



# CSG INTERACTIVATE

**FLEXIBLE AND SCALABLE  
SERVICE ACTIVATION  
PLATFORM TO DRIVE REVENUE**



# CONTENTS

- 3** Adapting to Evolving Markets
  - Network Evolution
  - IoT
- 5** Need for Agility and Speed
- 6** Accelerating Device Activation and Service Introduction
- 7** Interactivate Product Overview

Network evolution, consolidation, explosive growth of devices (personal and M2M), new applications and complexity of services/bundles requiring near real-time, multi-service activation, are driving the need for highly available service activation systems. CSG Interactivate is that system.

CSG's convergent activation solution, Interactivate, is a carrier-grade, multi-service activation platform, capable of automatically activating any service on any network. Interactivate provides the critical link between subscribers and services, enabling fixed, mobile, 4G, 5G and IP network operators to rapidly launch new services, streamline processes and raise customer satisfaction.



## ADAPTING TO A RAPIDLY EVOLVING MARKET

The communications industry is in a state of dynamic transformation. Everything is subject to scrutiny including the networks, service types, applications, revenue models, business structure, BSS and OSS capabilities, etc. Communications service providers (CSPs) need to balance the seemingly contradictory goals of launching new network technologies, seizing emerging opportunities, grasping market share and offering new services with the coinciding need to focus on revenue assurance, cost management, service quality, customer experience and present-day requirements.

There are two powerful trends converging—network evolution and the Internet of Things (IoT)—that are driving the need for advances in service introduction and device activation velocity.

### EVOLVING COMMUNICATION NETWORKS

Described by the relentless push for higher capacity and enhanced efficiency voice and data networks (4G/LTE, 5G, IP Multimedia Subsystem (IMS), WiMax, NGNs, etc.), this trend is characterized by:

- > Accelerated device introduction and broadening data consumption methods
- > The need to embrace and activate emerging network technology, while simultaneously maintaining legacy networks

Operators are experts at evolving their networks to support the increased demands for higher bandwidth and diverse device support. They're leading the evolution from existing circuit-switched infrastructure to next generation all-IP networks to enable advanced mobile, fixed and broadband services, and lower operational costs.

For mobile operators, the largest focus has been on the evolution from GSM to 4G/LTE. According to the GSA (GSM Suppliers Association) LTE is the fastest developing mobile system technology ever. LTE for data services is the first step, with IMS core networks (Voice Over LTE (VoLTE) and Rich Communications Suite (RCS)) following closely to support new voice, messaging and video services. However, new IMS networks will co-exist with current 2G/3G/4G circuit-switched infrastructure for many years, driven by LTE coverage build out and adoption of VoLTE-capable handsets.

### IoT

In its simplest description, it's the connection of devices that communicate among themselves and with a command system without human intervention. There's been an upsurge in the overall number of connections, vast diversity of devices, applications (eHealth, smart utilities, inventory control, etc.) and generated data.

#### ANALYSYS MASON

**THE TOTAL NUMBER OF IOT CONNECTIONS  
WORLDWIDE WILL REACH 5.3 BILLION BY 2028.**



IoT technology offers infinite possibilities. It's a network of sensors collecting various data attributes (temperature, inventory, vital statistics, etc.) surrounding us in our daily lives, engaging in relentless, semi-autonomous digital interactions. It poses challenges for operators in terms of how to efficiently manage non-human connections (whose numbers are potentially orders of magnitude higher than today's connections) that will often generate massive volumes of low- to no-value network transactions.

IoT connectivity brings advanced communications to many industries such as transportation, health care, utilities, retail, etc. It represents an opportunity for operators to deliver communications expertise in broad areas, including strategy, field service management, networking, monitoring and maintenance. The CSPs who figure out how to adapt their business to this impending windfall will be best-suited to reap the highest rewards.

