PROCERA

Service Provider Compliance
Solutions for Telecom Regulators and Broadband Operators

Use Cases for Service Provider Compliance

Leveraging Procera's industry-leading Network Intelligence

ScoreCard for Telecom Regulators: Quality of Experience Monitoring
Measure throughput, latency, and packet loss across all fixed and mobile operators in a national footprint to ensure accurate QoE measurements for consumers.

Regulatory Data Retention
Surgical selection and storage of data required to be retained to comply with governmental regulations.

Regulatory Traffic Blocking
Compliance with governmental regulations on blocking applications that violate local security and safety laws.

URL Filtering
Comply with local regulations for filtering content from broadband access networks for safety and security purposes as well as to protect minors from inappropriate content.

SOLUTION OVERVIEW

Network operators are required to meet service provider regulations for data retention, blacklisting, and Quality of Experience, but are they getting value from those solutions? Complying with the changing regulatory environment requires flexible solutions that can adapt to the myriad of challenges and threats that service providers are being asked to help protect their subscribers from. Solutions that can only deliver a single use case or cannot provide a return on investment for the engineering, customer care, or network and service planning teams do not fit in with the new financial model required to compete in today's telecommunications landscape.

The governmental regulatory environment is constantly evolving around the world. The landscape may change when new administrations come into office, or when new security threats present themselves and require a change in network operations. Procera's Service Provider Compliance solutions deliver a unique value to providers by enabling them to comply with the governmental regulations as well as providing valuable insights that can be used to enhance the quality of experience for subscribers.

Procera has dozens of service provider compliance use cases deployed by operators today. As new regulations are created, we adapt our solutions to enable compliance to ensure the most up-to-date offerings. And there are more to come as operators create offerings tailored to the needs of more defined customer groups. Clearly your policy and charging control must be able to deliver service innovation at the speed and scale of today's dynamic markets.

USE CASE TECHNOLOGY OVERVIEW

Procera's Service Provider Compliance Solutions are based on our industry-leading Network Intelligence technology, including the Datastream Recognition Definition Language (DRDL) engine with nearly 3000 application signatures. When combined with the Subscriber Enrichment capabilities of PacketLogic, multiple passive and active use cases can be deployed on PRE appliances, eVolution, or on PacketLogic/V platforms.

Once PacketLogic identifies a subscriber traffic flow, multiple actions can be taken on a packet. For traffic blocking and filtering use cases, flows can be blocked, rejected, or rate limited to ensure that regulatory compliance is maintained by removing illegal content from the network, with optional logging of the blocked traffic. If data retention is required, logging can be configured to stream data in real time to a mediation or Big Data solution, or it can be stored in Procera's Insights Storage. Traffic can also be monitored for Key Performance Indicators (KPIs) to measure the quality of experience that is being delivered on broadband networks.

USE CASE COMPONENTS

Mandatory Licenses

- PacketLogic Base
- DRDL & Signatures

Optional Licenses

- Congestion Management & Filtering
- Integration for Enrichment
- BGP Integration
- Engineering Insights
- ScoreCard
- Insights Storage
- Policy Enforcement w/Gx

USE CASES

One of Procera's value propositions to telecom operators and regulators is support for multiple simultaneous use cases for Service Provider Compliance. All of the use cases listed below can be implemented as standalone use cases, or combined in a single system to reduce cost and improve the ROI of a compliance deployment.

ScoreCard for Telecom Regulators

Procera's ScoreCard focuses exclusively on measuring the actual performance delivered to subscribers, regardless of access technology. Three key metrics are measured across all subscriber traffic to determine the quality of experience being delivered to all subscribers:

Throughput: Every 250ms, ScoreCard measures the upload and download performance for subscriber traffic.

Latency: Each session/connection's latency on the access and Internet side is measured to determine if latency issues are related to the service provider's access network or the content provider's network.

Packet Loss: Each session/connection's packet loss on the access and Internet side is measured to determine if packet loss is on the service provider's network or the content provider's network.

