

OCTOBER 2025

Unlocking Usage-based Revenue Models With DigitalRoute™ on AWS

Jon Brown, Sr. Analyst

Abstract: Increasingly, customers prefer to pay for goods and services based on what they use, with fairness and transparency. One needs only to look at the rise of cloud computing, pioneered by AWS in 2006 with its then-revolutionary pay-as-you-go model, a market projected to reach \$1,294.9 billion in 2025,¹ for evidence that the ability to pay as you go is popular with customers. However, for enterprise solution architects and finance and revenue teams looking to implement and optimize usage-based billing, the backend work—associated with managing terabytes to petabytes of usage data and building and maintaining a billing system—can be overwhelming. This includes tasks such as data collection, data cleansing, data augmentation, data security, and compliance. What is needed is a modern way to unlock the value of usage data with a system that captures the right data from the right sources, minimizes manual interventions to streamline revenue operations, and provides business decision-makers the insights they need to make product, pricing, and promotional decisions based on accurate and timely usage information. That solution is DigitalRoute.

The Usage-based Billing Conundrum

Customers Want Transparent and Trusted Usage-based Billing

The strongest recent evidence that customers prefer usage-based billing comes to us from cloud computing. Cloud computing—the on-demand delivery of IT resources over the internet with pay-as-you-go pricing—transformed both the way IT products and services generated revenue for their sellers and how business and consumers paid for them. What had been a Capex model (pay up front, amortize over a 3-5 year lifespan) changed overnight into an Opex model (where IT expenditures coincided with the period in which they were consumed). Customers voluntarily switched to this model in droves. They like this so much that, according to Enterprise Strategy Group research, 29% of the surveyed organizations employ usage-based models for their on-premises infrastructure, with another 47% having them in a pilot or in their near-term plan.² The buying world is changing to usage-based models.

And, while that example focused on billing for enterprise IT, usage-based billing is used across an increasing number of industries and sectors. According to Enterprise Strategy Group research, 38% of organizations across industries, including financial services, healthcare, manufacturing, and technology, intend to invest most significantly in invoicing and billing software this year.³

¹ Source: “[Cloud Computing Market Size, Size, Growth & Latest Trends](#),” Marketsandmarkets.com, June 2025.

² Source: Enterprise Strategy Group Research Report, [Private AI, Virtualization, and Cloud: Transforming the Future of Infrastructure Modernization](#), July 2025.

³ Source: Enterprise Strategy Group Complete Survey Results, [2025 Technology Spending Intentions Survey](#), December 2024.

Key Challenges in Implementing Usage-based Billing Systems

By recognizing the following challenges, product and pricing leaders can increasingly adopt specialized intelligent usage data platforms rather than build custom solutions. These platforms draw on proven expertise from industries that have mastered usage-based business models—telecommunications, utilities, and cloud service providers—to deliver purpose-built solutions that address the complexities of usage-based billing. By leveraging these platforms, organizations can ensure compliance, accuracy, and scalability. Key challenges in implementing usage-based billing systems include:

- **Complex data acquisition.** Organizations must handle varied data formats and transmission protocols while ensuring consistent capture across potentially intermittent connections. Reliable data acquisition is essential to prevent revenue leakage.
- **Data volume and velocity concerns.** Processing massive transaction volumes—potentially millions to billions of events—demands systems that scale elastically with potentially unpredictable usage patterns. Maintaining performance during usage spikes without massively over-provisioning infrastructure presents a significant technical challenge, as does implementing efficient storage strategies for both hot and cold usage data.
- **Enrichment challenges.** Raw usage events must be correlated with customer identity across multiple systems and mapped to correct account hierarchies, particularly in complex B2B scenarios. Associating usage data with appropriate product catalog items and maintaining referential integrity across evolving product offerings can require very sophisticated capabilities.
- **Transparency mandates.** Customers expect detailed breakdowns of how charges were calculated and self-service access to usage metrics. Organizations must maintain historical usage records and document all pricing rules in customer-accessible formats to meet the expectation of transparency. For data lineage preservation, every transformation of usage data from collection to invoice generation should be tracked, creating audit trails that demonstrate regulatory compliance. The system must enable traceability of all rating decisions and support recreation of historical invoices based on point-in-time data.
- **Data processing and infrastructure challenges.** Usage-based billing infrastructure typically has to account for processing of massive transaction volumes—millions to billions of events monthly—while maintaining high availability (99.99%+ uptime) and low latency. This technical architecture must balance real-time processing needs with batch efficiencies while implementing fault-tolerant designs that prevent data loss should there be a failure.
- **Regulatory and standards compliance.** Usage data must be treated as financial data subject to security and audit requirements. Usage-based billing solutions will need to comply with a bevy of international standards and regional regulations. ISO requirements (20022 for financial messaging, 27001 for information security, 27018 for cloud privacy) might need to be implemented alongside regional frameworks such as GDPR and DORA in Europe and CCPA/CPRA in California. These overlapping mandates can create a complex compliance environment that requires specialized expertise in data handling, privacy, financial reporting, and risk management.