CSPs face a number of challenges as their networks rapidly advance towards 5G, IMS and other emerging technologies in the future. As the market matures, technologies evolve. Services such as IoT and business models like cloud services, must be quickly introduced through rapid modeling and service delivery. Dynamically changing markets also drive the number and types of service packages producing additional service activation requests. Efficient and swift activation of new services is a critical part of the fulfillment process, directly affects customer experience, and is essential to monetization and revenue realization.

The communications market has clearly entered the on-demand era in which customers expect instant access to new products. They demand flawless execution. The rigors of operating in a hyper-competitive market extend further to 5G, IMS, IPTV and beyond. These factors all drive CSPs to have the tools and solutions that facilitate fast response and exact execution.



In order to keep stride with the exploding availability of connected devices, service activation can no longer remain a tangle of manual processes, multiple legacy systems, and manual paperwork orders. To deliver bundled services seamlessly, accurately and profitably, operators must effectively bridge the divide between old and new networks, service offerings, business initiatives and subscribers' desires.



### 3 MACAU

**“WE SELECTED CSG FOR ITS PROVEN ABILITY TO DELIVER SCALABLE SOLUTIONS THAT WILL HELP US BRING INNOVATIVE PRODUCTS AND SERVICES TO MARKET QUICKLY.”**



## THE NEED FOR GREATER BUSINESS AGILITY AND ACTIVATION VELOCITY

Technology introductions are faster, product lifecycles are shorter and mass adoption of new devices has accelerated. CSPs need to be more agile to take advantage of new opportunities, more diligent to optimize revenue and employ effectual business models to pull it all together.

New network elements and service platforms are introduced during each network evolutionary stage. These must be integrated effectively with the business and operational support systems (B/OSS) in order to correctly fulfill and charge for services. Service activation platforms must continue to evolve and grow with the endless changes in the market and not just provide a “quick fix” to meet current demands.

Introducing new services and packages in a condensed time to market accelerates revenue and improves competitiveness.

New services and packages often require complex activation processes to be implemented across a number of different elements. These new services and packages also increase the number of service activation requests which require high volume throughput. Legacy systems are inadequate to manage the impending volume of activation requests or to meet customer expectations of immediate service availability.



# ACCELERATING DEVICE ACTIVATION AND SERVICE INTRODUCTION WITH CSG

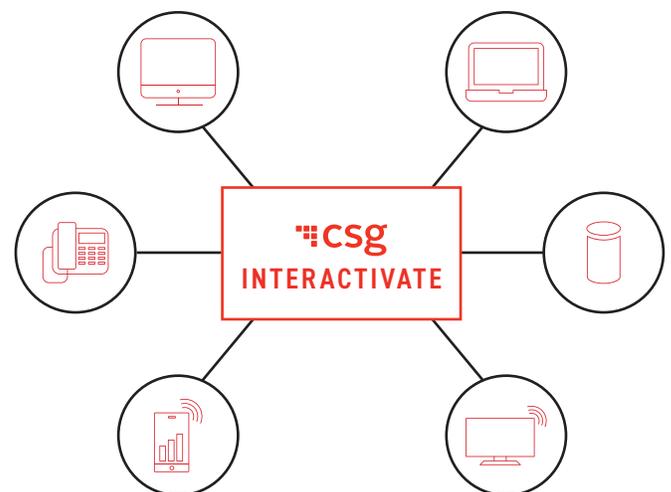
Speed to market is a key competitive advantage in this quick-moving environment. Activation platforms must support integration of new elements rapidly through a common activation layer, across different network domains and services. To compete, CSPs need to support accelerated product lifecycles by enabling swift launch of new services, while minimizing activation system costs. It's critical since immediate service activation of new products and services also increases subscriber satisfaction and reduces churn.

→ **Business Logic Flexibility**—Activation Workflow Designer provides an easy to use graphical environment for design of business logic. Targeted to the exact needs of the CSPs unique workflow, it renders the tools that allow fast response that meet specific workflow procedures. This capability, by updating the activation workflows without the need for code changes, enables rapid new service launch.

