



Converging At The Customer

Embracing Idea-to Install

An Innovation Scouting Report by:

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Converging At The Customer

Convergence of network connectivity, applications, devices, and users is occurring at an unprecedented rate. The Internet of Things (IoT) is upon us and the digital economy is redefining business models. Users expect that any service can be delivered to any device regardless of location, connection, or underlying network infrastructure. As traditional service providers, primarily network operators, scramble to become retailers of connected services it is important to recognize that every part of the customer experience from the quality of the product to support for devices and applications, activation, billing, changes and even the website contribute to their decision to stay with a provider or churn.

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As retailers of connected services, service providers will differentiate their brand based on the quality and variety of products and services being delivered. They are already obsessed with customer satisfaction, yet customers continue to find it difficult to do business with service providers via any channel, anywhere, at any time. Although the need for customer focus isn't new, the challenge for connected services retailers is that there is more than the network connecting the customer to the business. At a time when customers, not network operators, are dictating when, where and what products are consumed by which devices, there is a growing need for OSS/BSS to serve customers, not just the network and the business.

Products will not appeal to all buyers in the same way and must be stylized to meet individual needs and wants. Delivering connected products to multiple segments of the market using a common OSS/BSS foundation requires an agile architecture that is continuously aware of which products are available to each customer, via any channel, and which devices are carried over each network. This omniscience requires configurable solutions driven by a single source of product truth. Enabling the definition, activation, and management of hundreds or even thousands of personalized offerings necessitates a catalog-driven approach and automated, seamless orchestration with

existing OSS/BSS. This report will explore Sigma's *Idea-to-Install* solution, a modular OSS/BSS approach to the rapid introduction, selling and delivery of personalized products and services across multiple channels.

Building a Better Buying Experience

As the network migrates to support common hardware infrastructure and IP becomes the global standard network protocol, connectivity becomes ubiquitous. The primary advantage of fixed-mobile convergence and software designed networks (SDN) is that instead of a single network delivering a single product and service, we will have a single, often virtual, network capable of delivering an infinite array of products and services.

When customer connections are no longer distinct or unique, customers are driven to buy based on device and application choice rather than network or brand loyalty. In turn, customers are driven away by inadequate offerings, inflexible product and pricing plans, encumbering buying channels, inaccurate and slow activation, poor performance and incompetent support. The bottom line is that the digital world demands that businesses make it easier and faster for customers to buy from them.

Ensuring a positive customer experience entails more than collecting metrics. It is about the full retail experience. Starting with the upfront buying process, service providers must embrace their full eco-system of organic and third-party capabilities and assemble them into compelling offerings that customers can buy through any channel. To deliver those offerings, service providers must upgrade support processes to be fully automated, customer-focused, and product aware.

The need for a customer-centric business is not idle talk, it's imperative to future success. A ubiquitous network means that service providers are judged based on customer perceptions of:

- Time-to-deliver new products both to the market and individual customers
- Access to a wide variety of products from multiple sources via any sales channel
- Simplicity of configuration and operation
- Reliability and availability of purchased products
- Quality of delivery, operation, and support of purchased products
- Single identity support via multiple methods including on-line, contact center, and self-care
- Price and the flexibility to pick and choose only desired products and features

Global coverage and convergent connectivity mean that service providers will not be selling communications products but rather products will be sold that include connectivity. A connected services retailer will establish its brand based on the customer's ability to access new products and services, activate them, and reliably use those services without interruption or error.

Idea-to-Install: Create Value, Capture Value

Change is difficult in a business that has invested billions in infrastructure and where any misstep could risk billions in revenue. From the customer to the core of the network there are hundreds of systems that support dozens of processes and the transformation of those systems is proving to be slow and costly. However, that does not negate the need to continuously improve the customer experience and optimize operations. *Idea-to-Install*, shown in Figure 1, represents a simplified orchestration of the processes focused on the critical upfront customer buying experience, where core functions support product development, order capture, order management, and fulfillment.

