

Service Management and Orchestration Platform

Operate Smarter with Intraway's Cloud-Native, No-Code OSS on Public Cloud

Digital business is challenging Communications Service Providers' (CSPs) traditional business and operating models. Previously focused on quality and reliability, they must now transform to add agility and innovation, and embrace the skills and attributes of 'Web-Scale' organizations. To successfully evolve into Digital Service Providers (DSPs), CSPs must evolve B/OSS systems to embrace innovation, transformation, and optimization.

There is a real opportunity for CSPs to pivot to a highly automated and dynamic approach to service operations. Cloud technologies, network virtualization, and software-based platforms provide the framework to align network operations to IT practices. Intraway Symphonica is a cloud-native, no-code service management and orchestration platform designed to accelerate software-driven automation, catalyzing this digital transformation, and helping CSPs to integrate faster and operate smarter.

"Zero-touch automation for any service, any technology, across multi-layer physical or virtual domains essential for new multi-vendor digital services, including highly dynamic 5G and IoT offerings"

Where We Play

Service Order Management

Symphonica's Service Order Management provides end-to-end service automation across multiple cloud and network domains. It streamlines the full lifecycle management of multi-vendor services within and across physical, virtual, SDN, and cloud networks.

It provides a real-time, end-to-end view of the entire service and a single interface into the BSS layer, and it is based on cloud-native architecture and standards like TM Forum Open APIs and MEF LSO frameworks.

Multi-Domain Orchestrator and Activator

Symphonica's Multi-Domain Orchestrator and Activator automates the entire lifecycle of multivendor, virtual resources, and network services. Simplifies and accelerates the use of multivendor, virtual, and cloud-native functions and reduces the complexity of operating complex hybrid network ecosystems.

It is fully cloud-native and vendor-agnostic based on a BPM orchestration system and a multi-protocol connector framework.

Automation workflows are triggered by the Business Layer using standard Open APIs but also by capturing network events. This enables the implementation of dynamic services and closed-loop automation processes.

Technology Principles

- Cloud-Native
- No-Code
- Vendor-Agnostic
- Standards-Based
- Real-Time
- 5G Ready

Key Features & Benefits

* **Innovation made simple** by using our Design Studio or the technology, pre-configured packages, CSPs can swiftly launch new technologies, services or consistently automate operational processes.

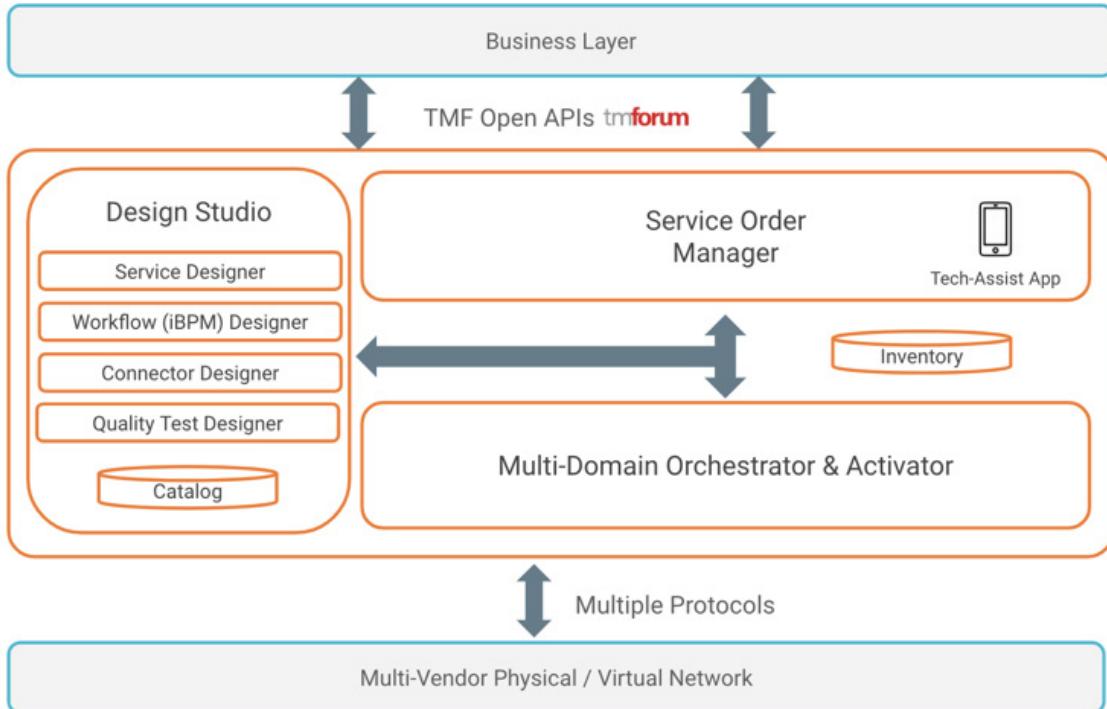
* **Accelerate time to revenue in a multi-vendor ecosystem** by automating service delivery from the access to the core, including cloud, virtual, and physical resources.