The graphical design environment ensures that new and modified business rules can be quickly modeled, developed and tested before being rolled out in the production system. This process ensures that the workflows meet the precise activation requirements, expediting time to market and minimizing costs.

→ **Scalability**—Interactivate can be deployed on low-cost commodity hardware and software. It also offers both horizontal and vertical scalability. By its inherent flexibility, Interactivate is able to leverage available processor resources in an individual server or across multiple servers within a single Interactivate instance. This design provides the most cost-effective approach to scaling up to manage greater transaction volumes.

→ **Cost Reduction**—Interactivate offers low total cost of ownership and is one of the most affordable activation platforms available when deployed using a Linux operating system with the option of PostgreSQL. Interactivate can be deployed and operated at a significantly lower cost than competing solutions due to a lower cost of making changes and a highly cost-effective database layer.

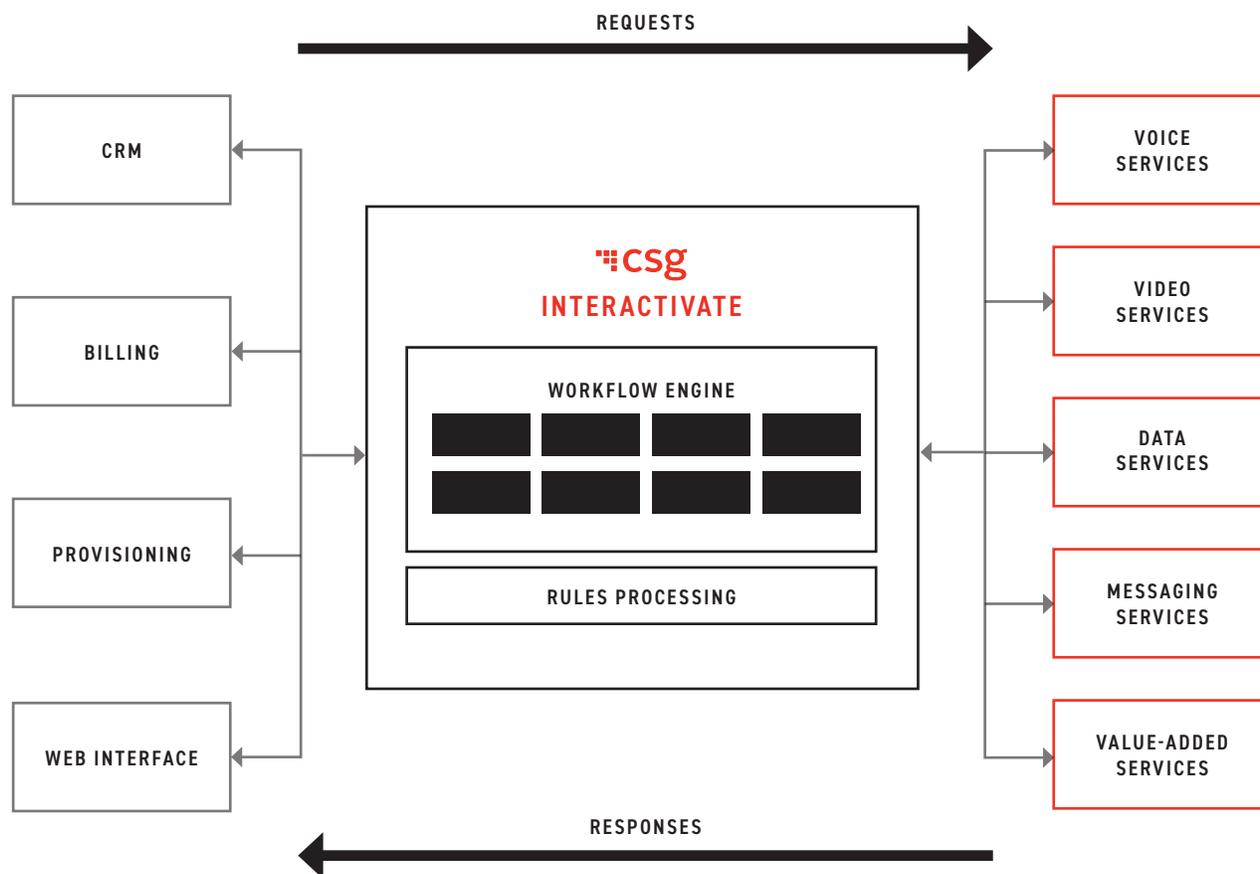


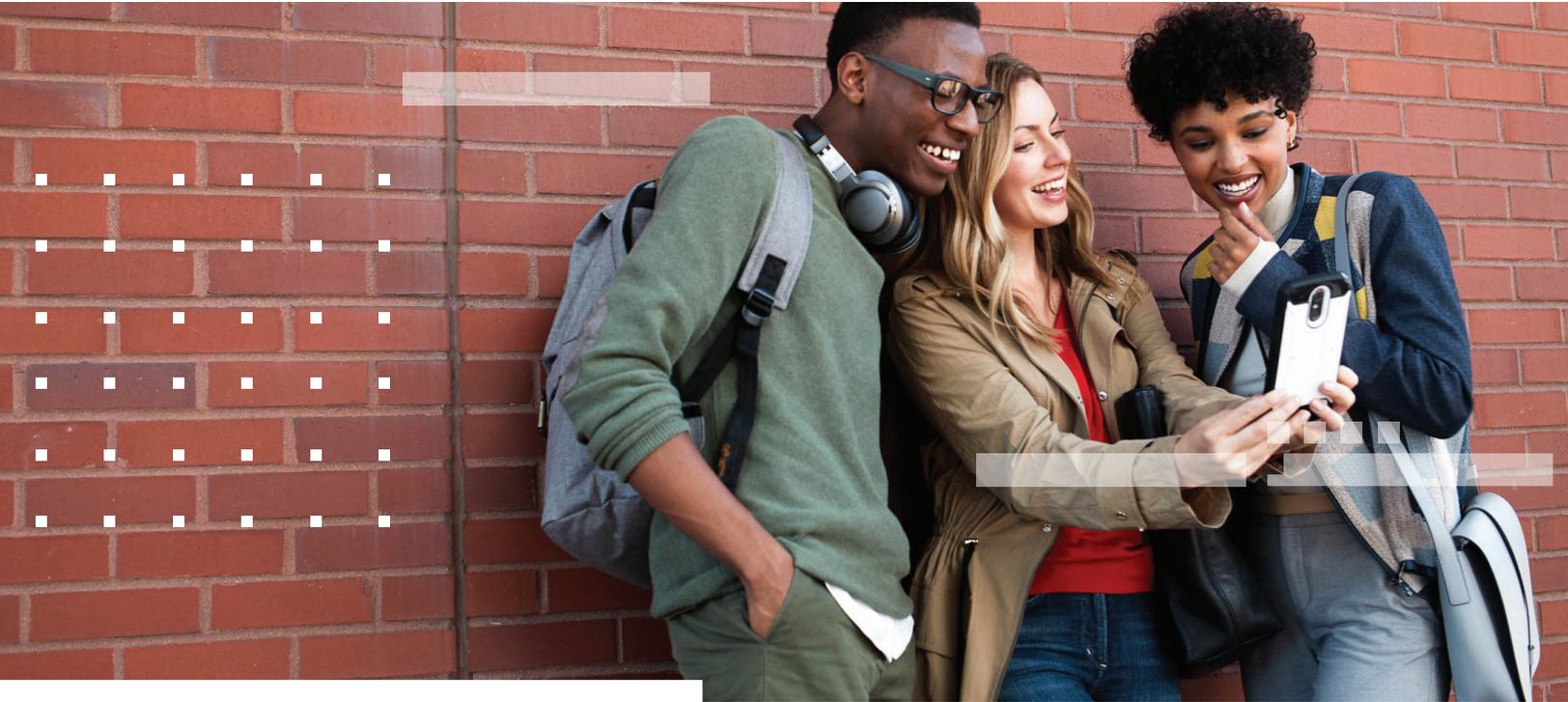


## INTERACTIVATE PRODUCT OVERVIEW

CSPs must be able to promote multi-service bundles, deliver complex services like IPTV, and support key industry initiatives like 5G and IMS. Activation of new 5G services will increase in importance as networks begin the transition to Vo5G. Robust activation capabilities empower operators to adapt faster to changing markets and technologies, and more rapidly deliver the new services that subscribers expect.