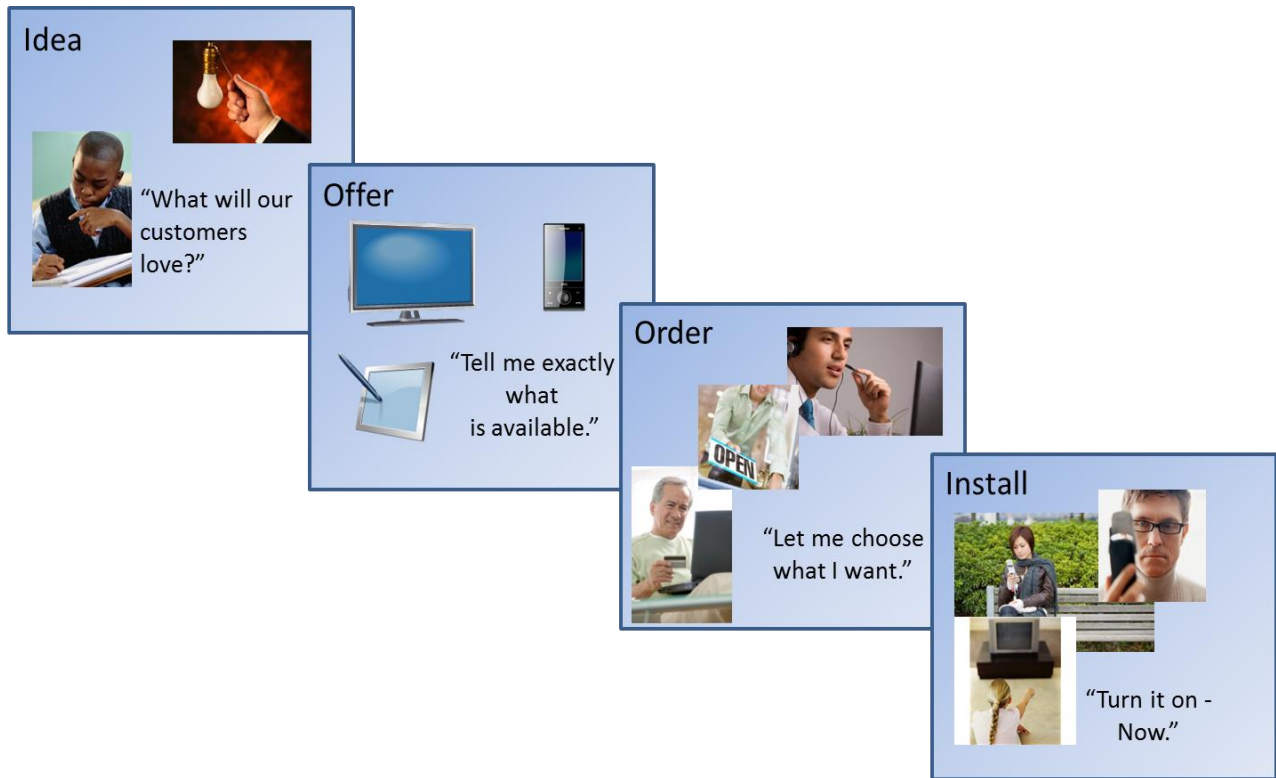


Figure 1: Idea-to-Install

Driven by a centralized product and service catalog that is the single, federated source of truth for customer, product, service and resource data; products are rapidly defined, offers are created, orders taken and services activated. Workflow is orchestrated across existing OSS/BSS and automation is introduced where practical. Using an integrated *Idea-to-Install* strategy, service providers see results in weeks, not years, and can incrementally implement and adjust the solution to meet changing customer needs. As the customer buying experience is improved, service providers realize more revenue and customers are more satisfied.

Less is More

Integration and alignment of OSS and BSS is critical to managing the complexity of evolving networks, applications, services, devices, and users. As the public network has evolved, new network infrastructure has been installed to deliver new communication

services and that has served us well. The next phase for service providers, however, is not about expansion, but consolidation and inclusion.

The tactical reality of implementing an integrated *Idea-to-Install* strategy is that service providers have existing OSS/BSS and existing data. Those systems and data are in multiple forms and can be of questionable reliability. Implementing a centralized product catalog either in place of existing catalogs that support only a single sales channel, or as a federation of existing catalogs, is the first step toward alignment and simplification. Supporting each channel with the same source prevents errors and rework while enabling customers to start an order on-line and complete it at the retail store.

Driven by the catalog, workflow is orchestrated from product development through activation. Product managers define components and pricing, sales tools pull together customized offers, order management captures the order, and the service is turned on without delays or fallout. Personalized products and services are instantly delivered the way that customers demand via the channel that works best for them.

The Sigma Idea-to-Install product portfolio, shown in Figure 2, is focused on simplifying the critical customer buying experience. It enables service providers to evolve from disjointed and time-consuming product development, order management, and fulfillment processes, to a fully integrated solution for right here, right now, every customer, any device, any channel. Idea-to-Install is a catalog-driven approach that aligns the enterprise-wide product/service/resource specifications across the order capture, delivery and fulfillment processes for both the business and IT. The result is a connected experience that makes it easier for customers to buy from service providers.

Functionality and processes are streamlined to deliver a seamless customer interaction and ensure efficient and transparent orchestration of underlying OSS/BSS functionality from creation of the product through final delivery of a customized service to each customer.