* **OPEX reduction and staff optimization** thanks to a No-Code platform that provides operational processes automation and service activation.

* **Leverage or rationalize your current and legacy OSS/BSS investment** with a standards-driven and layered architecture aligned with TM Forum Open APIs and entities providing rapid integration with existing systems in a future-proof and open platform.

* **Flexible deployment models:** SaaS, Cloud Hosted or On-Premise

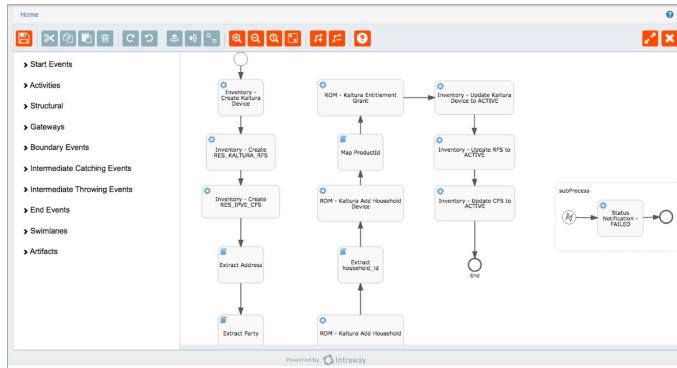
Symphonica Overview and Context



Integrate Faster

Award-Winning No-code Design Studio

Design Studio allows CSPs to create their own workflows and to easily design, configure, deploy, and test services, enabling agile deployments of new products and services without costly and risky software updates and without writing a single line of code.



Pre-built packages

No need to create workflows and connectors from scratch. Symphonica includes a comprehensive suite of pre-built packages to speed up new service launches or roll out new network technologies. Symphonica's quick-launch packages include samples of pre-built activation workflows and network adaptors designed according to the industry best practices. CSPs can adjust these standard connectors to their operations and network using the Design Studio. With Symphonica's pre-built packages, you can start fast and customize later.

Today more than 120 network elements are integrated. For a full list, please visit www.symphonica.com/connectors.

Technology	Vendors
High-Speed Data & Voice (Cable / FTTH)	30+
Wireless Data & Voice (3G / 4G / 5G)	12+
Next-Gen TV (DVB / IP Video / OTT)	10+
Business Services (DIA / L2VPN / Ethernet) & NaaS, SDN & NFV	11+
Network Infrastructure (Small Cells / Open-RAN / Cable DAA)	8+
B/OSS Systems	15+

Bridge the gap between network and IT

Symphonica creates an abstraction between the Business Process and different network variations. This abstraction makes it possible to operate a mixed environment with minimal to no changes to your processes, and minimal to no training for operational personnel. Symphonica allows the lifecycle management of different kinds of services and networks from a single point - Fixed, Wireless, Residential, Business Services, 5G, SDN/NFV, OTT Subscriptions, among others.