A platform for any service, network or device, Interactivate enables simple, rapid integration of new technologies and services. With the goal of faster monetization, operators can accurately, rapidly and cost-effectively introduce a broad portfolio of services across a wide range of devices, back-office systems and networks.





## INTERACTIVATE BENEFITS

### SIMPLIFY COMPLEX ACTIVATION

Next generation IP-based networks are complex, and pose substantial activation challenges. They involve many more device touch points to generate a service, greatly increasing the number of activation events.

Compounding this complexity is the move to 5G and convergent networks, characterized by: distributed network infrastructure, advanced capabilities of intelligent network devices, and an accelerated rate of changing business rules.

Interactivate is explicitly designed to support complex, advanced networks. As an automated, highly configurable service activation platform, it minimizes the cost of integrating heterogeneous networks, technologies and vendor devices.

Interactivate effectively turns high-level service requests into device-specific commands and executes those commands automatically on network elements. By doing so, Interactivate centralizes the service activation process, simplifying and streamlining support for bundled service offerings that can incorporate voice, data and video over any network.

### OPTIMAL FLEXIBILITY AND PRODUCTIVITY

Interactivate has been architected for ultimate flexibility as it supports integration with a multitude of external systems. Pre-built OSS/BSS plug-ins enable it to communicate with any requesting systems, such as self-care, CRM, billing or POS for service order input.



**USING INTERACTIVATE, CARRIERS ARE ABLE TO RAPIDLY INTRODUCE NEW SERVICES, NEW TECHNOLOGIES AND NEW DEVICES ACCORDING TO THEIR BUSINESS OBJECTIVES, NOT THE CONSTRAINTS OF LEGACY ACTIVATION SYSTEMS AND MANUAL PROCESSES.**

Operators can easily integrate Interactivate into their established infrastructure, and are able to expedite new services by using a library of reusable interfaces. Its real-time monitor provides a high-level view of service delivery to the network. Its advanced graphical interface allows rapid changes to service activation workflow processes, ensuring new services and bundles are brought to market quickly.

