# A New Approach to Wholesale Monetization With MATRIXX

## Solution Brief

### Overview

The telecommunications industry experiences constant evolution. The response to change is an agile one and uses innovation to solve challenges and put the customer at the center of everything. While true across many lines of business, these statements don't apply equally across the telco operator, with the wholesale area remaining largely unchanged for many years. Digital transformation has swept across consumer and enterprise offerings, but wholesale lines of business are still driven by batch processes executed by heavyweight applications running in-house on expensive hardware. Customer service has as a basis the wholesale bill and its associated data dumps with account managers, providing additional support. Price books are limited to simple rate plans, discounts provide one of the few levers available to flex those rates, and introducing new plans is long and arduous. Onboarding new partners takes months, and introducing new plans for existing partners is an intensive manual process.

The need to evolve wholesale offerings is not limited to the experience of customers or the potential for new and innovative pricing models. The evolution of wholesale becomes a necessity when considering the new network capabilities and revenue opportunities made available by 5G, such as network slicing, edge compute and network-as-a-service. It may be possible to modify an existing wholesale platform to cope with some of these new requirements, but at what cost in terms of time and money? What happens when tomorrow's new services appear?

A new digital approach is needed, which gives the operator commercial flexibility and the ability to introduce new services with agility. This digital approach offers the wholesale customer, the end customer and any layers in between new levels of visibility and control. In addition, it caters to the many different rating and revenue share requirements across the wholesale and B2B2X value chain.

MATRIXX monetization-as-a-service for wholesale provides all the technical foundations for this new digital approach which addresses the intricacies and complexities of wholesale rating, charging and billing using real-time, ultra-high-performance capabilities.

## What Is Wholesale?

Wholesale is an intrinsic part of the network service provider model. At the most fundamental level, it is the interconnection between networks to deliver service and the wholesale arrangements in place between operators. Specialist systems have been designed to fulfill these core aspects of the wholesale business.

With over 1,000 MVNOs globally, reselling of mobile is common, as is the bundling of broadband and other connectivity services. Operators are also acting as resellers of third-party OTT content like Netflix, Microsoft 365 applications, AWS cloud services, IoT security cameras and many others. Marketplaces and B2B2X models are enabling new types of services to be created by third-parties, with connectivity embedded or included, in a new dynamic value chain model with revenue share and settlement needs that are more complex than traditional wholesale models. This adds up to a greater number of partners, and different types of partners to be onboarded with different flexible pricing and settlement needs, requiring a fast, efficient and API-driven process. The underlying systems being cloud native is key to ensure automated scalability to handle increasing transaction volumes.

The specialist systems built to handle wholesale rating, charging and billing were not designed to handle this variety of products, services and pricing models. Through the flexibility of the MATRIXX rating engine, there is a solution. MATRIXX refers to this as monetization-as-a-service, focusing on revenue generation that goes beyond the charging-as-a-service concept.

| Charging-as-a-Service<br>Revenue Collection | Monetization-as-a-Service<br>Revenue Generation |
|---|---|
| • Event/activity rating<br>• Charge calculation<br>• Retail settlement | • Event/activity rating<br>• Charge calculation<br>• Retail settlement<br>• Self-help, real-time digital channel<br>• Flexible monetization options (Sessions, Infrastructure, API, Instantiation)<br>• Reduced billing footprint |

**Figure 1: MATRIXX Wholesale Monetization-as-a-Service Capabilities**

The benefit for the end consumer is the availability of real-time, up-to-date charge and balance information at any time without having to wait for the end-of-month bill. For wholesale partners, their charge and balance information is available in near real-time, reflecting an up-to-date position across their retail customer base irrespective of size. This gives the opportunity to use this information in price negotiations during a month as well as for analytical and campaign types of activity.

The integrated billing engine within the monetization-as-a-service solution is then fed rated events to drive a simplified bill calculation process.

