Whitepaper

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The CXO guide to telco B2B billing

The catalyst for accelerating enterprise value creation

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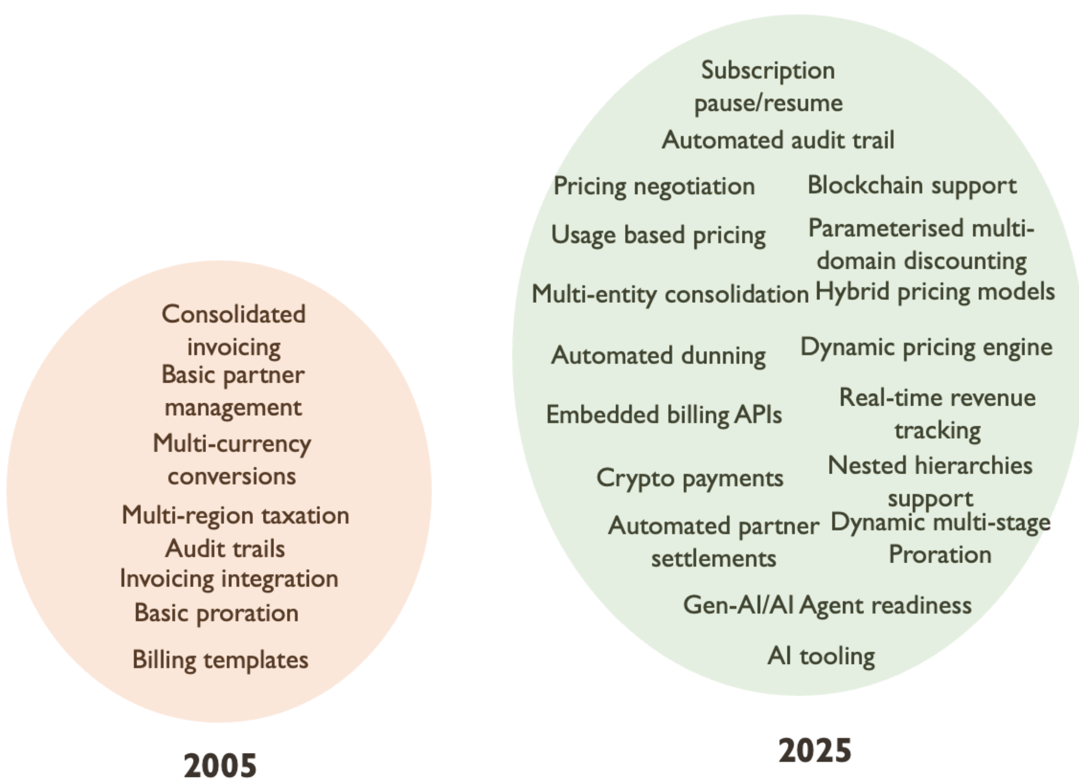
INTRODUCTION

For decades, telecommunications companies largely neglected the enterprise market. This oversight stemmed from several interconnected factors: telecom operators showed little appetite for corporate clients, enterprise services proved inherently complex to deliver, the explosive growth in consumer markets diverted attention and resources, and established enterprise-focused incumbents created formidable barriers that deterred telecom companies from making serious inroads with business customers.

The landscape shifted over the past two decades, accelerating in the last ten years as hyperscalers penetrated enterprises at unprecedented scale. CSPs now view the enterprise/B2B segment as a critical strategic battleground—representing their primary pathway to move beyond traditional connectivity services and capture substantial revenue streams across diverse industry verticals. This market segment holds tremendous promise for revenue diversification and growth, positioning telcos to serve complex business needs ranging from cloud services, cybersecurity edge and IoT etc.

A key shift over the past two decades: enterprise requirements have increased exponentially, fundamentally reshaping their entire commercial lifecycle—from procurement and sales to billing and payment collection. This has significant implications for telcos: CSPs now require sophisticated billing capabilities to effectively serve enterprises and scale these engagements. Figure 1 highlights differences in some selected capabilities.