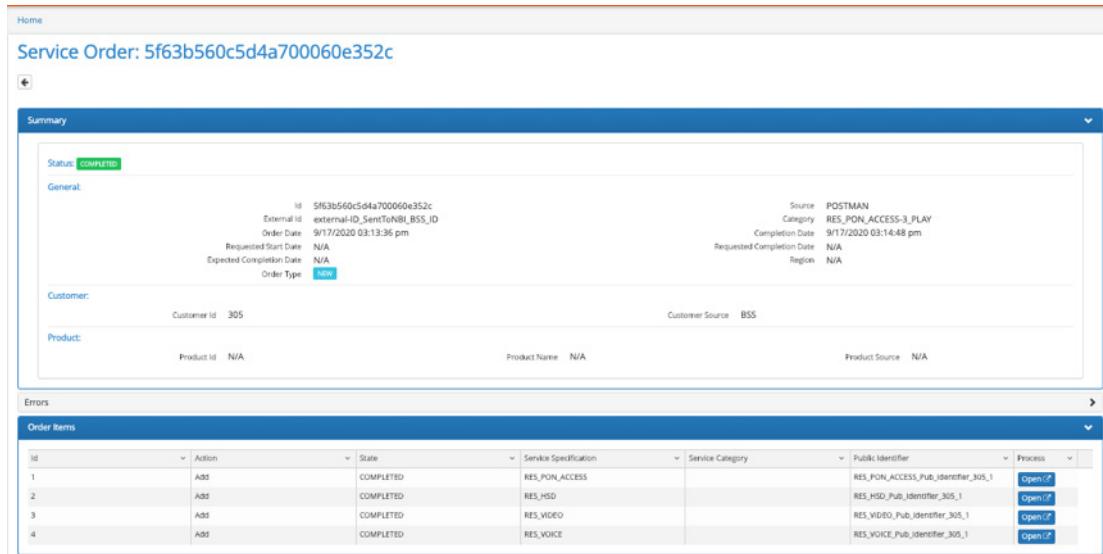
Let Symphonica's automation handle the differences and transitions in the network. Quickly and seamlessly manage behavior differences from one firmware to another, from one platform to another, or from one vendor to another.

Operate Smarter

Real-Time, End-to-End View of the Entire Service

Symphonica's Service and Resource Catalog and Inventory allows advanced catalog-driven orchestration and an end-to-end view of the entire service. The catalog helps decom-

pose customer-facing services into resource-facing services, which are translated into network device commands with all the technical attributes required for the service activation process. All provisioned services are stored on the inventory database, providing an end-to-end view of their configurations.



The screenshot shows the Symphonica Service Order interface. At the top, it displays the Service Order ID: 5f63b560c5d4a700060e352c. The main section is titled 'Summary' and shows the order is 'COMPLETED'. It provides general details like Order ID (5f63b560c5d4a700060e352c), External ID (external-ID_SentToBSS_ID), Order Date (9/17/2020 03:13:36 pm), and Order Type (NEW). It also shows the source (POSTMAN), category (RES_PON_ACCESS-3_PLAY), completion date (9/17/2020 03:14:48 pm), and region (N/A). The 'Customer' section shows Customer ID 305 and Customer Source BSS. The 'Product' section shows Product ID N/A and Product Name N/A. The 'Order Items' section lists four items: 1. HSD (Action: Add, State: COMPLETED, Service Specification: RES_PON_ACCESS, Service Category: RES_PON_ACCESS, Public Identifier: RES_PON_ACCESS_Pub_Identifier_305_1, Process: Open), 2. HSD (Action: Add, State: COMPLETED, Service Specification: RES_HSD, Service Category: RES_HSD, Public Identifier: RES_HSD_Pub_Identifier_305_1, Process: Open), 3. VIDEO (Action: Add, State: COMPLETED, Service Specification: RES_VIDEO, Service Category: RES_VIDEO, Public Identifier: RES_VIDEO_Pub_Identifier_305_1, Process: Open), and 4. VOICE (Action: Add, State: COMPLETED, Service Specification: RES_VOICE, Service Category: RES_VOICE, Public Identifier: RES_VOICE_Pub_Identifier_305_1, Process: Open).

Network-Aware for Close-Loop Automation

Symphonica can receive events from the network and make intelligent decisions on what workflows need to be executed to adjust the network configuration as needed and on-demand. This capability enables automation of close-loop assurance flows, dynamic services, automatically onboarding new devices, or changes on the network topology without impacting end-user services.

