

CASE STUDY

A GLOBAL SATELLITE BROADBAND PROVIDER ACHIEVES DOT IPDR COMPLIANCE IN INDIA WITH PERTSOL iSECUREHL



INTRODUCTION

A leading global satellite broadband provider is expanding its satellite-based communication services in India under the Global Mobile Personal Communication by Satellite (GMPCS) licensing framework. As part of mandates defined by the Department of Telecommunications (DoT), satellite internet operators are required to implement robust systems to generate, store, and manage Internet Protocol Detail Records (IPDRs), ensuring traceability of Internet usage. Complying with these mandates is essential for operators to initiate and sustain services in the market.

As part of its India market entry, the provider selected PertSol as its trusted partner to implement its IPDR compliance framework. PertSol deployed its iSecureHL – IP Log Management System, a high-performance platform designed to capture, process, and retain large volumes of IP activity data across high-capacity network environments, marking a first-of-its-kind collaboration in the region.

The deployment enables the provider to establish a centralized & scalable framework for IPDR generation, correlation, and long-term retention, providing visibility into subscriber IP activity across its satellite network.

CHALLENGES

As the provider prepared to operationalize its satellite broadband services in India, the organization needed to address several regulatory and operational requirements:

- ✓ **Meeting DoT compliance requirements for IP logging**
Satellite internet operators must generate and retain detailed IP usage records in accordance with regulatory mandates, ensuring traceability and audit readiness.

- ✓ **Processing extremely high internet traffic volumes**
The provider's satellite network generates massive volumes of data traffic that must be captured & processed in real time without affecting network performance.
- ✓ **Identifying subscribers within NAT-enabled environments**
Given the widespread use of Network Address Translation (NAT), accurately correlating IP traffic with subscriber identities requires advanced traffic tagging and correlation techniques.
- ✓ **Ensuring long-term retention of IP activity records**
Regulations require the storage of subscriber internet activity records for extended periods while maintaining secure and efficient retrieval mechanisms.
- ✓ **Providing automated compliance reporting and regulatory data access**
The system must support compliance reporting and allow authorized regulatory bodies to access subscriber IP activity records when required.

WHY THEY CHOSE PERTSOL

The provider selected PertSol to implement an IP Log Management solution capable of supporting large-scale satellite broadband operations in India. PertSol's iSecureHL platform delivers high-performance IPDR generation with advanced Layer-7 traffic analysis, designed to handle large-scale telecom and ISP traffic environments.

The platform's passive probe-based architecture enables monitoring of mirrored network traffic without changes to production infrastructure, ensuring operational stability while capturing required IP activity records. With proven deployments across Tier-1 telecom networks processing billions of IPDR records daily, PertSol provided the organization with a reliable platform for large-scale data processing, long-term retention, and compliance readiness.

SOLUTION

Solution Implemented: PertSol iSecureHL – IP Log Management System

PertSol deployed a passive probe-based IP Log Management architecture integrating iNteliProbe with the centralized iSecureHL platform to capture mirrored traffic and generate IP Detail Records (IPDRs) across the provider's PoPs, establishing a scalable and centralized framework for IP activity monitoring.

KEY COMPONENTS AND CAPABILITIES IMPLEMENTED

- ✓ Deployment of iNteliProbe passive probes to capture mirrored traffic from the provider's network infrastructure through packet aggregation, enabling non-intrusive monitoring without impacting production services.
- ✓ Real-time generation of Internet Protocol Detail Records (IPDRs) from high-volume traffic streams to support regulatory IP logging and compliance requirements.
- ✓ Layer 2–Layer 7 traffic decoding and analysis to extract relevant metadata and generate enriched IP activity records.
- ✓ Integration with UT-ID (Unique Traffic ID) tagging embedded in mirrored traffic streams to enable accurate subscriber identification without reliance on NAT log correlation.
- ✓ Centralized IP log management platform for secure storage, management, & querying of subscriber IP activity records.
- ✓ 25-month IPDR data retention (24 months storage plus one month running buffer) to meet regulatory data retention requirements.
- ✓ Automated generation of monthly subscriber data dumps and compliance reports required for TERM Cell regulatory submissions.
- ✓ High-capacity traffic processing supports 400 Gbps monitoring per Point of Presence (PoP) with architecture designed to scale up to 1 Tbps monitoring capacity.

- ✔ Secure integration interfaces enabling the exchange of subscriber metadata, NAT bindings, and geolocation updates through encrypted communication channels.
- ✔ Distributed and scalable architecture allowing horizontal and vertical expansion to support future network growth and additional PoP deployments.

RESULTS

- ✔ The deployment of PertSol's iSecureHL enabled the satellite broadband provider to establish a compliant and scalable framework for managing IP activity across its satellite broadband network in India.
- ✔ The implemented platform ensures that subscriber internet activity records are captured, processed, & retained in accordance with regulatory requirements, providing a centralized and audit-ready IP logging infrastructure.
- ✔ The solution processes high-volume network traffic through passive monitoring and real-time IPDR generation without impacting production services.
- ✔ The centralized IPDR management platform enhances reporting and compliance operations by delivering key monitoring insights, including IPDR generation volumes, traffic distribution across PoPs, and subscriber activity trends. These metrics provide greater visibility into network usage while enabling faster record retrieval and improved audit readiness for authorized access.
- ✔ With its scalable architecture supporting up to 1 Tbps monitoring capacity, the deployment provides the provider with a future-ready foundation capable of supporting network growth and increasing subscriber traffic volumes.

KEY HIGHLIGHTS

Problem	Solution	Impact
Regulatory requirement to maintain subscriber IP activity logs	Deployment of PertSol iSecureHL platform	Enabled regulatory compliance & audit-ready IP log management
High-volume satellite internet traffic across network PoPs	High-capacity passive probes with real-time IPDR generation and processing	Reliable monitoring of large-scale traffic without impacting production services
Subscriber identification in NAT-enabled environments	Integration of UT-ID based traffic tagging for subscriber correlation	Accurate mapping of network activity to subscriber identity
Long-term retention of IP activity records	Centralized IPDR storage with 25-month data retention framework	Ensured regulatory data retention and efficient record retrieval
Need for scalable monitoring infrastructure	Distributed architecture supporting 400 Gbps monitoring with scalability up to 1 Tbps	Future-ready platform capable of supporting network expansion

“As digital connectivity expands, accountability becomes just as important as access. Intelligent IPDR management provides the visibility needed to support regulatory compliance, operational trust, and responsible network growth.”