NOSSIS One

altice labs

Enabling Service Operations

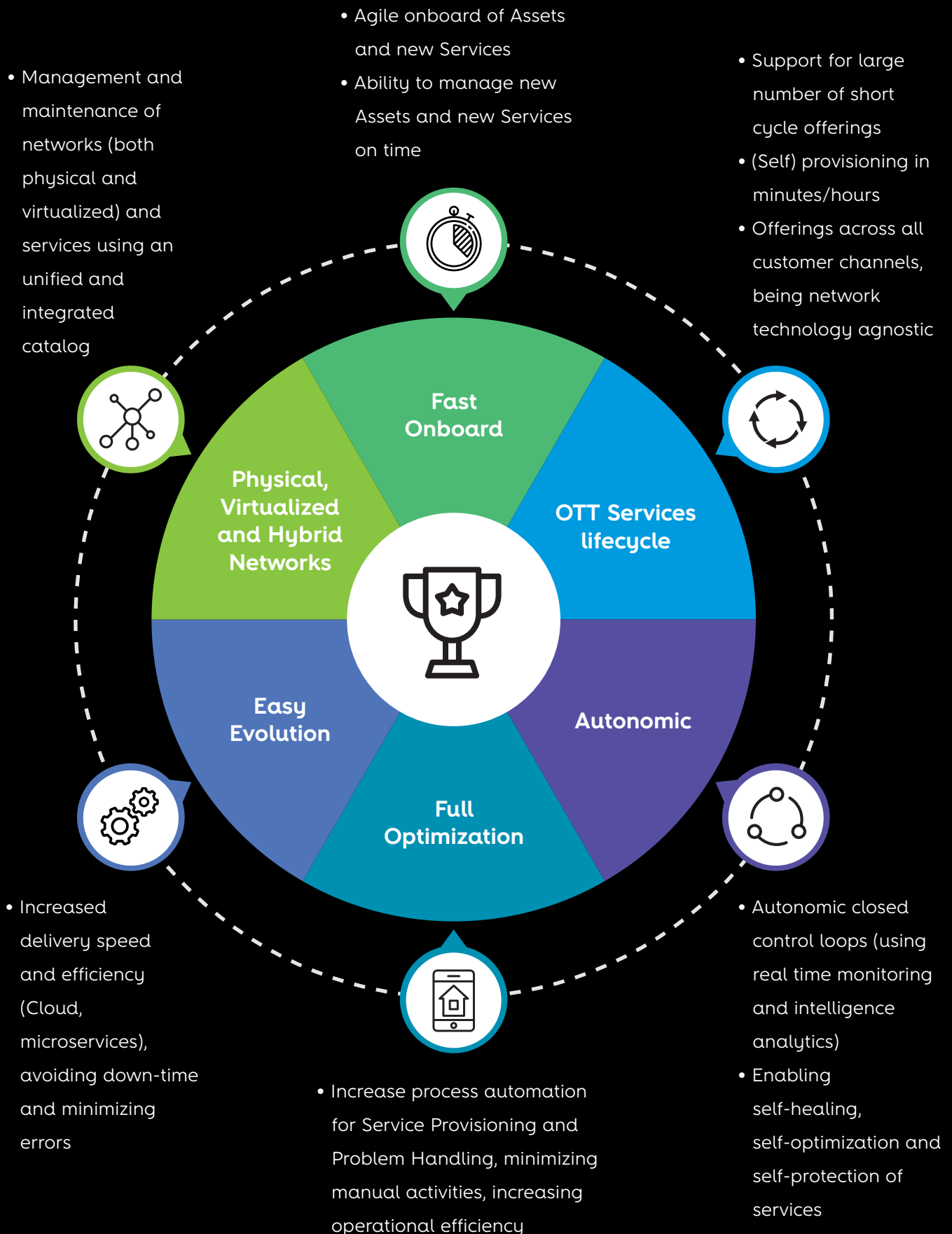# Service Operations Efficiency and Agility

Digital Transformation typically demands radical changes in business and operational approach, impacting several aspects namely IT solutions, processes, resources and culture, demanding a perfect balance between Business Agility, Operations Efficiency and Customer Experience.