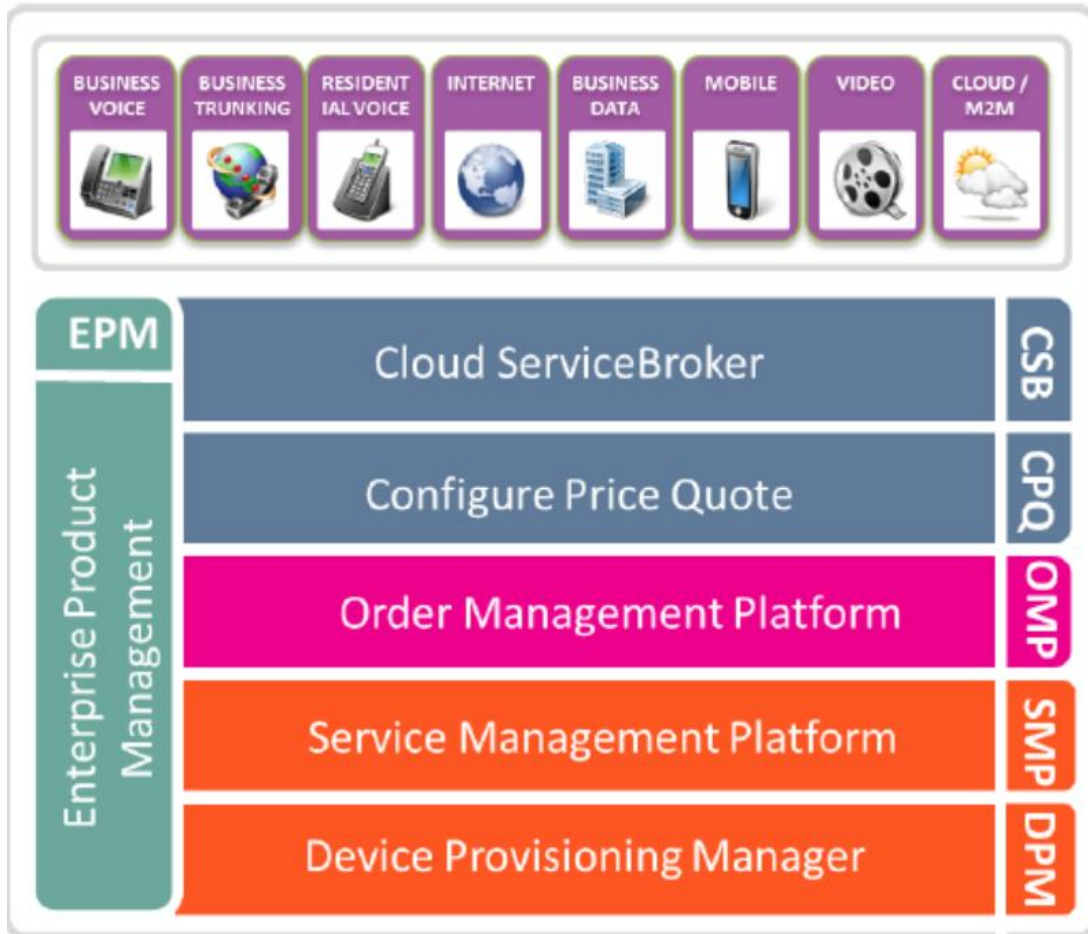


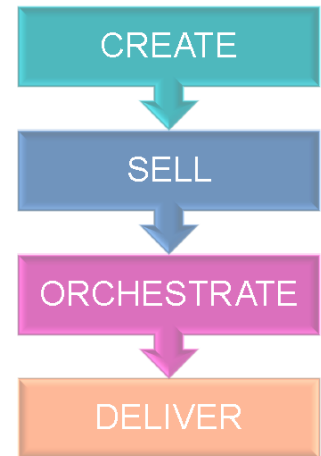
Figure 2: SIGMA Idea-to-Install Product Portfolio

Each module in the product portfolio is pre-integrated with the SIGMA centralized product catalog, but can be installed separately and integrated with existing OSS/BSS solutions:

- Enterprise Product Management (EPM) is the master data management catalog that manages products, offers, pricing, and promotions throughout the product lifecycle.
- Cloud Service Broker (CSB) enables customer self-provisioning of cloud solutions and is fully integrated with the SIGMA provisioning platform.
- Configure Price Quote (CPQ) enforces product, offer, and pricing rules and enables offer selection and order configuration, including quoting and validation.

- Order Management (OMP) orchestrates the decomposition of orders and execution of the fulfillment workflows to ensure seamless activation and exception handling.
- Service Management Platform (SMP/DPM) handles the interaction with network and IT elements and devices, provisioning and activating service across multi-vendor and multi-protocol networks.

The Sigma product portfolio is catalog driven and modular to support the evolution of service provider products and delivery environments. Service providers are not locked into an all or nothing decision and components can be adapted as needed to re-orientate the infrastructure. The scalability, reliability, and performance demands of service providers are met using a simple yet highly robust multi-tiered architecture that is open and interoperable with third party components and established OSS/BSS.



Converging At the Customer

Now that connectivity is only part of the product, service providers are well-positioned to become global retailers of connected products. However, all their best efforts could be thwarted by complex OSS/BSS and customer-facing processes that prevent shoppers from becoming customers and tarnishes the brand. Simplifying the customer experience requires that service providers simplify operating processes and orchestrate OSS/BSS to remove complexity and confusion. *Idea-to-Install* starts with the product and ends with a satisfied, loyal customer.

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