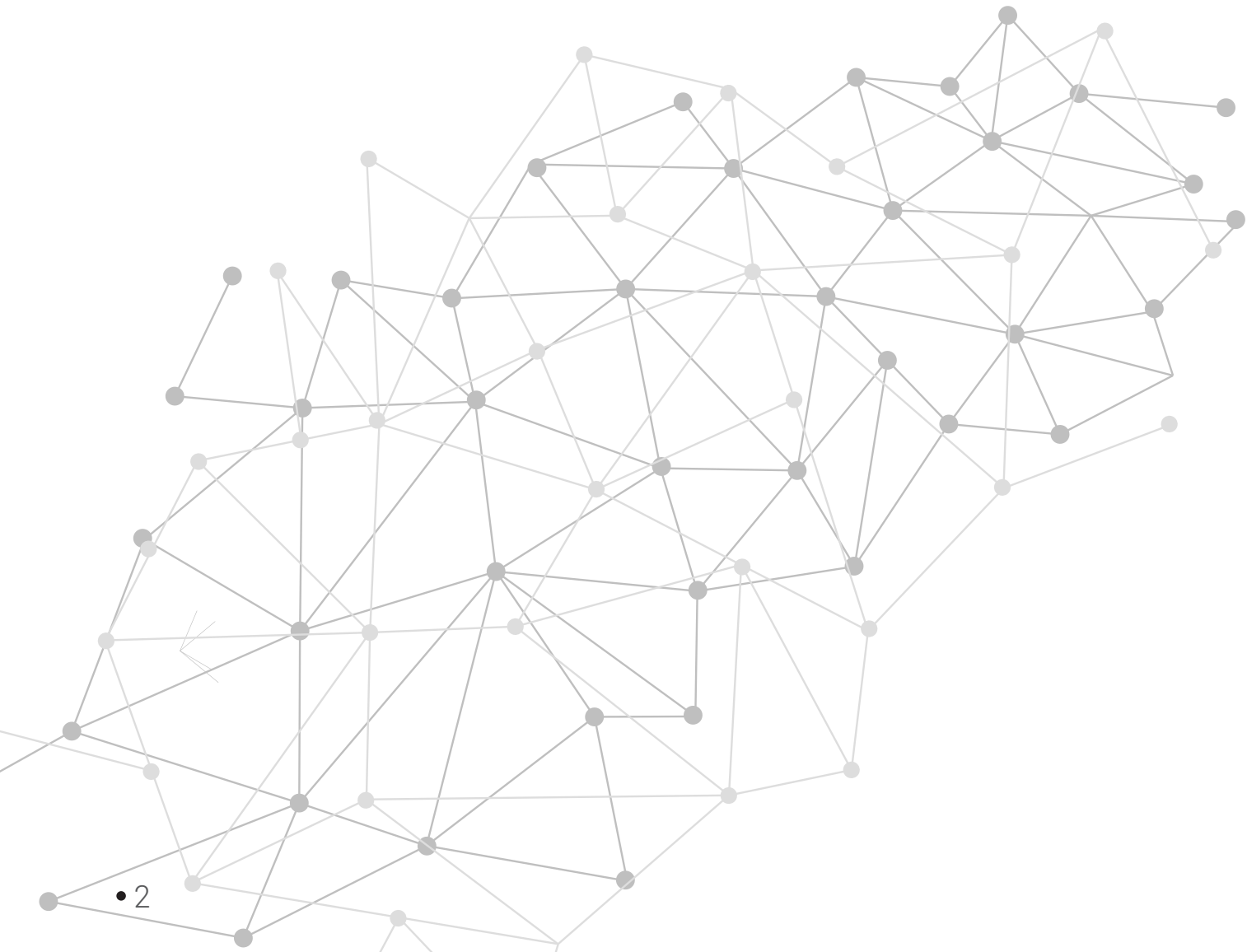
Intraway

# Benefits of Intent-Driven Autonomous Networks



# Benefits of Intent-Driven Autonomous Networks

The world is constantly evolving, and new technologies are emerging to provide solutions to existing problems. In recent times, the business world has experienced a paradigm shift in the way services are offered to customers. This shift is driven by a new approach called Intent-Driven Autonomous Networks (IDAN), which presents a new business model for operators and customers. This white paper explores the concept of Intent-Driven Autonomous Networks and how it is changing the way services are offered to customers.