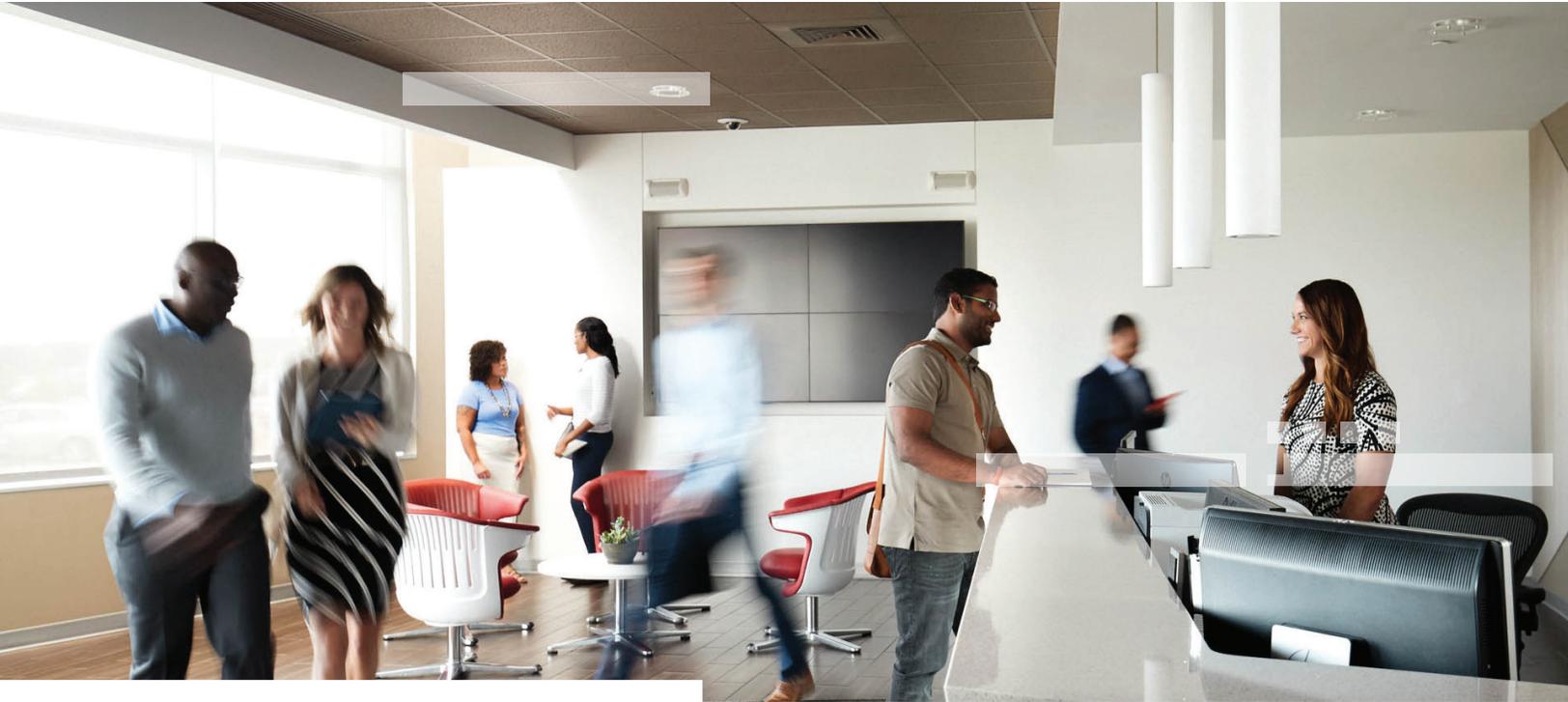
The Rules Processing Engine, a business logic layer that allows service providers to configure any service and implement supporting business rules, performs the following key functions:

- Decompose a single activation request into one or more activation actions
- Translate and enrich activation requests based on CSP-specific rules such as network elements, service catalogue, request types, device operations, and more
- Apply scheduling and prioritization logic to incoming requests to control when, and in what order, the engine processes incoming requests

- Manage actions, dependencies, and communications with downstream systems to ensure the performance of commands necessary for executing service orders on target devices
- Completing the service activation process by notifying upstream systems when all actions associated with a request have been executed

### REDUCED TCO

Interactivate's scalable, open architecture provides sub-second response times achievable on economical hardware platforms. With increased queuing, throughput, and simultaneous processing, Interactivate provides unparalleled performance for processing high volumes of requests.



## INTERACTIVATE COST-SAVING FEATURES

- Automated service activation processes
- Configurable business logic layer
- Library of pre-built OSS/BSS adapters and session agents
- Alarm and error monitoring
- Recovery and roll-back logic
- Sophisticated handling of device connections
- Full logging/auditing and error-handling capabilities
- Real-time statistics/monitoring tool
- Prioritization/scheduling
- Reporting
- Java client with pre-defined drag and drop functions
- Full lifecycle maintenance
- Interactive testing environment
- Incoming request validation
- Translation of request decomposition
- Reuse of pre-defined objects and libraries for repurposing activation rules
- Promotes reuse of pre-defined business logic plans
- Error-handling capabilities
- Built-in recovery and undo/rollback logic
- “Live swap” of business logic plans
- Enhanced debugging capabilities