

USD 38.95 billion: estimated annual global cost of telecoms fraud and revenue leakage to operators (CFCA Global Fraud Loss Survey 2023)

What is telecoms revenue leakage and fraud?

Telecoms revenue leakage covers both fraud-driven losses and non-fraud billing failures. Fraud-related leakage includes SIM box bypass (international calls routed through banks of local SIM cards to avoid interconnect charges), subscription fraud (fraudulent service activations), traffic pumping and international revenue share fraud (IRSF), roaming fraud, and interconnect billing disputes. Non-fraud leakage includes unprocessed call detail records, rating errors, tariff configuration mistakes, and wholesale settlement discrepancies. For most MVNOs and smaller carriers, revenue assurance and fraud management are handled by the same lean team, meaning both categories are underdetected through periodic audits rather than continuous monitoring.

The financial reality

The CFCA Global Fraud Loss Survey 2023 places total global telecoms fraud losses at USD 38.95 billion, rising to USD 41.82 billion by 2025 (CFCA data cited by TNS), representing approximately 2.5% of global telecoms revenues. For a mid-sized MVNO with 500,000 active subscribers and EUR 40 million in annual service revenue, a 2.5% leakage rate implies approximately EUR 1 million in annual revenue loss. At an illustrative 50% recovery rate, the recoverable annual value would be approximately EUR 500,000. Smaller operators are typically more exposed than Tier 1 carriers to SIM box bypass and subscription fraud, given lighter fraud management infrastructure. Leakage persists in lean-team environments because OSS, BSS, and fraud management tools generate data in separate systems that no single person has the capacity to reconcile continuously.

Dominant loss typologies

- **SIM box bypass and grey route termination:** Banks of SIM cards in physical or virtual GSM gateways terminate international calls as local calls, diverting interconnect termination revenue from the legitimate operator.
- **Subscription fraud:** Fraudulent service activations using stolen, synthetic, or purchased identities result in services consumed without payment.
- **Traffic pumping and IRSF:** Artificially generated call traffic to premium-rate destinations extracts revenue sharing payments from the operator before the pattern is detected.
- **Roaming fraud:** Fraudulent activation of roaming services exploits the settlement delay between roaming events and bilateral clearing, allowing significant consumption before the fraud is flagged.
- **Unprocessed or lost CDRs:** Call detail records that fail to complete the mediation and rating chain due to system errors result in service delivery with no corresponding billing entry.
- **Rating and tariff configuration errors:** Incorrect tariff set-up or bundle configuration errors systematically under-charge specific customer segments, creating revenue gaps that accumulate invisibly.

The MVNO challenge

MVNOs and smaller carriers face a structurally higher effective fraud risk than Tier 1 operators despite carrying the same fraud typologies, because they operate without the dedicated fraud management systems that large operators have built over two decades. Most MVNO revenue assurance functions run on threshold-based billing alerts and periodic CDR sampling, neither of which detects the organised, multi-account patterns that generate the highest fraud losses. The CFCA Global Fraud Loss Survey 2023 documents that smaller operators and wholesale carriers are disproportionately affected by SIM box and subscription fraud, as these typologies exploit light onboarding and authentication controls more effectively than complex network-layer exploits.

Priimal Signal: A Vantage product

Priimal Signal is an AI-scoring and case management platform for telecoms revenue leakage and fraud analysis, built for the MVNO and smaller carrier segment. Operators upload their existing CDR exports, billing records, and interconnect settlement data. Vantage scores every record and returns a prioritised case queue for the revenue assurance team. Available under Core Value: pay a share of documented recovered value only, capped at the equivalent flat-rate subscription price. Nothing recovered, nothing owed. To learn more, visit priimal.com or contact connect@priimal.com.