Providing Services (being either a traditional CSP or an OTT service provider), supported over virtualized or hybrid networks, demands a highly flexible and lean operational solution, enabling easy and fast client on board for new services.

To be competitive, services must be provided with an exceptional customer experience requiring permanent problem and degradation monitoring, intelligence analytics and closed loop automation decisions (such as self-healing, self-optimization and self-protection) in order to assure expected service quality.

Main challenges

- Agile onboard of Assets and new Services
- Ability to manage new Assets and new Services on time

- Management and maintenance of networks (both physical and virtualized) and services using an unified and integrated catalog

- Support for large number of short cycle offerings
- (Self) provisioning in minutes/hours
- Offerings across all customer channels, being network technology agnostic

Fast Onboard

OTT Services lifecycle

Physical, Virtualized and Hybrid Networks

Autonomic

Easy Evolution

Full Optimization

- Increased delivery speed and efficiency (Cloud, microservices), avoiding down-time and minimizing errors

- Increase process automation for Service Provisioning and Problem Handling, minimizing manual activities, increasing operational efficiency

- Autonomic closed control loops (using real time monitoring and intelligence analytics)
- Enabling self-healing, self-optimization and self-protection of services

What is 'NOSSIS One'?

NOSSIS One is a new generation of OSSs that focuses in Agility, Operations Efficiency and Customer Experience in order to help the operator to achieve the digital transformation.

The core activity of a Service Provider needs to be supported by an open and modular architecture taking part of the Asset to Cash cycle at the Service Operations level (including Network Development, Service Design, Service Fulfillment, Service Quality, Service Problems and Asset Mediation).
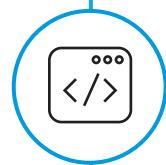
Engeneering Teams

Cloud Management Teams

Operational Teams

Customer Support Teams
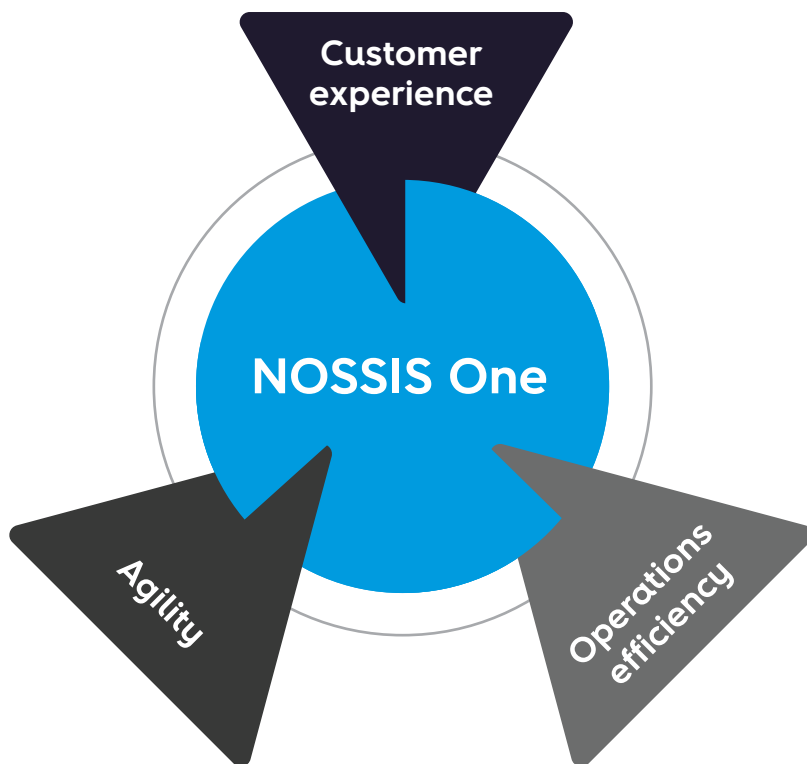
NOSSIS One enables:
- Agility, creating and on-boarding of new product offerings, integrating new assets and services in operation
- Operations efficiency, in order to deliver services to customers in the most cost-effective manner while still assuring and maintaining Customer Expectations
- Better Customer Experience for Customers & Users, across all interaction channels (from service provisioning to service assurance)

NOSSIS One strategic drivers
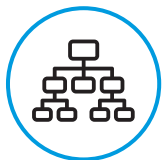
Virtualization
Support the Management of virtualized networks SDN/NFV, including hybrid ecosystems, and the services supported on it.