## The Traditional Service Offering Model

Nowadays, the service offering is usually created by the service provider, and the customer can choose an offer or make a combination as long as they are compatible. In this model, the customer did not have much control over the service, and their only option was to choose from the available offers. This model was based on the operator's supply and demand, where the operator determined the services to be offered and the price.Business logic based on the customer's intentions and desires is changing how services are offered to customers.

## The New Paradigm: Intent-Driven Autonomous Networks

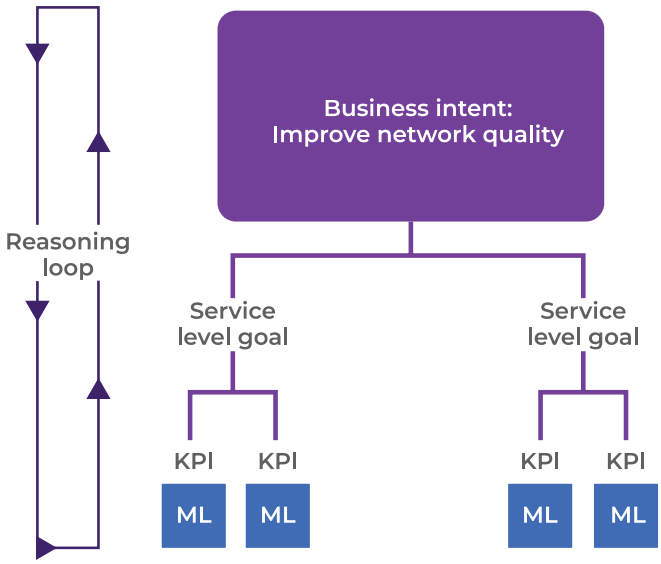
Intent-Driven Autonomous Networks is a new approach that allows users of different services to choose the service price they want. This model is based on the customer's intentions and desires, which is changing how services are offered to customers. In this new paradigm, the user makes the offer, and the operator satisfies the demand. This supply and demand method presents advantages for both parties and introduces a new business model.

## How do Intent-Driven Networks Work?

The first step in implementing an intent-driven network is to define the high-level business intent. This is typically a complex goal, so it is broken down into end-to-end service-level goals and KPIs for each domain and node. For example, in a telecom network, a business's intent might be to configure a particular network topology. More complex intents could include reducing energy consumption or improving customer satisfaction scores.

Once the business intent has been defined and broken down into smaller goals, intelligent agents and machine-learned models are developed based on these requirements. These agents use machine learning algorithms to predict the impact of various actions on the network, allowing for more accurate decision-making.

Finally, when all node-level machine learning agents have provided their predictions, autonomous actions are executed through a closed-loop system based on advanced analytics, automation, and AI. This means that the network can operate autonomously, with human intervention only required in exceptional cases.




# The Benefits of Intent-Driven Autonomous Networks

## Maximizing Network Capacity

One of the key benefits of Intent-Driven Autonomous Networks is their ability to utilize idle capacity within network operator's resources. Typically, network resources are underutilized, with periods of low use resulting in idle capacity. This new model of networking presents the option to transform that unused capacity into income or revenue.

By using intent-based networking, operators can enable users to request specific services based on their needs. The network can then dynamically allocate resources to meet those needs, using previously idle capacity to fulfill requests. This approach allows for more efficient use of network resources, minimizing waste and maximizing overall network capacity.

Furthermore, this model allows network operators to offer new services and capabilities to users, based on their intent. As user needs change, the network can adapt to provide the necessary resources, allowing for more flexible and responsive service offerings.

In addition to improving network efficiency and flexibility, this approach can also have significant cost-saving benefits for network operators. By utilizing previously idle resources, operators can avoid costly upgrades or expansions to their network infrastructure, while still meeting user demand.

## Creating a Competitive Market

Another key advantage of Intent-Driven Autonomous Networks is their ability to enable resellers or brokers to participate in the market. This approach allows for the same service to be offered at the best price, based on user intents and the selection of the best offer/price ratio between different network operator offerings.

