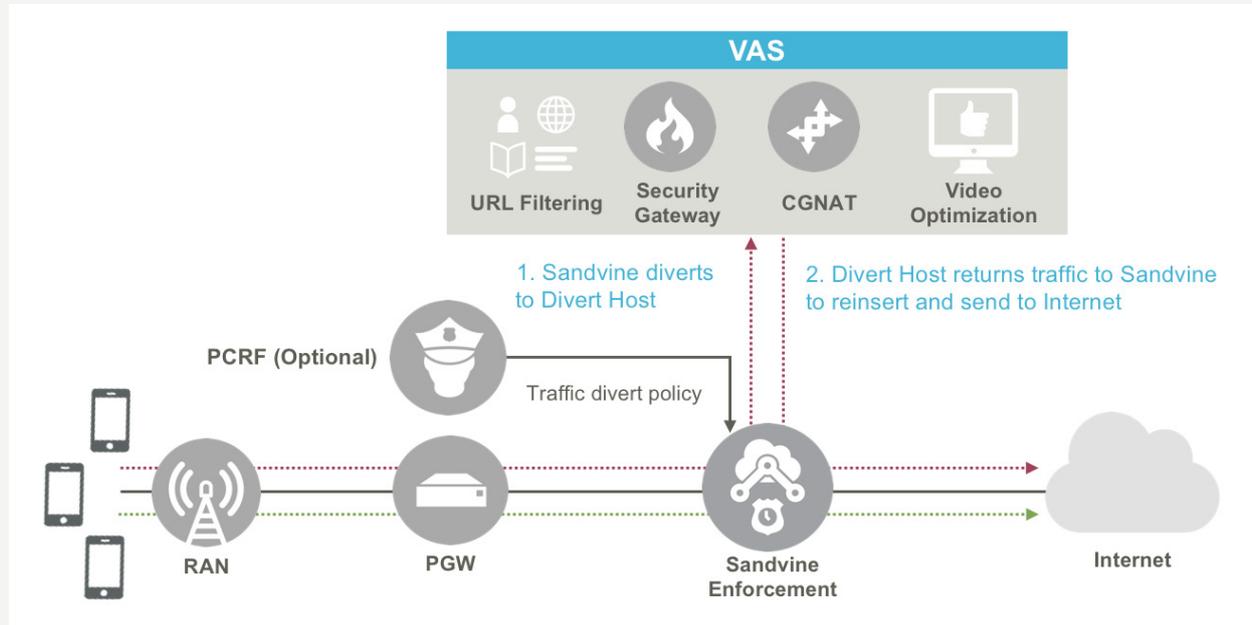
Sandvine offers the industry's most intelligent traffic steering/diversion, redirecting highly specific application, protocol, and subscriber traffic to ensure that only the desired flows are diverted to network service nodes—significantly minimizing the number of service nodes and other network resources (e.g., load balancers) required to support diverted traffic.

Once service nodes process the traffic, that traffic can then be returned (optionally) back to the Sandvine solution for reinsertion into the normal traffic flow (see **Figure 1** on the following page). This capability, combined with Sandvine's traffic classification technology, delivers the maximum achievable efficiency for traffic redirection, far beyond that of imprecise, port-based approaches.



Figure 1

## Traffic Steering with Reinsertion



## USE CASES

Common uses for traffic steering/diversion are for the facilitation of caching, video optimization/transcoding, and DDoS Scrubbing.

- Caching for protocols such as P2P and HTTP can reduce traffic on costly transit links and increase customer QoE. Caching can increase consumption and reduction in network costs and churn, and potentially enable more revenue generating service opportunities.
- Video optimization allows the operator to tailor the video experience to the network at hand while also enabling different offers and plans such as unlimited video streaming offered at 480P, which has proven popular for operators globally.
- On the security and regulatory compliance side, traffic “scrubbers” can distinguish normal traffic from distributed denial of service (DDoS) attacks, content filters block undesirable content and enable parental controls and an advanced firewall, for use by enterprises and other large customers.

Other traffic steering/diversion use cases include content filtering (e.g., URL blocking), TCP optimization, secondary DPI functions, and legal intercept.

## SANDVINE'S UNIQUE TRAFFIC STEERING BENEFITS

## Advanced Functionality

As the Sandvine elements are already inline, this removes the requirement to add “bumps” in the wire to enable steering to 3rd party divert partners. Reducing the number of inline elements streamlines operations and provides higher availability at lower cost to the operator.



### Granular Traffic Steering

Sandvine steering ensures that only the desired traffic is acted upon. Examples include:

- **Subscriber based:** For opt-in subscribers to video optimization platform
- **Network based:** For traffic that should not be steered such as traffic sourced from BGP AS (for example, won't cache existing Akamai cache)
- **Protocol based:** For steering only HTTPS and HTTP to a URL filterer
- **Policy based:** Steering to a video optimization platform if a selected site is congested.

### Asymmetry Removal

Operators have large amounts of traffic, which in many cases is asymmetric (i.e., upstream is transported over a different physical link than downstream). In most cases, traffic steering requires both directions of the flow to be seen. Sandvine delivers asymmetric traffic steering recognizing and diverting traffic flows in both directions, all at carrier scale.

### Conclusion

Sandvine's Traffic Steering/Diversion Solution is broadly compliant with industry standards, including 3GPP policy and charging, can be provided as a physical element or virtual function, and is proven with leading third-party service nodes. This highly reliable, intelligent traffic steering also optimizes diverted traffic, providing a much more efficient network that requires less from network service elements and drives down operational costs.

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## ABOUT SANDVINE

Sandvine helps organizations run world-class networks with Active Network Intelligence, leveraging machine learning analytics and closed-loop automation to identify and adapt to network behavior in real-time. With Sandvine, organizations have the power of a highly automated platform from a single vendor that delivers a deep understanding of their network data to drive faster, better decisions. For more information, visit [sandvine.com](http://sandvine.com) or follow Sandvine on Twitter at [@Sandvine](https://twitter.com/Sandvine).



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