Agility
Agile onboard of new Assets/Services, in an integrated management approach (with a centralized Catalog based solution), supporting the new digital services, in real-time and enabling Customer Self-Management (e.g. Provision, Care).

Intelligence
Implement analytics and business intelligence supported on Big Data platforms, in order to enable autonomic closed control loops for proactive service assurance (Self-Use Cases).

Architecture
Introduction of microservices (using Kubernetes with docker containers), cloudification (xaaS), exposing normalized APIs and privileging the use of open source.
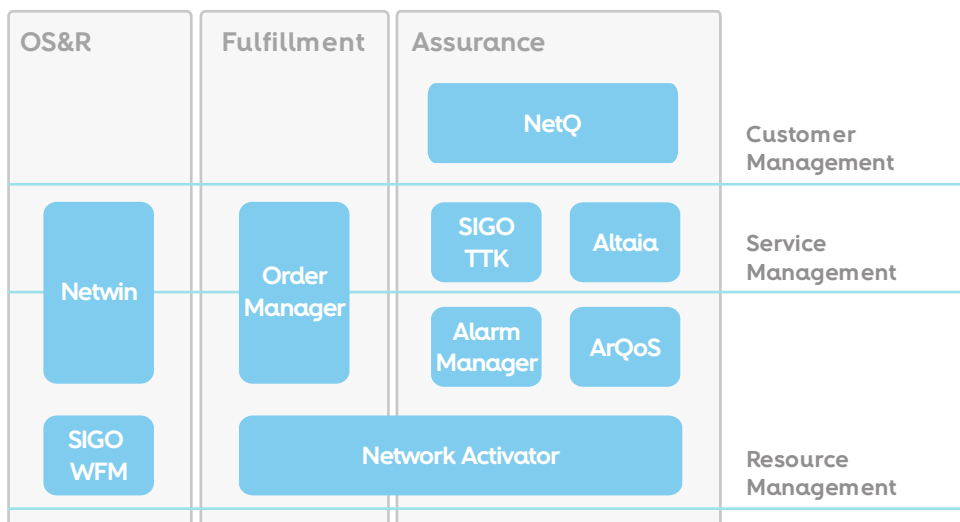
NOSSIS Evolution

The path followed by NOSSIS, with proven experience, using a multi-technology and convergent solution, with a highly process automation approach, is prepared for the new Digital Services and Virtualized Networks, focusing on 4 main evolution stream lines: Architecture, Virtualization, Agility and Intelligence.