AWS: The Pioneer of Usage-based Revenue Models

When AWS introduced usage-based pricing in 2006, it fundamentally transformed how technology services were consumed and monetized. What began as a simple pay-per-use model has evolved into a sophisticated ecosystem that has democratized access to advanced computing resources. AWS's approach is for customers to pay as they go, pay for what they use, pay less as they use more, and pay even less when they reserve capacity, creating a blueprint that businesses across industries now seek to emulate.

This model wasn't just a pricing strategy; it represented a complete reimagining of the relationship between service providers and customers. By eliminating large upfront capital expenditures and enabling businesses to scale resources based on actual demand, AWS created unprecedented flexibility that benefited everyone. The result is that AWS has grown to serve over 1 million customers, from small businesses to global enterprises, demonstrating the universal appeal of transparent, usage-based pricing.

- **Business logic integration.** Usage-based systems must have the ability to support and process complex rating rules that vary by customer segment, geography, or time while simultaneously supporting tiered pricing models, volume discounts, and promotional pricing. Handling proration scenarios and ensuring accurate application of minimum commitments and usage pools adds further complexity to the billing logic.

Introducing the Intelligent Usage Data Platform

The concept of an intelligent usage data platform builds upon principles pioneered by AWS in cloud computing. AWS demonstrated that with proper architecture and data management, usage-based models can scale to handle millions of customers and billions of transactions while maintaining accuracy and transparency. Their success proves that with the right platform, the complexities of usage-based billing can be transformed from obstacles into competitive advantages.

The three components of an intelligent usage data platform are:

1. **Usage and revenue data mediation:** Comprehensive data mediation that collects raw usage data from any product, service system, or protocol, normalizing it into a consistent structure while identifying and correcting data gaps and errors, ensuring zero data loss even for real-time usage-based services.
4. **Metering and entitlement enforcement:** Tracks and measures various usage metrics (e.g., active users, compute time, API calls, AI tokens, etc.). Ideally, the system doesn't require third-party integrations and ensures data quality through correction and deduplication to deliver accurate, enriched, and timely usage records to an organization's billing system for transparent invoicing.
5. **Usage intelligence:** Provides insights and actionable information to empower product, pricing, and user experience optimization, revenue management, security and compliance, and more. Real-time insights for fast and confident business decisions reduce churn, identify potential issues, and allocate resources according to usage patterns.

By implementing these three critical capabilities through a specialized platform, organizations can rapidly deploy sophisticated usage-based business models while minimizing risk, accelerating time to market, and focusing internal resources on core business innovation.

Benefits and Value Beyond Billing

A good intelligent usage data platform can transform the way customers and users are billed, but the benefits of the platform make an impact in many other parts of the business:

- Finance teams leverage usage data for revenue management and compliance.
- Product management insights tied to pricing and business model innovation are guided by the usage insights.
- Customer success applications for reducing churn and increasing satisfaction through proactive anomaly detection enable intervention by support professionals.

Why Building In-house Usage Data Systems Is a Risky Gamble

1. **Growth.** Homegrown solutions often cannot cope with growing data volumes and complexity. Accurately managing revenue-critical usage data for customers with multiple services and agreements against a growing portfolio of services quickly becomes a headache. Worse, if poorly managed, it can lead to lost or inaccurately processed data, lost revenue, and increased billing disputes.
2. **Risk/Technical Debt and TCO.** Homegrown solutions can increase an organization's level of risk of failed data management compliance. Though they are easier to implement in the beginning, homegrown solutions will increase technical debt over time, and the TCO can be quite high and unpredictable.
3. **Evolution.** With the technology landscape evolving fast, keeping systems updated and functional is a major undertaking, especially when relying on a few select, expert employees who have been tasked with other more valuable projects.

- Data collection and processing is automated with easy business logic changes.

Additionally, organizations recognize that they need to invest in invoicing and billing, as mentioned earlier, with 38% of enterprises intending to invest in invoicing and billing in 2025,⁴ which is well above what would be considered normal replacement level investment levels.