MATRIXX®
SOFTWARE

# How Does the MATRIXX Monetization-as-a-Service Work?

Using an event-driven architecture, MATRIXX can chain together charging domains in a configurable workflow, with the outputs of one used as input to another, e.g., the retail price is used as a basis for revenue share calculation. Each domain has complete independence in its pricing configuration and data model, and supports the rating of all usage, one-time and recurring charges in real-time for retail and near real-time for all other rating scenarios.
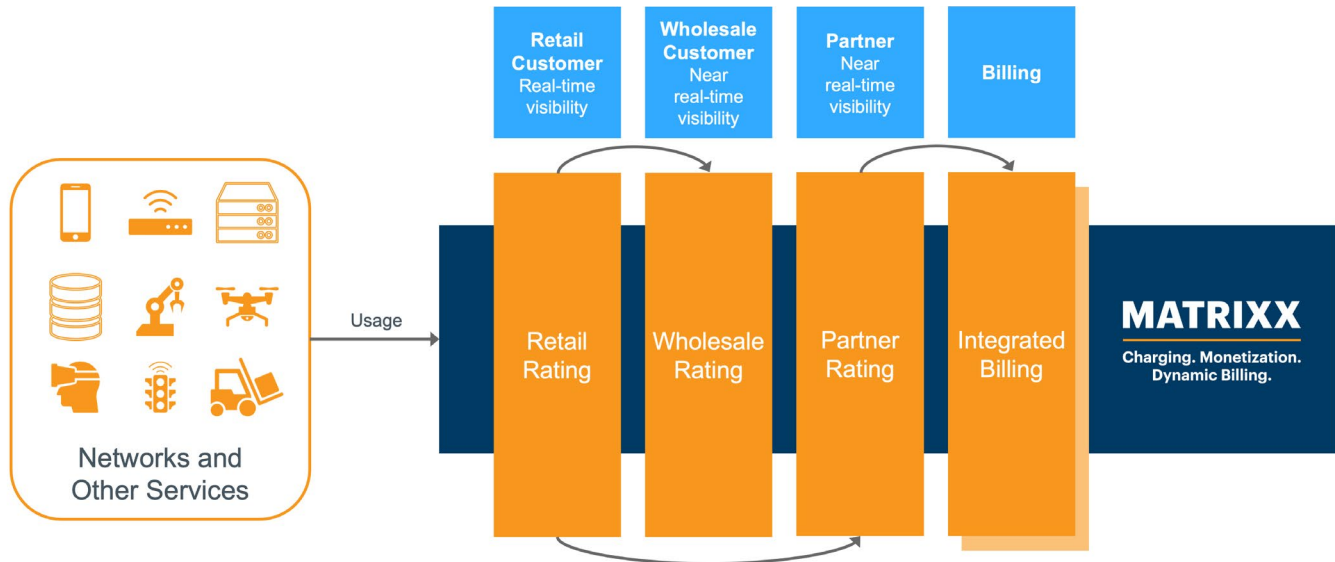


**Figure 2: MATRIXX Value Chain Rating Approach**

Communication between instances uses the Kafka open-source event streaming platform, providing the required performance and reliability.

Within a given domain, the MATRIXX technical catalog can be structured to allow the same catalog building blocks utilized by multiple wholesale customers or partners. The parameters of those building blocks are set at provisioning time to provide dynamic product configuration.

As a multi-tenanted solution, customer data is logically separated throughout the platform to ensure that each party has access only to their data. Events produced by the platform can be streamed to tenant-specific endpoints allowing each customer or partner to feed their own support systems.

Through separation by domain, the platform will scale far in excess of the needs of a typical operator, meaning there is no theoretical limit to the size of the marketplace, ecosystem or the number of overall partners.

Rated events are passed to the MATRIXX billing engine which is responsible for compiling wholesale invoices and handling the accounts payable transactions associated with partner settlement.

**Figure 3: MATRIXX Multi-Tenancy Flexibility, Agility and Efficiency**

# Real-World MATRIXX Customer Examples

MATRIXX supports many operators globally using the wholesale rating capabilities. Regardless of the region, there are key themes that all operators are looking to address, described in the examples below.

## MVNO's Quota-Based Plans With Threshold Alerts

This greenfield operator identified the need to provide a more digital experience to its MVNO customers to drive growth and increase revenues. Wholesale rate plans changed to a more interactive model offering monthly quota-based plans for voice, data and messaging where the price is determined by the level of commitment (quota size) from the MNVO. Instead of forcing the MVNO to make major commitments at the beginning of the contract, they would make smaller, lower-risk commitments during the month. They would be given visibility of their subscribers' consumption in near real-time and would receive threshold alerts when the quota is exhausted by their customers. The price of additional quota would be dynamically set based on multiple factors from the subscriber base through to the network utilization at the time.

With MATRIXX, this model is achieved by taking a near real-time feed of charging events from the retail Converged Charging System (CCS). Those events are instantaneously rated and allocated to balances by MATRIXX to provide the required visibility and threshold alerting. This visibility is achieved through integrating the MATRIXX TMF677 Usage Consumption API with the operator's self-care solution to get an always-accurate view of the remaining quota for each MVNO.