With this evolution the solution is prepared for:
- enabling a smooth transition to virtualization while maintaining (physical) multi-technology and business convergence
- guaranteeing end-to-end process automation increasing agility and self-management
- evolution of the internal architectural fabric, being able to respond rapidly to new business challenges
- adopt intelligent analytics, increasing efficiency while boosting new business opportunities
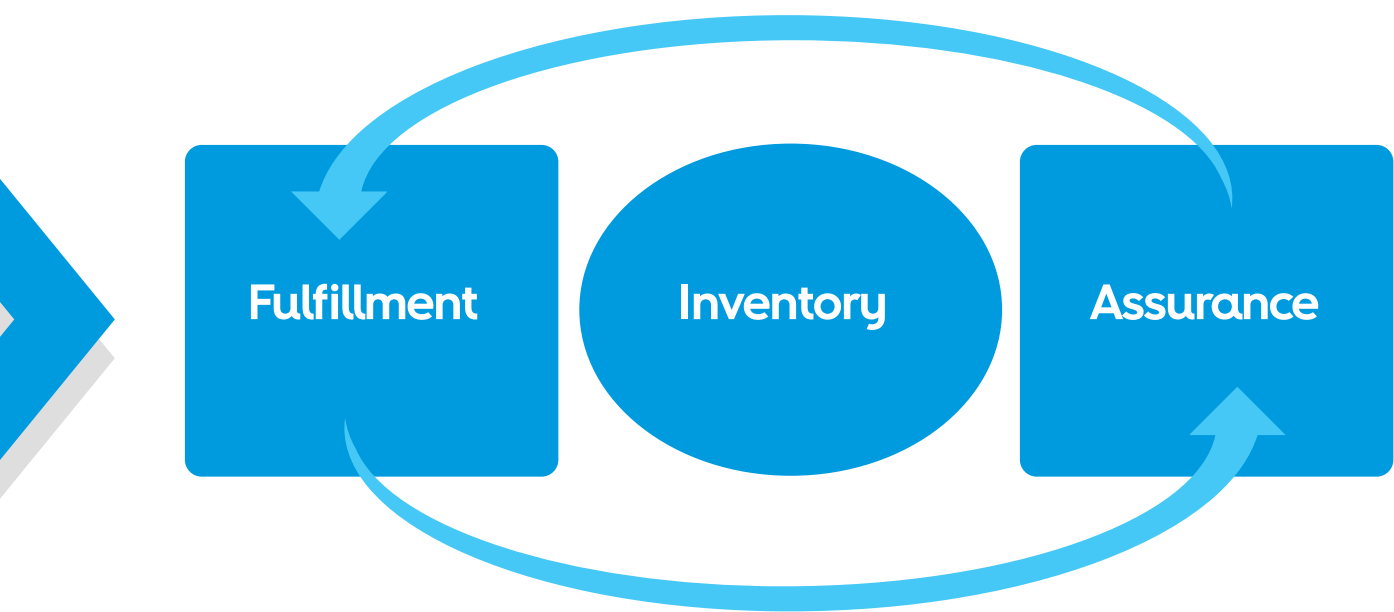
NOSSIS V2

