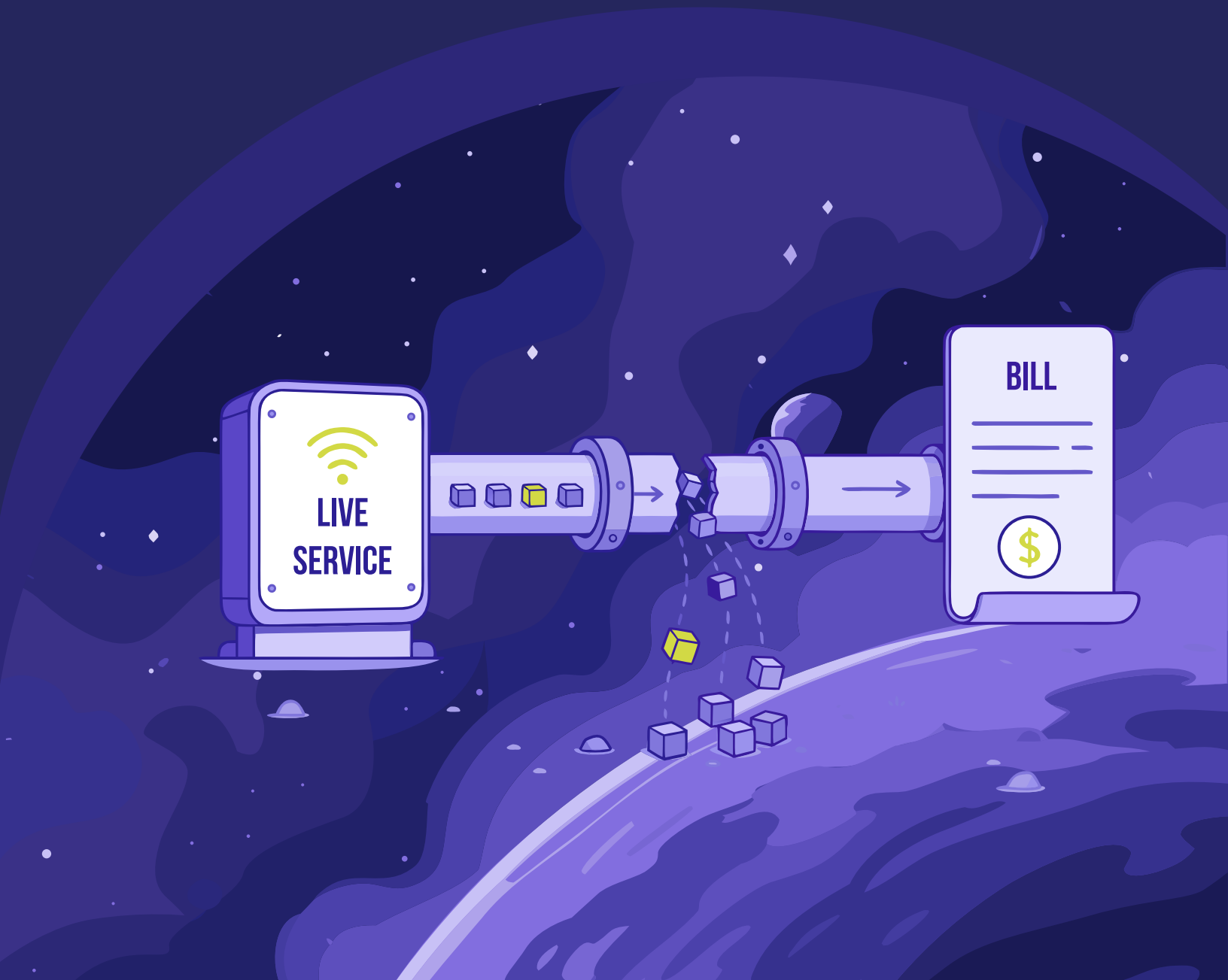
INDUSTRY REPORT

THE INVISIBLE DRAIN

How manual provisioning leaks up to 3% of gross revenue, and why a clean billing audit does not mean that revenue is safe



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01. EXECUTIVE SUMMARY

Across the telecom industry, a measurable share of live, actively provisioned network traffic generates no corresponding billing record at all. The service exists. The customer is using it. The network is carrying it. No invoice is ever produced, because the handoff into the billing system never happened. This is not a billing error in the conventional sense; it's not a wrong rate applied to a known service. It is the complete absence of a record on the billing side of the ledger.

This report defines that specific failure mode precisely, quantifies its scale using published industry survey data alongside WanAware's own analysis, and makes a claim that revenue assurance and billing leaders should treat as uncomfortable: a passing billing audit, on its own, provides no evidence that this form of leakage is not happening. The audit was not built to look for it.