Figure 1: Selected key capabilities of telco B2B billing systems 2005 and 2025

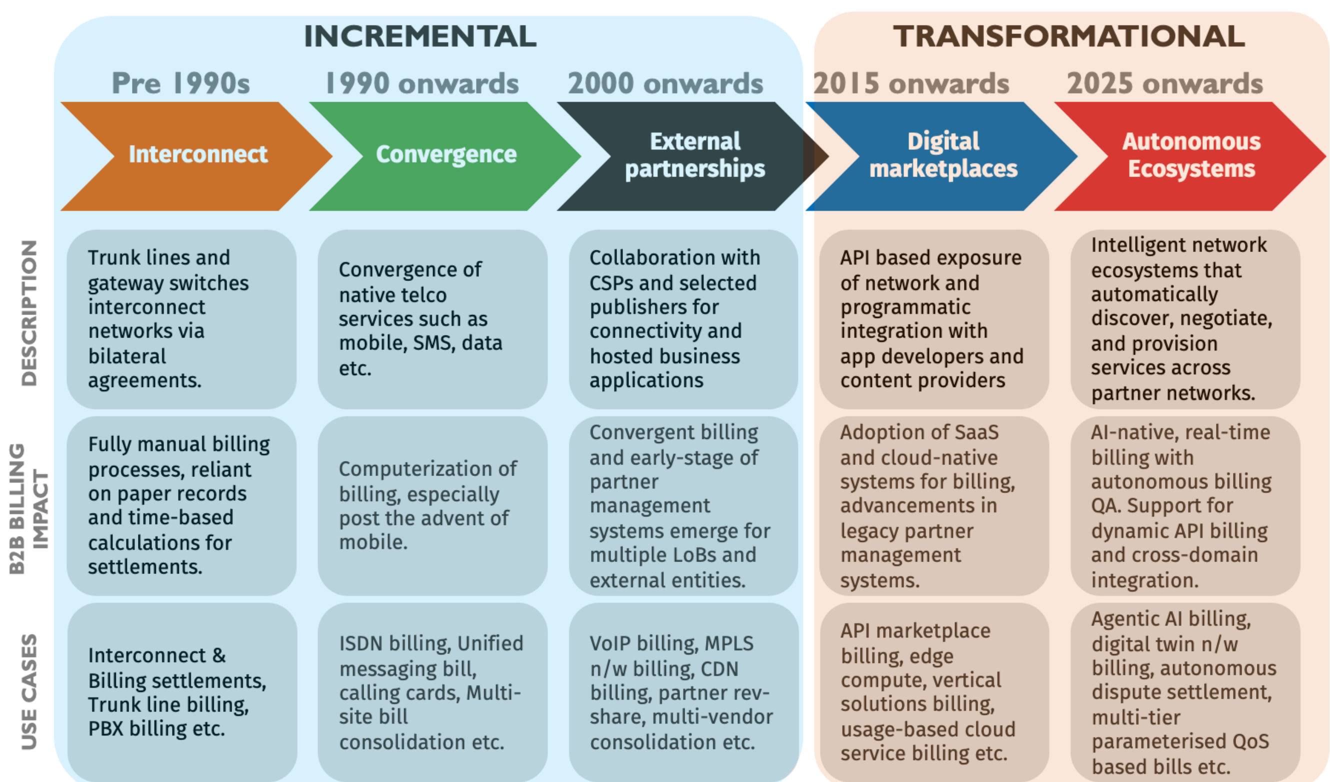


Source: Appledore Research

Enterprise services have become a fundamental cornerstone of the widely discussed telco-to-techco transformation strategy that most major carriers are actively pursuing, as they seek to evolve from traditional network operators into comprehensive technology service providers capable of competing with cloud giants and enterprise software companies. The rise of generative AI has significantly accelerated innovation and progress in this market segment, creating new competitive challenges for CSPs seeking to establish a foothold and drive meaningful impact.

Monetizing industrial and generative AI-enabled use cases presents a significant challenge for CSPs, as their B2B monetization systems lag considerably behind consumer platforms in terms of future-readiness and flexibility. Legacy B2B billing infrastructure fundamentally lacks the flexibility to support emerging enterprise use cases in a commercially viable manner. Implementing new capabilities on legacy systems typically costs 5-10x more and takes 2-3x longer than modern alternatives resulting in missed market opportunities as competitors move faster.