NOSSIS One

Fulfillment

Inventory

Assurance
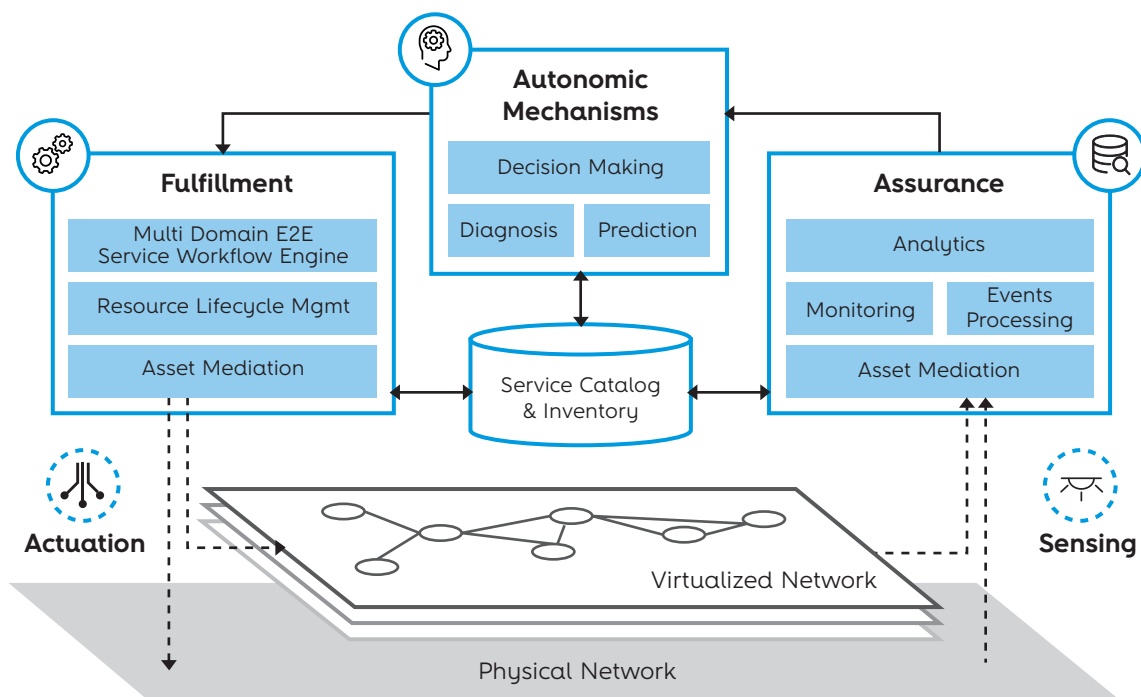
evolution

Architecture

Virtualization

Agility

Intelligence

NOSSIS One main goals

- Unified e2e Processes for multiple technology & business segments (B2B, B2C)
- Hybrid ecosystems support (management and maintenance of traditional and virtualized networks in an integrated way as well as of the services supported on it)
- Autonomic closed control loops, with automated and intelligent self-healing, self-optimization and self-protection of services, to guarantee service availability and maximize Assets usage efficiency
- Intelligent decision mechanisms using data sensing information and knowledge learning for determining actions for self-x scenarios
- Architectural Agility through a Micro services architecture, with a "cloudification" approach and exposure of APIs enabling fast integration
- Unified asset mediation to integrate with the resource and service assets independently of technologies and vendors, either for actuation and sensing
- Ability to promote the excellence in operational efficiency, reducing costs while increasing speed and agility for new service creation and high automation of service provision

Enabling smooth evolution from Physical to Virtual...

...Always sensing, learning and acting

NOSSIS One provides the capabilities to implement Autonomic & Intelligent Mechanisms:

Sensing: collection of service and network conditions from all layers (Physical NE's, Virtual Infra, SDN Controllers, ...) to feed assurance activities

Analysis: Near Real Time and Non Real Time Analytics: crossing network information with other sources, creating service and network health information

Decisioning: Intelligent Decisioning Mechanisms determine actions for self-optimization, self-healing, self-protection, etc.

Actuation: Fulfillment process e2e orchestration with service configuration & activation actions transversally over physical NE's, Virtualized Network Functions, Virtualized Infrastructure Managers (VIM) and SDN Controllers

NOSSIS One benefits

- Enables Business Agility at the Engineering and Operational level, increasing process automation and self-management (provisioning, problem handling)
- Contributes to enhance Customer Experience with real-time intelligent analyses, "closing the loop" from Assurance to Fulfillment (Self-Use Cases)
- Simplifies the "Order-to-Cash" stream line, by technology consolidation and integration, reducing CAPEX and OPEX for this IT stream
- Supports the smooth evolution from traditional CSPs to new Digital Services, with a non-disruptive roadmap approach
- Converges both physical and virtual networks and services, through an unified solution for multi-technology and business (enabling the evolution to network slicing management)

NOSSIS One is responsible for a complete set of operational processes that covers the main activity cycles, providing agility with fast delivery tasks, contributing to enhance customer experience. NOSSIS takes part of On-board processes, enabling rapid and automated creation of new services with a centralized and open technical catalog. Provides full support for Building new assets, from complex project execution activities, with manual development tasks, to more lighter and agile digital configuration automation activities. Is responsible for the Technical Provisioning of Services, in an integrated and automatic way, exposing standard APIs for rapid integration. Completes the Operational cycle with a wide set of Assurance activities, both for the fault and problem management area, and for the quality and performance management area.

This operational cycle is boosted through an agile architecture that is build based on microservices, exposing open and generic APIs, able to cope with any type of service and technology, and prepared fast and efficient implementation cycles.

Enhancing Customer Experience...