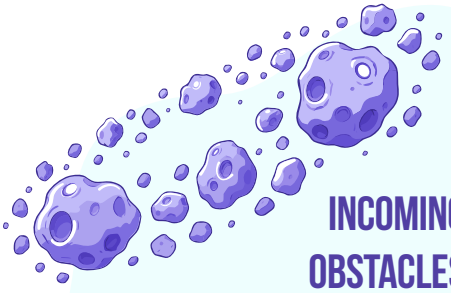
Key Finding

- Live, unbilled services are structurally invisible to a standard billing audit, which checks the BSS against itself, not against the network. A clean audit result is fully consistent with material, ongoing leakage of exactly this kind.
- Independent industry surveys report telecom revenue leakage in the range of 1% to 5% of revenue, with an estimated average near 1.5% after adjusting for partial revenue-assurance coverage [2][3]. Carriers running heavily manual, swivel-chair provisioning workflows trend toward the higher end of that range, up to an estimated 3% of gross revenue lost to services that generate no invoice at all.
- 62% of telecom leaders report lacking visibility into at least half of their assets [1], meaning the services most likely to leak are also the services least likely to be seen in the first place.
- A carrier with $150 million in annual service revenue, operating at the higher end of this range, is forfeiting an estimated $4.5 million a year, for services it is already delivering and already paying to carry.

02. DEFINING REVENUE LEAKAGE, PRECISELY

The term revenue leakage covers a wide range of failure modes, and precision matters here, because the wrong definition leads directly to the wrong audit. This report is concerned with one specific case: a service that is provisioned, live, and carrying customer traffic, for which no billing record exists in the BSS, in any form, correct or incorrect.

That distinction is not academic. A rating error shows up as a discrepancy between two numbers, one on the network side and one on the billing side, and a sufficiently thorough audit of billing data alone can eventually surface it. A missing record produces no second number. There is nothing to reconcile against, because nothing was ever entered into the system meant to catch it.



INCOMING OBSTACLES

62% of telecom leaders report lacking visibility into at least half of their assets [1], meaning the services most likely to leak are also the services least likely to be seen in the first place.

WORKING DEFINITION

Revenue leakage, as used in this report, is revenue attributable to a live, traffic-carrying service for which no corresponding billing record exists. It is distinct from a rating error, a pricing dispute, or a late invoice, all of which presuppose that a billing record was created in the first place. This is the case where no second record exists to compare against at all.

03. THE MECHANISM: HOW MANUAL PROVISIONING CREATES THE GAP

The gap opens during the handoff between systems that were never built to verify each other, a pattern commonly described in the industry as swivel-chair provisioning: a person manually re-keys information from one system into the next, at every step, with no automated check that the same service is being described consistently from order to network to bill.

1. The order closes in the field before it closes in the BSS.

A cross-connect or circuit is physically activated by a technician, and traffic begins flowing immediately. The corresponding order in the BSS may still be open, incomplete, or queued behind other work, sometimes for weeks.

2. The identifier does not survive the handoff.

A circuit ID, entered by hand into the order, provisioning, network, and billing platforms separately, is transcribed slightly differently in at least one of them. The billing entry that should match the live service is rejected, duplicated, or simply never linked to it

3. The service is turned up under exception conditions.

An emergency restoration or an expedited activation bypasses the normal order-to-billing workflow by design, because speed is the priority in that moment. The follow-up step meant to backfill the billing record afterward depends on someone remembering to do it, with no system-enforced trigger to ensure that they do.

None of these failure points involves fraud, and none of them reflects poorly on the individuals involved. Each one is a predictable outcome of a provisioning process built on manual handoffs between systems that do not verify each other. Repeated at scale, across a carrier's full footprint, over years, the predictable outcome becomes a persistent and largely invisible drain on recurring revenue.

04. WHY A CLEAN BILLING AUDIT DOES NOT MEAN YOUR REVENUE IS SAFE

A standard billing audit asks a closed-loop question: do the invoices generated agree with the services and rates recorded in the BSS. That is a legitimate and necessary check, and most carriers run it well. It is also, by design, incapable of detecting a service that was never recorded in the BSS in any form, because the audit's frame of reference is the BSS itself.

This is the uncomfortable part for revenue assurance leaders to sit with: a 100% pass rate on a traditional billing audit is fully consistent with a material percentage of live network traffic generating zero revenue. The audit and the leakage this report describes are not in tension with each other. They can both be true at the same time, because they are answering two different questions. One asks whether the business's own records agree with each other. The other asks whether those records agree with the network. A clean result on the first question says nothing about the second.

FAST FACTOID



The question worth asking:
Not does our billing data reconcile, but does our billing data account for every service the network is actually carrying right now. Those are different audits, and most revenue assurance programs are only running the first one.