ScoreCard can be deployed on virtual systems, drastically reducing cost of deployment and adding to the overall flexibility of a deployment. By deploying ScoreCard, telecom regulators and operators can compare the level of service being delivered to the SLAs advertised to subscribers to ensure truth in advertising.

Figure 1

SCORECARD METRICS WITH LOCATION AWARENESS FOR VIDEO STREAMING
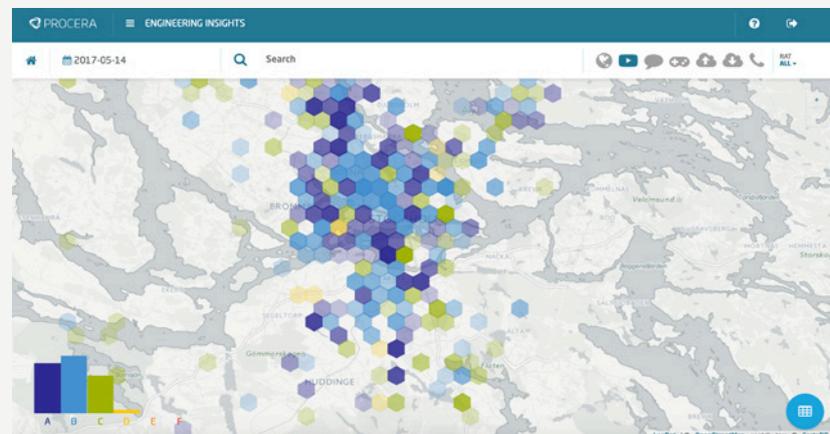
Regulatory Data Retention

Telecom Regulators around the world are introducing more requirements that broadband operators retain specific data for their broadband customers. Account-specific KPIs and data may be required to verify billing details (e.g. volume of traffic), quality of experience delivery, or even activity logs. For safety, security, and law enforcement purposes, some traffic may be required to be logged and stored in the operator's Big Data system and be made available if law enforcement departments acquire warrants for user information. The challenge for the telecom operators is to store only the data that is required to minimize the overhead of storage, and to select only the data that they are mandated to capture in the network. Procera's Big Data integration solutions deliver best-in-class performance and scalability for regulatory data retention solutions.

"Operators are seeking new ways of adapting to rapidly changing broadband regulations worldwide while still getting the value needed to bolster their bottom line and deliver a high ROI on their network investments"

Lyn Cantor,
President and CEO
Procera Networks

Regulatory Traffic Blocking

Procera's compliance solutions leverage Datastream Recognition Definition Language's (DRDL) extensive application signature library of thousands of Internet applications grouped into categories like file sharing, VOIP, streaming media, and many more. DRDL also supports virtual services, which gives an operator the ability to define custom signatures using a variety of application attributes. DRDL has a special focus on encrypted applications, with more than 50% of the signatures identifying encrypted traffic. DRDL requires an exact match to categorize traffic in order to minimize false positives, and avoid the pitfalls of less sophisticated solutions that rely on best match, which is increasingly challenged in the era of widespread encryption.

Once traffic is identified by DRDL, PacketLogic can take multiple actions on the flows in order to comply with regulations. Traffic can be blocked or rejected, which will halt the traffic streams. Traffic can also be rate limited or session limited, which for some types of applications (namely polymorphic applications that change behavior when blocked) delivers better results. If logging or analytics is part of the regulatory requirement, statistics can be gathered on traffic passed, blocked, limited, dropped, QoE, and many other metrics to provide a closed loop analysis of the effectiveness of the regulatory compliance. With the rapid introduction of malware, especially in mobile applications, this capability helps increase network operator's ability to secure and defend their networks from attacks.

URL Filtering

ContentLogic is the foundational technology that powers Procera's regulatory compliance URL Filtering solution. ContentLogic operates as an extension to Datastream Recognition Definition Language (DRDL), Procera's industry leading DPI engine, processing only hostname identifiable traffic that is identified by DRDL and passed to the ContentLogic software. This mimics the function that is often handled externally by URL filtering solutions that use load balancers and DPI systems to reduce the amount of traffic sent to a URL filtering system, but PacketLogic handles this internally rather than requiring more power and rack space.