...through an agile operational cycle

On-Board

Build

Provide

Assure
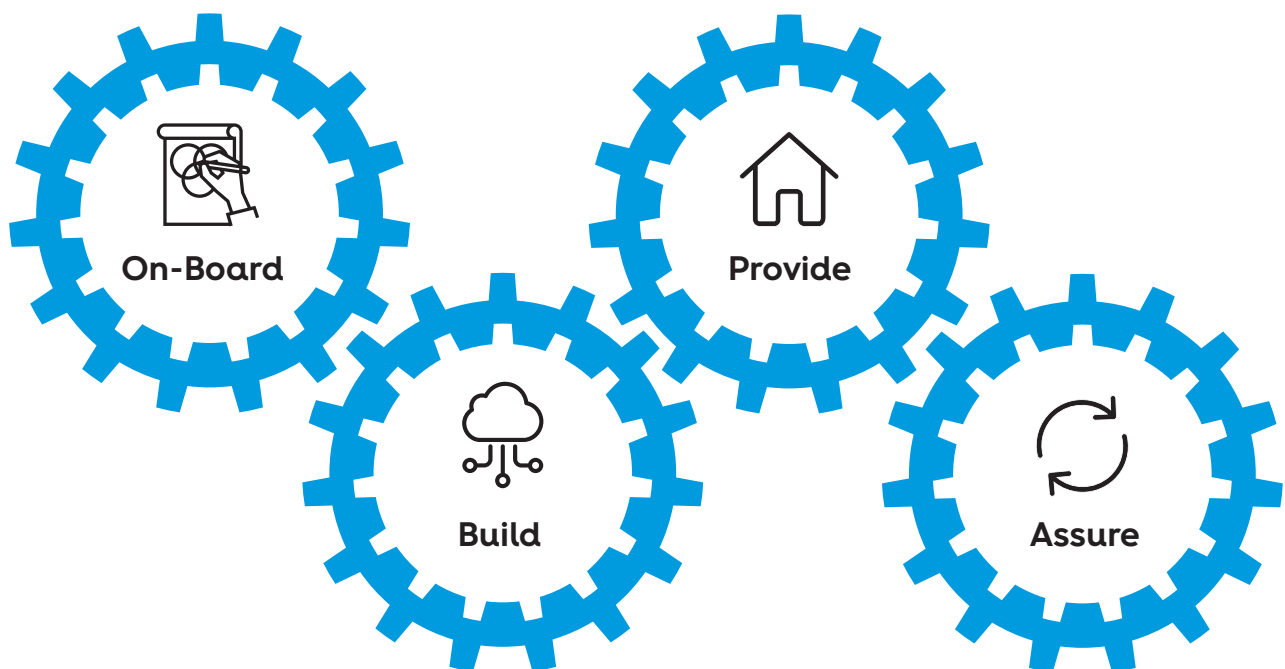
Inventory

Centralized and unified Catalog to support all Services and Assets (traditional CSP and Digital Services) enabling agile on-board of new service offers.

Intelligent Network Development support tools whenever new (physical) infrastructures are needed, increasing Operational Efficiency.

Dynamic Inventory with on-time up-to-date information, supporting new virtualized networks and providing real-time data, exposing APIs to be used by all operational activities and automated processes.

Main features

Unified catalog

Support the Assets and Services' catalog enabling the specification of the needed artifacts for its management

Intelligent network development

Tools for Network design and development, supporting surveys and project design over GIS maps and also the control of development tasks

Dynamic inventory

Physical and logical multi-technology inventory (indoor and outdoor), supporting traditional, virtualized and hybrid networks, including logical information of network and services

Fulfillment support

Reservation and allocation of Assets for Service provisioning

Capacity management

Monitoring capacity availability for physical and logical Assets

Network discovery and reconciliation

Network discovery by integration with Asset Mediation functions and complemented with Inventory data reconciliation

Integration ability

Expose Assets/Services inventory information through external APIs in order to be used as the master inventory

Benefits

✓ Agility to onboard Assets and Services in hours/days, enabling fast design and publishing of new digital services

✓ Enables service provisioning automation and self configuration cycles, providing real-time and accurate inventory information

✓ Unified inventory management for both physical and virtual Assets and Services

✓ An end-to-end view of services and service relations to all relevant assets

✓ Integrated support of Services, either for "traditional" Communications Services and Digital Services

✓ Guarantee accurate inventory information using network reconciliation processes

✓ Full agnostic to business and technology

✓ Ability to expose generic APIs, making simple the integration to other systems

Fulfillment

Fulfillment is designed to cover E2E activities starting from a Customer Order (coming from customer requests via self-provisioning portals or other customer channels), covering automatic and manual activities (when needed) up to the correct delivery of a service or group of services (bundle), including the new Digital Services.

Future proof client provisioning cycle, complemented with lighter fulfillment cycles for automated closed loop operations when agility is needed (including self-use cases), supporting the new virtualized networks.

Relies on a modular architecture enabling fast on-board for new services, using exposed APIs enabling OOTB integrations.