## Ultra-Low Friction Partner Onboarding With Self-Managed Offers

Reducing partner onboarding timelines from 6–9 months to a matter of days was key for this operator to support the wholesale growth they were experiencing. The operator is responsible for retail rating on behalf of the partners and needed a way of allowing them to build and maintain their plans, give them the ability to be agile in their market and reduce support costs.

The solution takes advantage of the templating features of the MATRIXX rating catalog. A standard set of product offerings provides the guardrails for the products and services available to the partner. All pricing, inclusive allowances, enabled services and features can be set by the partner themselves through an online portal, with changes instantly becoming available to end customers once approved.

## Rate Retail and Wholesale at the Same Time for Audit Purposes

Offering an MVNE platform to a number of MVNOs was important for this operator to introduce automation and become digital. To guarantee correlation between retail and wholesale rated events, and simplify audit and reconciliation processes, the operator configured MATRIXX to perform both retail and wholesale rating in parallel when handling online charging requests.

In this model, MATRIXX offers real-time visibility of retail and wholesale charging. Retail customers use self-care to access their charges and allowance consumption without seeing any wholesale information. Wholesale partners have access to a separate portal providing visibility of their wholesale charges. For each charging request, MATRIXX generates a single output event containing both the retail and wholesale price. The event can be sent to multiple data streams to feed retail and wholesale billing processes independently.

## Operator Owned Digital Brands

Operators have launched new services as a digital brand, or MVNO, creating a separate digital BSS stack unhindered by legacy and large transformation programs. They have simplified their architecture using MATRIXX as their single monetization layer and have been able to launch their digital brands fast, often in less than six months. MATRIXX allows them to innovate quickly and deliver a best-in-class digital experience giving users control with a low-cost operating model.

MATRIXX sits between the network and the handset app and interfaces with payment gateways. In a typical hybrid model, customers pay upfront. They can be onboarded, ordering and paying for one-time or recurring offers using the app, and if using eSIM, be set up in minutes. Some operators have dispensed with billing instead providing a payment receipt used for tax purposes. One offers a single plan with simple pricing and no contracts. Many use an all-cloud infrastructure to have business agility and scale based on service take-up.
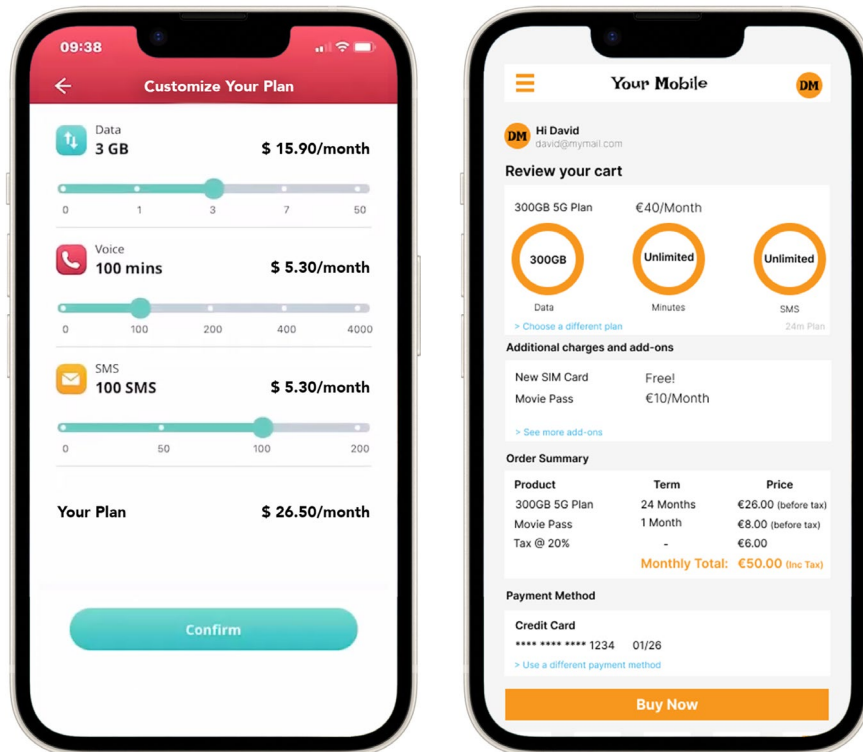