Once the HTTP traffic is sent to ContentLogic, it will classify the URL into the appropriate categories (depending on the database(s) being used). The categories cover pornography, social networking, news, anarchy, botnets, malware, and over 100 other potential classifications for sites. ContentLogic will return to DRDL and the PacketLogic software the categories for the traffic, and PacketLogic makes this available in real-time for policy decisions - drop, reject, log, record statistics, or redirect the user to a landing page with a policy notification.

Procera's ContentLogic solutions provide the highest performing URL filtering solutions that can be loaded with multiple databases designed to meet the regulatory needs as they evolve in countries around the world. Custom databases can be added to the system in real-time and all are updated as frequently as five minutes, and up to 100M URLs can easily be supported in PacketLogic. Performance on the PRE can range from a low-end PacketLogic/V solution to a high end PL15000 with up to 600Gbps of throughput. This unique combination of performance, scalability, and flexibility makes Procera's regulatory URL Filtering solution deliver greater value for telecom operators.

Procera Networks delivers highly flexible Service Provider Compliance Solutions that can solve multiple use cases and add value with traditional Analytics, Traffic Management, and PCC use cases for a higher deployment ROI.

PROCERA'S UNIQUE BENEFITS FOR SERVICE PROVIDER COMPLIANCE

Industry Leading Performance and Scalability

PacketLogic scales to tens of millions of subscribers and multi-Tbps of throughput capable of supporting deployments in the largest fixed and mobile networks in the world. For multi-access and multi-operator deployments, PacketLogic's ability to deploy on virtual platforms is unmatched.

Application Awareness to deliver a high Quality of Experience

Procera's application intelligence powered by the DRDL engine delivers the industry's most granular and comprehensive signatures database. Since different application types have different requirements for network quality, applying application awareness to fair usage ensures that the perceived quality of experience for key applications can be met or exceeded.

Subscriber Enrichment with Policy Integration

Procera's ability to integrate with BSS/OSS systems to enrich our Network Intelligence enables fine-grained control over all of the regulatory use cases that can be deployed. This fine-grained control ensures that false positives are kept to a minimum and any data retention required is also minimized

Quality of Experience Analytics with Engineering Insights and ScoreCard

Measuring the delivered quality of experience is critical to guiding investments in network infrastructure for telecom operators. ScoreCard ensures a high ROI for CAPEX and OPEX by guiding investments in QoE to achieve maximum impact.

CONCLUSION

Procera's Service Provider Compliance solutions deliver industry-leading scalability and value to telecom operators and regulators. Procera's ability to combine compliance solutions with operational use cases in Analytics, Traffic Management, and PCC ensure that an operator can achieve a high ROI on even mandatory compliance deployments.

Contact your Procera sales representative to find out more about this solution and how it can help you transform your business.

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ABOUT PROCERA NETWORKS

Procera Networks, the global Network Intelligence company, is revolutionizing the way operators and vendors monitor, manage and monetize their network traffic. Elevate your business value and improve customer experience with Procera's sophisticated intelligence solutions. For more information, visit proceranetworks.com or follow Procera on Twitter at @ProceraNetworks

PROCERA

CORPORATE OFFICES
Procera Networks, Inc.
47448 Fremont Blvd Fremont,
CA 94538
P. +1 510.230.2777
F. +1 510.656.1355

CORPORATE OFFICES
Procera Networks
Birger Svenssons
Väg 28D 432 40 Varberg, Sweden
P. +46 (0)340.48 38 00
F. +46 (0)340.48 38 28

ASIA/PACIFIC HEADQUARTERS
Unit B-02-11, Gateway Corporate Suite,
Gateway Kiaramas
No. 1, Jalan Desa Kiara,
Mont Kiara 50480 Kuala Lumpur,
Malaysia

PROCERANETWORKS.COM