Main features

Design of provisioning flows

Process flow definition and edition, supporting manual and automatic tasks

Order decomposition

Support orders for both individual or bundle of services, assuring order enrichment based on service catalog and breaking down requests into elementary activities

Service activation plug-ins

Multi-service/Multi-technology mediation and activation configurable by technology

Service test ability

Ready for Service (RFS) test verification

Provisioning execution and monitoring

Real time and scheduled processes, with E2E orchestration across network (physical or virtual), supporting also bulk order provisioning and Change Management (Work Orders) for Manual Tasks

Self-mechanisms

Enables Automated and Autonomic Management processes, implementing policy based decision making

Device management

CPEs Auto-configuration, auto-repair and self-healing, ready for NFV vHGW / vCPE, etc.

Benefits

Speed up the Onboard of new (digital) services

Improve efficiency enabling closed loop actions,, assuring automated reconfiguration of services and promoting efficient use of available assets

Enable 'Consumerized' Experience, supporting full automated (self) provisioning processes, supporting fast provisioning

Scalable solution and redundant architecture that grows with the business

Quick introduction of new technologies, network elements and virtualized components, using configurable orchestration plug-ins

Keep simple the integration with other systems, through the ability to expose generic APIs

Assurance

Assurance covers all processes and activities for problem management (promoting self-care customer interactions for agility) and quality of service areas (including real-time monitoring and analysis), targeted for the new Digital Services.

Assurance cycles with increasing near-real-time monitoring (supporting the new virtualized networks) and intelligence analytics for automated closed loop decisions (including self-use cases), enhances Customer Experience and Operational Efficiency.

Using Big-Data architecture enables efficient, scalable and on-time decision making and actions.

Main features

Fault management

Alarms monitoring, acquisition and display (for different types of equipments and technologies) processed through advanced alarms suppression, filtering and correlation mechanisms

Problem management

Management of all operational tickets, strongly auditable, with notifications to all involved parties and providing automatic corrective actions

Tests and diagnostics

Tests execution ability to support Service Diagnostics, based in plug-ins available for the NEs/Service Platforms. Remote corrective actions and guided helpdesk workflows available, to be used in the context of a customer complaint

Quality of service

Performance, QoS and QoE real time monitoring through KPI/KQI indicators, supported on Big Data information

Analytics and self-mechanisms

Analytics, predictions and full automated intelligent decision processes, enabling self-mechanisms and autonomic closed control loops

Benefits

✓ Quick introduction of new service types for Quality monitoring and new technologies, network elements and virtualized components, using configurable plug-ins

✓ Strong Analytics component, promoting Self-healing, Self-Optimization and Self-Protection mechanisms

✓ Reducing maintenance times and costs, based on accurate and real-time information

✓ Increase business' efficiency, detecting problems in real-time before the costumer complains

✓ Trouble Ticket management with real-time feedback on the progress of corrective work and network availability

✓ Increase end customer satisfaction levels, by testing and monitoring resources to ensure SLA compliance

✓ Improves problem resolution, with fast and accurate problem diagnosis

✓ Keep simple the integration with other systems, through the ability to expose generic APIs

NOSSIS One enabling the service operations for the digital era...

NOSSIS around the world

USA

Dominican Republic

Outremer Territories

France

Portugal

Morocco

Cape Verde

S. Tome and Principe

Angola

Brazil

Botswana

Israel

India

Outremer Territories

Macau

East Timor

Our services

We are aware of the operations' importance in your business, so we provide services to help you run them smoothly and effectively. With a vast experience in OSS business, we provide the best practices in the market to improve your operational response.

Consulting
- Analysis of best practices regarding operational processes;
- Planning strategic and transformation processes;
- Improving network performance and quality.

Support and maintenance
- Global and local support;
- 24h/7 helpdesk care service;
- On site operations assistance experts.

Deployment
- Project management;
- Design, development, integration & test, go-live and roll-out.

Training services
- Classroom and e-learning packages;
- On-site "hands on" training.

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About Altice Labs

Delivering key telecommunications technologies since 1950, Altice Labs has been shaping the future of technology, enabling Communications Service Providers and Enterprises to offer advanced and differentiated services to their customers and users.

Altice Labs is an innovation and transformation catalyst supported on a strong and dynamic Innovation Ecosystem. Through technology, we are committed to improve people's lives and the way in which companies do business.

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