With intent-based networking, users have the option to offer the price they are willing to pay for a particular service. This opens up opportunities for third-party brokers to provide a service by searching for the best offer/price ratio between different operators. The broker can then offer the user the best option, reducing the complexity of the integration process and providing a simplified and competitive market.

This approach creates a more competitive market environment, with brokers incentivized to find the best deals for their customers. It also allows for increased flexibility and customization, with users able to select the specific services they require and the price they are willing to pay.

Overall, the ability to enable resellers or brokers to participate in the market through Intent-Driven Au-

tonomous Networks creates a more competitive and efficient market environment. This approach allows for greater flexibility and customization, while also providing benefits for both users and network operators.

## Streamlining Multi-Vendor Integration

Intent-Driven Autonomous Networks not only empower end-users and network operators, but they also enhance multi-vendor integration. This is achieved through the use of standard APIs that have been defined by a multi-operator, multi-vendor catalyst team. By aligning to this new intent paradigm, these APIs focus on easy integration between various vendors and network operators, creating a streamlined approach to multi-vendor integration.

Standard APIs provide a common language for different vendors and network operators to communicate with each other. By using a standardized approach, multi-vendor integration becomes easier, faster, and more reliable. This is because the APIs are designed to work seamlessly with various vendors and network operators, allowing for greater interoperability between different systems.

This standardized approach also reduces complexity in the integration process, making it easier for vendors and operators to work together. By reducing the complexity of integration, this approach can save time and resources, as well as reduce the potential for errors that can occur when working with multiple vendors.

The use of standard APIs in Intent-Driven Autonomous Networks enhances multi-vendor integration, streamlines the integration process, and promotes innovation and collaboration between vendors and network operators. By aligning to this new intent paradigm, this approach provides a common language for different vendors and operators to communicate with each other, creating a more connected and efficient network ecosystem.

# Overcoming the Rise in Network Complexity with Intent-Driven Autonomous Networks and Symphonica

Service providers face a rise in network and service complexity that threatens to outpace their ability to manage, control and assure customer experience, service operations, cost and network performance. Intent-based network automation ultimately will be necessary to overcome this rising complexity and deliver real-time customer experiences and on-demand services flawlessly, as customers have come to expect.

Intraway has delivered the core intent-driven autonomous network (IDAN) solution service providers need to move forward toward zero-touch automated services and networks. As a key contributor to the TMF921 intent management API, Intraway has taken a leading role in the industry to define how systems that automate activation, provisioning, orchestration, and autonomous assurance functions communicate in an intent-driven environment.

Intraway's cloud-native, no-code platform, Symphonica, provides a key piece of intent-driven architecture because it can connect any business system to any network infrastructure, activate any service on any available resource in real-time with zero-touch automation, and rapidly integrate with ecosystem partners to deliver end-to-end IDAN solutions quickly and efficiently.

Intent-Driven Autonomous Networks is a new approach that presents a new business model for operators and customers. This model is based on the customer's intentions and desires, which allows the customer to have more control over the services they receive. Additionally, it enables the use of idle capacity, enhances multi-vendor integration, and allows the participation of resellers. Intent-Driven Autonomous Networks is a game-changer that will shape the future of network services.

Intraway

## Intraway has radically simplified Telecom OSS

With over 40 million subscribers successfully served in more than 20 countries over three continents, **Intraway** specializes in driving fixed-line and wireless operators' Digital Transformation projects with a 100% success rate. Supported by a staff that clients claim is a natural extension of their team, Intraway supports telco cloud initiatives for operators looking to reduce OpEx and migrate BSS/OSS functions to the Cloud.

Our globally deployed, award-winning Business Process and Service Orchestration platform, **Symphonica**, is a no-code, cloud-native, telco-grade orchestration and service activation platform for automating the entire life cycle of services orchestrated across multiple networks and technology domains. Whether Communications Service Providers (CSPs) want to increase agility through automation, modernize their operations or embrace digital transformation, Symphonica has them covered.

**www.intraway.com**

Moving the Telecom Industry to the Cloud