**Figure 4: Sample Screenshots of Customize Your Plan and Order Submission With Immediate Payment**

# A Digital Approach to Wholesale Benefits Both the Wholesaler and the Retailer

## New Charging Models

For many years, wholesale rate plans have predominantly been based on basic margin-based pricing, such as the cost-plus model. It is very difficult for an operator to tailor pricing to meet the needs of a given partner other than simply reducing the margin for a subset of rates. Retail customers are provisioned with a wholesale rate plan which largely remains fixed for the duration of their tenure. To mask these constraints, some operators have created best-plan guarantees; however, these are typically achieved through complex, resource-intensive processes which re-rate usage based on a different plan for a given period.

With MATRIXX and near real-time rating, new pricing models can be supported. An accurate view of balances, whether monetary or quota-based, opens up the opportunity for interactive features such as threshold alerts and the ability to buy additional quota on-demand during the billing period. Likewise, the ability to trigger plan changes in-period can provide partners with a level of control not previously seen in wholesale offerings and can be used to eliminate the reliance on end-of-cycle processing and post-processing.

## New Levels of Visibility and Forecasting

For many years wholesale solutions have been dependent on large, periodic data extracts which can be presented to partners and used in financial management and forecasting. The heavyweight, after-the-fact nature of these extracts limits their value.

When rating occurs in near real-time and the results are accessible through Open APIs, new levels of visibility can be provided, whether through self-care applications or through an event stream which can be consumed by the partner's own data analytics and visualization tools. The accessibility of this data on-demand adds significant business value.

## Simplified IT Landscape and Supporting Operations

With a service agnostic converged charging capability, MATRIXX offers standardization of rating and charging across all lines of business for retail, wholesale and partner settlement. This presents a significant opportunity for consolidation, simplified operations and reduced friction when launching new products and services. As a multi-tenanted, cloud native solution, these rating scenarios and lines of business can be combined or separated into dedicated domains based on the operator's capacity, security and operational requirements with scalability in line with growth.

By unifying all rating in a single platform, the role of the billing system is dramatically simplified, presenting an opportunity to integrate that billing into the monetization-as-a-service solution.

## Rapid Onboarding

The process of onboarding a new partner is long-running and costly for both the operator and the partner itself. There are often external forces which contribute to this timeline but also significant inefficiencies when it comes to enabling the partner in the network and wider IT stack. Implementing the rates from the wholesale agreement and building the retail propositions for the partner can take months. Each amendment to the partner's retail propositions can require manual intervention from the operator.

The MATRIXX approach is to build a reusable templated rating catalog across all partners. Prices, allowances, and network features across retail and wholesale are all controlled through parameters that can be simply specified at onboarding time. This can dramatically reduce the level of effort involved in defining the required propositions when compared to traditional approaches. In addition, because the partner-specific parameters are exposed through the MATRIXX Open APIs, the ability for partners to create and maintain their own propositions becomes a reality, further reducing ongoing cost for the operator.

For partners who want to offer their products and services through an operator's marketplace, self-service onboarding is a necessity. Partners need to be able to choose the operator products they wish to combine with their offering, such as network slice and mobile edge compute capabilities. Again, the MATRIXX templated rating catalog supports these scenarios, both for the operator products and for the partner offerings.

MATRIXX® SOFTWARE

# The MATRIXX Effect: Flexibility and Performance Providing the Foundation for the Future of Wholesale

The future of wholesale is digital. True digital transformation must tackle all aspects of an operator's wholesale business. Partner experience and self-sufficiency are paramount, giving both the partner and their customers visibility and control. The operator must also simplify their architecture to support rapid partner onboarding and reduce cost while enabling clean, reliable financial management processes.

MATRIXX monetization-as-a-service addresses these fundamental requirements through an immediate approach to rating and charging and click-not-code configuration. These fundamental concepts underpin the broad range of benefits available to operators.



## About MATRIXX Software

MATRIXX Software delivers a dynamic billing, monetization and charging solution proven at scale. Global service providers like Telefónica, IoT providers like Tata Communications and network-as-a-service providers like DISH rely on MATRIXX to overcome the limitations of existing billing applications. MATRIXX provides a unified platform that transforms and simplifies billing operations across consumer, enterprise and wholesale businesses. With MATRIXX, operators can rapidly configure, deploy and monetize personalized offerings, enabling commercial innovation and real-time customer experiences that drive revenue and growth.

**matrixx.com**