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Shango: How to Automate Core UC Fulfillment Processes Through the Cloud

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The age-old difficulty of achieving seamless fulfillment of IP-enabled unified communications (UC) products down channel is commonly caused by the inability of communications service providers to holistically source services from their underlying supply chain of providers. In fact, the situation is only made worse when CSPs realize that doing business and expanding service portfolios means they must endure new wholesale-supplier agreements; establish new processes to tie together order management, billing and operational support systems (OSS); and ensure that new services and features are successfully enabled.

Whether it's a wholesale service provider simply trying to unify existing product sets or an internet telephony service provider (ITSP) that wants to source wholesale phone numbers or features to tie together new applications, to say nothing of the constant need to streamline fulfillment down channel in order to meet growing demands from enterprise customers for a single-source vendor that delivers truly unified communications services, CSPs are constantly looking for ways to automate and integrate their sourcing processes from the aforementioned supply chain. And given that high-value communications services are typically combinations of assets, applications and access from multiple trading partners that must come together to form the final product, the automation of pricing, activation and porting processes and their subsequent integration on an individual, point-to-point OSS platform becomes all the more difficult.

Faced with traditional network-infrastructure complexities that typically plague wholesale supply-chain and distribution processes, and various OSS/BSS (business support systems) and activation systems that require support on the back end, CSPs can often feel constrained in their attempts to grow, and their struggle to maintain even the status quo can make them feel like their only alternative is to maintain legacy trade relationships and manually tend to existing multitenancy workflows for the sake of their various trading partners.

CSPs that want to increase operational efficiency must confront the reality that establishing new business and operational processes—or, at best, developing or augmenting new application programming interfaces (APIs) for automation that may or may not be available from legacy-carrier suppliers—can halt the ambitions of even the most forward-thinking companies, the ones that seek to consolidate their services, grow their network of suppliers or proactively serve new, emerging markets that call for new types of applications.

Today CSPs are being offered solutions that attempt to automate the processes of supplier, vendor and customer procurement and fulfillment, but they require customized or mass integration of billing and OSS, and many system-integration deployments can additionally require the augmentation of a CSP's network dependencies due to the possibility of many different network elements.

When placing or fulfilling inventory orders for wholesale applications like phone numbers, many CSPs must choose between traditional communications tools and web-based tools such as file-transfer programs that charge a fee based on usage or file size, while other CSPs depend on email,

which can have capacity and file-transfer limitations.

Some carriers have created one-way integration between their internal MIS, or management information system, and web-based tools via XML-based platforms, but this method doesn't address integration for the other party. Systems integrators have long promised CSPs a truly integrated enterprise, but the ability to mass- and custom-integrate order management, customer relationship management (CRM), billing, operations, and APIs or import tools across all trading partners will come at a truly hefty cost.

The telecom industry's OSS/BSS landscape is changing, however, with the emergence of software-as-a-service (SaaS) offerings that allow carriers to bypass large, traditional, holistic OSS deployments. Typically synonymous with big risks, big budgets and big impact, operational systems integration can wreak havoc on capital and operational expenditures (CAPEX and OPEX), especially as CSPs' provider agreements, services and product sets expand or evolve. Existing SaaS solutions may address some sourcing and fulfillment needs, but inefficiencies can crop up when it's time for companies to scale.

To satisfy the demand for automated, integrated supply-chain management, Shango has established an open, common, cloud-based service-orchestration platform for UC, giving CSPs the ability to source a growing number of applications from any provider anywhere in the world. Through a single point of integration, CSPs can gain access to multiple trading partners and connect their disparate OSS and billing systems via available common APIs in order to more fluently source both on- and off-net services from the supply chain as well as manage, activate and provision native and third-party inventory down channel.

Although the development of provider APIs and mass or custom OSS/BSS integrations can automate processes and may be built with open standards in mind, they lack a neutral, transparent, flexible architecture that can scale easily over time. But an open, common platform has this kind of architecture, and utilizes common APIs that are constantly updated for the user while acting as a medium that brings trading partners together and allows each to expose pricing groups from a CSP's underlying providers.

In fact, this kind of platform doesn't have any proprietary products or services, making it possible for various providers, including ITSPs and those in the fields of wholesale services and cloud applications, to import their existing provider relationships and, better yet, source from new trading partners, who, across the telecom supply chain and distribution channels, can effortlessly pull down and push out IP-enabled services and applications to each other faster and more seamlessly than before.

An open, common platform also provides a meeting point for technical simplification of OSS/BSS processes. Its ability to integrate the supply chain can save significant amounts of time and money for CSPs and reduce the amount of unexpected provisioning changes and errors that can occur as services are fulfilled, helping to improve time to market (TTM) for new providers and the products that are delivered down channel to resellers and customers.

Otherwise, CSPs seeking to unify their supply chain and distribution channels would be forced to develop APIs and endure, or contract out, the task of assembling point-to-point integrations, API by API, between their OSS/BSS and the various underlying providers (content, transport, etc.) in their extended value chain. CAPEX and operational overhaul would likely be driven upward, not to mention that the impact on TTM and revenue would have the potential to wreck a CSP's bottom line.

Within Shango's platform, however, orders are fulfilled using common APIs, including ones for hosted private branch exchange (PBX), routing, billing, storage/call detail records (CDRs), location routing numbers (LRNs), and LNP/SOA (local number portability/service order administration), that connect CSPs to their OSS providers. CSPs can also bring in existing or new supplier relationships and use Shango's platform to instantly source from their phone-number origination providers as well as self-activate services and fulfill them down their distribution channels to meet a variety of enterprise-customer UC needs.

In the past it used to be enough for CSPs to release some new features or services every so often, but today they need to be able to bring new offers to market as quickly as customers demand them. The ones that ignore the cry for unified, IP-enabled products could find themselves at risk of losing business to competitors that are already establishing new ways of augmenting legacy OSS/BSS processes, network infrastructure and even service fulfillment and sourcing.

Using common APIs, Shango's cloud-based UC platform can address five core fulfillment processes that require OSS/BSS automation:

- Operational processes. Within a branded web portal in the platform, CSPs can integrate their order management systems, load their wholesale providers' rates and leverage multiprovider, mixed-pricing tier groups.
- Supply-chain management. Shango allows carriers to easily search, select, activate, and manage their native and third-party inventory and pricing groups and present them to their customers.
- Order tracking. CSPs can easily receive and manage

incoming orders and inventory requests from their customers across multiple on- and off-net providers.

- Order fulfillment. They can also place orders; activate, assign and release applications, e.g., phone numbers, to their SIP trunk and hosted PBX providers; initiate and activate feature and porting requests; and port to their competitive local exchange carriers (CLECs) or choice of service bureaus. Additionally, CSPs can add and manage features and assign common APIs that enable their customers to order their products. Shango's platform automatically maintains third-party APIs for updates.
- Service integrity. CSPs can view inventory levels and distribution across their range of customers. Transactional instances such as moves, adds, changes, and disconnects are logged for easy auditing, and data can be easily exported into carrier OSS/BSS via Shango's standard REST (representational state transfer) APIs. Plus, transaction-based sourcing within the platform supports easy billing.

By eliminating manual processes that typically hinder serviceability and OSS/BSS, CSPs can more quickly manage overhead and increase productivity and data accuracy when offering unified communications services to customers.