Figure 2: Overview of evolution of telco b2b and its impact on billing



Source: Appledore Research

RECOMMENDATIONS

1. **CSPs must prioritize modernization of their B2B billing infrastructure** to capture emerging market opportunities that legacy systems fundamentally cannot support. Enterprise customers are no longer satisfied with rigid, contract-locked billing models. For instance, an enterprise may want to consume telco APIs on a pay-per-use basis, dynamically allocate edge compute resources or blend contracted connectivity with burst capacity during traffic surge; this requires billing systems capable of metering micro-transactions and dynamic pricing. CSPs who proactively overhaul their B2B billing architecture in the short term will secure a decisive competitive advantage in the medium to long term.
2. **CSPs should prioritize solution providers offering comprehensive Gen-AI and agentic AI roadmaps alongside native full-stack capabilities**, even when implementing point solutions initially. This dual criterion protects against future risk: Gen-AI will fundamentally transform B2B billing operations, making vendor AI maturity a competitive necessity, while full-stack capability provides CSPs the option to expand seamlessly into pre-integrated solutions later, avoiding technical debt and integration complexity.
3. **CSPs should prioritize vendors offering advanced telco-specific B2B billing capabilities.** Capabilities such as real-time billing, autonomous billing QA, and SLA-linked performance validation are becoming crucial competitive differentiators as B2B offerings grow increasingly complex while enterprises demand immediate visibility into costs for optimizing consumption and ensuring appropriate SLA compliance. These advanced capabilities are essential to ensure TCO remains low while pursuing emerging opportunities in emerging value chains around API monetization, network slicing, and multi-party ecosystem services.

TELCO’S LEGACY LIABILITY IN B2B MONETISATION

Incumbent systems are a critical bottleneck, hampering CSPs' ability to support modern requirements while impeding B2B billing transformation. The table below captures some of the key challenges of incumbent telco B2B monetization framework.

Issue	Description	Impact analysis
Monolithic products deployed within siloed architecture framework	Legacy architecture framework is disparate and relies on siloed systems with limited interconnections.	CSPs are unable to make timely introductions of new products and services and effectively monetize existing services as every change is not isolated and may involve multiple components and influence the entire ecosystem.
Inconsistent and inflexible data models	The data models play an important role in how products and services are defined and how effectively CSPs can monetize new opportunities.	Long lead times for launching new products and services.
Widespread use of proprietary, non-	Interconnections between systems play an important role in facilitating new services.	Legacy monetization systems mostly rely on proprietary API interfaces, which are expensive to set up and tend to break often.

Issue	Description	Impact analysis
standardized interfaces		They also limit the ability to connect to third parties and promote a digital offering.
Managing the end-to-end lifecycle of monetization systems software	Managing the life cycle of different and disparate applications – including the core, software framework and related customization – is complex and expensive.	The IT organization often gets distracted by products and applications lifecycle administrative tasks, which affects their ability to deliver business efficiency and functionality.
Limited ability to 'open up' for third-party solutions	Interoperability and support for third-party solutions is an important driver for new revenue opportunities and deeper customer engagement.	Legacy systems were not built to support extensive interoperability and often require new interfaces, making the system clunky and slow. Leading CSPs are known to invest tens of millions per integration for large partners. Absence of support for ecosystems can be detrimental to launching new services, scale and winning new customers.
Lack of cohesive intelligence	Integrating AI into telco billing systems is essential for optimizing operational efficiency.	Telcos' AI implementations in billing remain fragmented and lack comprehensive integration, resulting in suboptimal automation and decision-making outcomes.
Lack of real-time observability	Legacy B2B billing systems operate as black boxes with minimal visibility into transaction flows or revenue recognition	Lack of real-time visibility prevents proactive problem-solving, prolongs dispute resolution, and undermines customer trust.
Inability to scale efficiently	Monolithic architectures can't handle modern demands for high-volume transactions and complex pricing at scale.	Limits participation in emerging value chains which constrains revenue growth, generates SLA-related costs, and elevates churn risk.
B2B/B2C integration challenges	CSPs run separate B2B and B2C billing platforms with incompatible architectures, that lacks API interconnections or shared data models.	It fragments customer experiences, delays convergent bundling, and increases maintenance costs.

LEVERAGING GEN-AI TO FUTUREPROOF B2B MONETISATION

CSPs recognize that Gen-AI and AI agents are poised to become foundational technologies in next-generation B2B monetization systems. However, they face a significant challenge: the breakneck pace of AI innovation makes it exceptionally difficult to accurately assess the technology's full implications for their business or develop concrete implementation roadmaps with confidence.

From a systems perspective, this requires moving away from the traditional procurement approach of defining use cases upfront and mapping them to fixed functional requirements. Instead, CSPs need an agile framework that can be continuously configured and adapted to accommodate evolving AI capabilities while meeting diverse customer needs.

Most CSPs cannot replace their entire B2B monetization framework at once due to risk, investment, and budget constraints. A phased approach that gradually introduces AI-ready systems and progressively transforms the framework is the more practical path forward.

From an application capability perspective, CSPs need a clear vision of what an AI-ready monetization engine should deliver, even if achieving that state requires one or two phases of incremental transformation. The following table contrasts selected key functional capabilities of legacy B2B billing frameworks with their AI-ready counterparts.