DigitalRoute on AWS – The Intelligent Usage Data Platform

DigitalRoute delivers an intelligent usage data platform built atop 25 years of expertise in the most demanding usage environments—telecommunications, utilities, media, and cloud providers. The AWS-hosted solution offers finance-grade data handling with comprehensive audit trails and compliance capabilities essential for usage-based revenue models.

The AI-powered platform accommodates any data source or protocol through an interface that requires minimal coding, which dramatically reduces implementation time and avoids technical debt. This approach delivers exceptional TCO advantages while supporting even the most complex usage scenarios.

DigitalRoute's solution extends beyond billing to mediate and manage usage data across multiple business functions, from revenue management and product innovation to customer service, creating a unified usage intelligence layer. This comprehensive approach transforms raw usage data into strategic business insights while maintaining the highest standards of data integrity and security.

For organizations seeking to implement usage-based models without the risks, DigitalRoute on AWS provides a proven path to rapid deployment with enterprise-grade reliability and scalability.

Conclusion – Transforming Usage Data into Strategic Advantage

As usage-based revenue models continue their expansion across industries, organizations looking to implement them face a critical decision point in how they'll manage the complex data infrastructure required for success. The challenges outlined in this paper, from data acquisition and processing to compliance and business logic integration, represent significant hurdles that require specialized expertise to overcome effectively.

DigitalRoute on AWS offers a compelling solution through its intelligent usage data platform built upon decades of experience in the most demanding usage environments. This ready-to-deploy solution enables organizations to rapidly implement sophisticated usage-based models while minimizing technical debt and operational complexity.

Beyond the benefits of accurate billing and revenue management, DigitalRoute's platform delivers strategic value across the enterprise, arming finance teams with compliance-ready data, providing product managers with innovation insights, and enabling customer success teams to proactively address satisfaction issues.

As usage-based models become the new standard across industries, organizations that implement robust, scalable platforms for managing usage data will gain significant competitive advantages in flexibility, customer satisfaction, and operational efficiency. DigitalRoute on AWS represents the ideal foundation for this transformation.

Next Steps

1. Assess your organization's current billing infrastructure against the six key challenges outlined in this paper. How much revenue might the organization be losing to inaccurate usage tracking? What opportunities is it missing by lacking usage intelligence?
2. Schedule a consultation with DigitalRoute experts to understand how their 25-year heritage in solving complex usage data challenges can be applied to your organization's specific business needs.

⁴ Ibid.

3. Request a demonstration of the DigitalRoute platform on AWS to see firsthand how it captures, normalizes, and transforms raw usage data into actionable intelligence and accurate billing.
4. Develop a transition roadmap that minimizes disruption while maximizing the speed to value, ensuring your organization can quickly capitalize on the benefits of usage-based revenue models.

The gap between organizations that effectively leverage usage data and those that struggle with homegrown solutions or outdated systems will only widen. By implementing an intelligent usage data platform now, an organization is positioned not just to participate in the usage economy but to lead it.

Organizations should not let complexity stand in the way of revenue transformation. The tools, expertise, and infrastructure are available today through DigitalRoute on AWS. The only question that remains is: How much longer can your business afford to wait?

©2025 TechTarget, Inc. All rights reserved. The Informa TechTarget name and logo are subject to license. All other logos are trademarks of their respective owners. Informa TechTarget reserves the right to make changes in specifications and other information contained in this document without prior notice.

Information contained in this publication has been obtained by sources Informa TechTarget considers to be reliable but is not warranted by Informa TechTarget. This publication may contain opinions of Informa TechTarget, which are subject to change. This publication may include forecasts, projections, and other predictive statements that represent Informa TechTarget's assumptions and expectations in light of currently available information. These forecasts are based on industry trends and involve variables and uncertainties. Consequently, Informa TechTarget makes no warranty as to the accuracy of specific forecasts, projections or predictive statements contained herein.

Any reproduction or redistribution of this publication, in whole or in part, whether in hard-copy format, electronically, or otherwise to persons not authorized to receive it, without the express consent of Informa TechTarget, is in violation of U.S. copyright law and will be subject to an action for civil damages and, if applicable, criminal prosecution. Should you have any questions, please contact Client Relations at cr@esg-global.com.

About Enterprise Strategy Group

Enterprise Strategy Group, now part of Omdia, provides focused and actionable market intelligence, demand-side research, analyst advisory services, GTM strategy guidance, solution validations, and custom content supporting enterprise technology buying and selling.

✉ contact@esg-global.com
🌐 www.esg-global.com