05. QUANTIFYING THE EXPOSURE

Published industry surveys place overall telecom revenue leakage in a range of roughly 1% to 5% of revenue, with a detected average near 0.91% and an estimated average of approximately 1.5% once partial revenue-assurance coverage is accounted for [2][3]. Those figures span all forms of leakage, not only the live-but-unbilled case this report is focused on. For carriers whose provisioning process still relies heavily on manual, swivel-chair handoffs between order, network, and billing systems, this report's analysis puts the live-but-unbilled component specifically toward the higher end of that historical range, an estimated 3% of gross revenue.

The table below applies that range to illustrative carrier sizes, to make the scale concrete rather than abstract.

Annual service revenue	At 1.5% (historical average)	At 3% (manual provisioning estimate)
$50 million	**$750,000**	**$1.5 million**
$150 million	**$2.25 million**	**$4.5 million**
$500 million	**$7.5 million**	**$15 million**

These figures are illustrative, applying published and estimated leakage rates to representative revenue bases. A given carrier's actual exposure depends on its specific provisioning processes, system integrations, and existing revenue-assurance controls, and cannot be derived from billing records alone, for exactly the reason described above: those records are what is missing the service in question. Establishing a carrier's real number requires comparing what the business believes it is selling against what the network can independently confirm it is delivering.

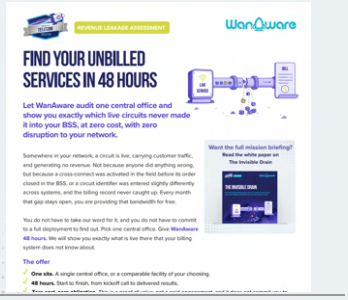
06. A FIVE-QUESTION DIAGNOSTIC

Revenue assurance and billing leaders can gauge their own exposure to this specific failure mode before commissioning a full study, by asking five questions honestly.

- 1. Does your revenue assurance process compare billing records against live network telemetry, or only against other billing and order records?

- 2. Could you name, today, every service currently carrying traffic on your network that has no billing record, without commissioning a special investigation to find out?
- 3. When a service is turned up under emergency or expedited conditions, is there a tracked, time-bound trigger that confirms billing was completed afterward?
- 4. Do your order, provisioning, network, and billing systems share a single circuit identifier, or does staff manually re-enter identifiers at each handoff?
- 5. If your most recent billing audit came back clean, was that because nothing is wrong, or because the audit was never designed to look for what would be wrong?

Find Your Unbilled Services in 48 hours with WanAware's Revenue Leakage Assessment



A confident yes to the first and third questions, and a confident no to the second and fourth, is a reasonable indicator of low exposure. Uncertainty on any of the five is itself a finding.

07. CLOSING THE GAP: CONTINUOUS CORRELATION INSTEAD OF PERIODIC AUDITS

The structural fix is not a better audit on the same closed loop. It is a standing comparison between what the BSS believes is being billed and what the network can independently confirm is live, active, and carrying traffic, run continuously rather than assembled periodically as a special project.

WanAware's Asset Inventory Management platform builds that comparison directly. Discovery is agentless, reaching outside-plant and inside-plant infrastructure without a truck roll or a disruptive site visit, and ingestion does not require a predefined schema, so a new circuit type or provisioning pattern becomes visible the moment it is discovered rather than waiting on a data-modeling project to catch up to it. Every discovered circuit becomes a node in **WanAware's Relationship Graph**, with its billing status carried as a live attribute of that node rather than a separate record a batch job has to reconcile on a schedule. The result is a comparison that never goes stale, and a discrepancy that surfaces in days, not during next year's reconciliation project.

FAST FACTOID



For a revenue assurance or billing leader, the practical shift is this: the next audit does not have to start from a blank spreadsheet and a hope that nothing was missed. It starts from a live, current answer to the one question a traditional audit was never built to ask.

METHODOLOGY AND SOURCES

- The 1% to 5% leakage range, the 0.91% detected average, and the 1.5% adjusted average cited in this report are drawn from published TM Forum revenue assurance survey research [2][3].

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- The 62% visibility figure is drawn from WanAware's 2025 telecom observability benchmark report [1]. The 3% estimate for carriers relying on manual, swivel-chair provisioning, and the dollar exposure figures derived from it, are WanAware's own analysis, applying the published leakage range to representative revenue bases; they are illustrative rather than measured figures for any specific carrier.

- [1] WanAware. (2025). The 2025 telecom observability benchmark report. WanAware.
- [2] TM Forum. (2016). Revenue Assurance Survey Report 2016. TM Forum, reporting 0.91% average detected revenue loss and an estimated 1.5% average leakage after adjusting for partial revenue-assurance coverage.
- [3] TM Forum. (2017/18). Revenue Assurance Survey Report 2017/18. TM Forum, noting a 5% leakage assumption for survey results above 5% based on industry observations by the TM Forum revenue-assurance survey team, and citing a 1% value for 2015/16.

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