Function	Legacy B2B billing	AI-ready B2B billing
Data processing	Batch processing and limited error detection	Continuous data ingestion and automated error correction
Invoice/ bill generation	Cycle-based batch bill runs. Multiple bills generated and consolidated at invoice time.	Unified bill across services. Automated pre-bill audits, anomaly detection, and explainable bill changes
Customer management	Multiple siloed systems require manual account management	360 customer view, real-time monitoring of key metrics, proactive service optimization
Dispute management	Manual processing with long resolution times	AI-led dispute classification, predictive prevention, real-time status updates
Partner/ Wholesale settlements	Offline reconciliations	Online and automated
Catalog synchronizing	Long lead times with extensive IT involvement	Faster roll-outs with AI-assisted rule configuration and validation
APIs	Batch oriented with limited API endpoints and mostly proprietary protocols.	Event-driven, real-time with flexible API ecosystem with self-service portals and AI agent managed integrations.
Fraud and RA	Rule-based alerts and periodic, sample-based re-rating and reconciliation which missed long-tail issues.	Real-time anomaly detection and continuous ML-based monitoring to detect leakage.
Operations	Rule-based and manual intensive with periodic batch processing of billing records.	AI-powered billing QA for anomaly detection and resolution, ensures QA for real-time billing
Integration and extensions	Point to point integrations necessary which requires continuous support	Self-configuring integrations, API marketplaces, event driven architecture
Observability	Manual monitoring with basic alerts, limited visibility, reactive troubleshooting	Real-time tracing, predictive alerts proactive issue detection and resolution.
Scalability and performance	Highly restricted vertical and horizontal scaling due to monolithic architecture.	Elastic auto-scaling with support for AI-driven capacity optimisation

KEY CONSIDERATIONS FOR ASSESSING B2B BILLING SOLUTIONS

CSPs evaluating B2B billing solutions should prioritize these three criteria to future-proof investments and maximize system longevity.

1. **Gen-AI readiness**: CSPs should avoid selecting billing platforms based solely on a fixed checklist of Gen-AI/ Agentic AI features and capabilities, as this approach risks locking them into solutions that cannot adapt as telco requirements and market demands inevitably evolve. Instead, CSPs should prioritize a unified Gen-AI platform capable of evolving alongside technological advancements, ensuring that each upgrade can be managed seamlessly without requiring additional or adjacent systems. Critically, the platform must understand telco-specific context rather than offering only generic, industry-agnostic capabilities.
2. **Real-time billing capability:** To launch products rapidly and respond dynamically to competitive pressures and evolving customer demands, CSPs need to prioritize commercial flexibility and architectural agility. Real-time billing allows CSPs to efficiently monetize services instantly, reduce revenue leakage, enhance customer experience through transparent charging, and adapt pricing models on-the-fly without system downtime.
3. **Partnering with vendors who offer pre-integrated, full-stack portfolios** gives CSPs significant flexibility in expanding and evolving their system frameworks. End-to-end solutions reduce integration complexity, accelerate time-to-market for new services, and minimize compatibility risks between components. A unified data model and workflow automation enhance customer lifecycle visibility while reducing manual interventions and lowering total cost of ownership. Most importantly, this approach allows CSPs to define their own starting points and transformation paths without being constrained by complex integration challenges or data model incompatibilities.

CONCLUSION

B2B billing is a mission-critical yet complex element of telco enterprise engagement and growth. However, many CSPs undervalue its strategic role, continuing to rely on legacy systems fundamentally unable to support enterprise expansion into emerging value chains or integrate Gen-AI innovations. Beyond these limitations, legacy platforms create operational challenges through poor transparency, weak observability, and accuracy problems. The recommended path forward is phased B2B billing transformation—an approach that prioritizes framework flexibility over feature-specific development. This strategy delivers superior long-term outcomes by enabling seamless adaptation to emerging business requirements, managing increasing complexity, and capitalizing on Gen-AI and agentic AI capabilities that are still being defined.

ABOUT THE AUTHOR

With over 18 years' experience in the telecom industry, **John Abraham** leads Appledore's Digital Enablement program. Previously he was at Analysys Mason for 11 years where, as Principal Analyst, he led the Digital Experience research segment. He has experience working with a varied client base on topics ranging from digitisation benchmarking and procurement for CSPs; strategy and go-to market for vendors and commercial and technical due diligence for financial institutions.

Earlier as a consultant at a BSS vendor, he led implementation of BSS projects at multiple tier-1 telcos in Asia and Europe. John holds a bachelor's degree in computer science from Anna University (India) and an MBA from Bradford University School of Management (UK).

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