Centralized Logs and Metrics to Monitor Operation and Business

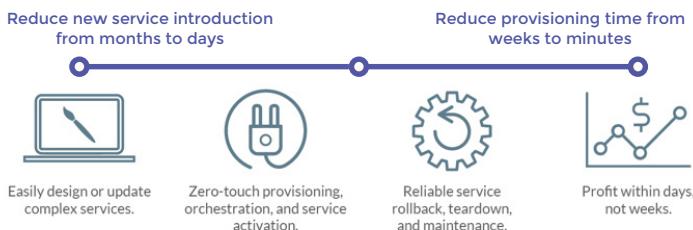
Symphonica provides a comprehensive set of logs, business metrics, and platform performance metrics for real-time monitoring, exportable to an external BI tool for business analysis and process improvement. It also provides a centralized visualization tool for each order, including BPM flow and network commands for troubleshooting.



Highlights

Revenue Acceleration

Enable fast and timely introduction of innovative services such as eSIM, 5G, SLA-Based Dynamic Provisioning, and Virtualized Infrastructure to delight early adopters and become the first mover.



OPEX Reduction

Automation of service order fulfillment results in cost savings in operations and accelerates the volume of service turn-ups by eliminating fallout tasks and associated errors and reworks.

Reduce Complexity

A single unified platform for service order orchestration to reduce complexity in service control, eliminating the burden of dealing with multiple siloed OSS systems and vendor-specific NMS.

Intraway's real-world deployments

Symphonica is widely proven and deployed in every size of CSP, from large multi-country operators to large national networks, to small service providers. It is available in different deployment models that adapt to their needs, from on-premise to cloud hosted to SaaS.

- Network Distributed Architectures Orchestration for Cable and Mobile:** End-to-end activation of physical and virtual elements from the instantiation and configuration of the NFV, including the provisioning of the core, the convergent transport and the access network, the OSS network elements, and finally the provisioning of the remote network element.
- NFV Orchestration:** Implementing ETSI APIs to integrate with the BSS and to the VNF managers.
- Virtual Network Operator Automation:** Orchestrate seamless, on-demand, multi-tenant FTTH services.
- OTT Service Automation:** Simplify the addition of new OTT

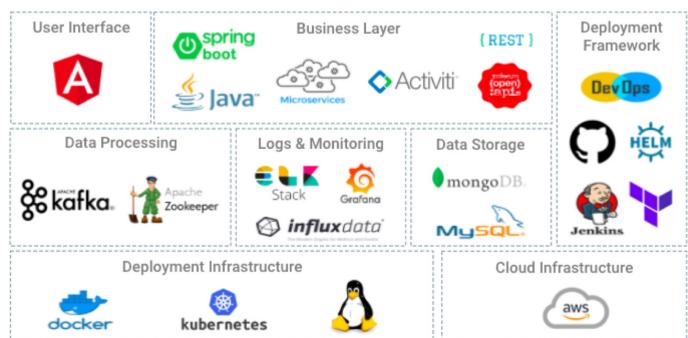
services to your product portfolio through standardized APIs, service and resource normalization, and no-code use cases and integration creation.

Technical Specifications

Symphonica is available in a SaaS, worry-free model or can be deployed cloud-hosted or on-premise.

Symphonica platforms are fully managed using DevOps and SRE practices where both software/application and cloud infrastructure are deployed through automated Continuous Improvement/Continuous Development pipelines.

Open, Scalable, Standard



*Representative sample of current technology stack

- Events-based architecture with Apache Kafka as main broker and RESTful APIs.
- Scalable and cloud-native solution with components based on microservices deployed on Kubernetes.
- Standards-based BPM engine and multi-protocol connectors.
- Web interface with real-time flow execution and centralized logs.
- Built-in standards-based monitoring and alarm system. TIG (telegraf, Influx & Grafana)

APIs Supported

- TMF641 - Service Order Management API
- TMF638 - Service Inventory Management API
- TMF633 - Service Catalog Management API
- TMF639 - Resource Inventory Management API

Start NOW! www.symphonica.com