Nokia Service Management Platform

Release 19

The Nokia Service Management Platform (SMP) is an omni-channel workflow solution for Telco customer service. It uses Bell Labs machine learning driven workflows to solve customer issues faster. SMP enables market proven use cases in the areas of home, mobile and field care and is helping address KPIs such as average handling time, first call resolution and truck rolls.

Nokia SMP is the cornerstone of successful omnichannel customer care solutions for home, mobile, Internet of Things (IoT) and enterprise devices and services. It helps CSPs adopt care processes that deliver the highest possible customer satisfaction at the lowest possible cost.
SaaS support extends market footprint by enabling new sales channels, business models and target customers.

Key benefits

• Optimizes customer experience with analytics-driven Proactive Care workflow execution to resolve problems before they affect customers
• Implements an omni-channel solution for workflow-guided troubleshooting in which the multiple care channels are aware of the tasks that have been performed in other channels, lowering customer and agent effort.
• Increases first call resolution (FCR) and reduces average handle time (AHT) by offering guided problem triage, troubleshooting and resolution workflows to call center representatives (CSRs), subscribers and field technicians seamlessly across multiple channels, including interactive bot channels such as Facebook Messenger and Amazon Alexa and Google Assistant.
• Provides common orchestration for all devices and all services across all channels—call center, self-care, the field workforce and third-party applications can utilize normalized APIs without the need to have knowledge about underlying systems or devices.
• Reduces IT and care costs with agile and easy service modeling and UI development for advanced service troubleshooting and management logic across key elements of the existing service delivery ecosystem.
• Offers pre-built care “enablers” which reduce the time to market to deploy service management applications by allowing flexible creation and customization of end-to-end care use cases.
• Uses emerging technologies such as: artificial intelligence (AI), machine learning, speech recognition, natural language processing (NLP), natural language understanding (NLU) and bots to enhance the delivery of omni-channel customer care.

Key features

• Omnichannel service modeling and management of business logic, which render unified and relevant content to different audiences as well as a consistent user interface across channels and devices
• Fully configurable, extensible and customizable Customer Service Portal for call center agents, including pre-built dashboard containing technical troubleshooting widgets, detailed omnichannel customer troubleshooting history, and customer-centric network map highlighting device diagnostics and available device operations
• Service Portal Framework and Site Builder tool for creating custom care portals for IoT operations, enterprises, and other care applications
• Drag-and-drop interface that makes it easy to build and deploy advanced interactive and business process workflows
• Dynamic Intelligent Workflows that drive actions with highest predicted resolution for a customer at the time they call or use self-care
• Proactive Care using automated processes which execute Prescriptive workflow actions driven by recommendations from Nokia Home Analytics (HAL) and Nokia Access Network Analytics (ANA)
• Digital Engagement Bot is available as an optional module to provide interactive bots over natural language social channels for autonomous self-care
• Intelligent Care Assistant is available as an optional module to provide integration with salesforce.com.

SMP provides a robust framework:

• New data source adapters for underlying systems to gather the information required by models
• Multiple tools for development of Service Operations for OSS/BSS integrations, including Model Builder and Overlay Builder, Java Service Operations, and Node-RED which enables integrations without the need for writing code
Detailed features

Customer Service Portal

• Reference Customer Service Portal implementation designed by Nokia UX professionals in consultation with Telecom call center agent users

• Agent dashboard designed for efficiency and ease of customization
  - Account information widget provides a concise, targeted summary of the subscriber’s account
  - Health check widget provides a summary result of automated diagnostics of the subscriber’s home network and fixed or mobile services
  - Troubleshooting widget to organize and launch troubleshooting workflows
  - Speed test widget to test subscriber’s home broadband upload and download speed
  - Network map widget shows a health summary of the network from the subscriber’s perspective; ISP service, CPE, home network, and user devices
  - History widget provides a concise omnichannel summary of the subscriber’s troubleshooting sessions
  - Agent can enter and save categorized notes for the current subscriber session

• Health check page shows detailed diagnostics results, to guide the CSR on how to proceed in troubleshooting and resolving the subscriber’s issue

• Network map page shoes a detailed map of the customer home network, so that the CSR can understand exactly where there are issues impacting the customer, and can launch device operations for specific subscriber devices

• History page provides a detailed summary of past troubleshooting sessions, including the actions taken and the problems found and resolved

Service Portal Framework

• Nokia SMP provides a Service Portal framework for development of customer care and operations portals

• Provides a framework using react.js and library of UI components to create and customize portal sites and widgets

• Site Builder tool to define the portal sites and widgets
  - Configure branding, logos, color, icons for portal sites and widgets
  - Define role-based access control of sites and widgets
  - Upload portal site definitions to SMP along with the care application content

Solution Enablers

• SMP comes pre-integrated with other Nokia software applications to keep project timelines as short as possible and enables reuse of Nokia’s expertise in various domains:
  - SMP leverages Nokia’s Home Analytics to expose KPIs, KQIs & recommendations into the customer care process
  - It uses Nokia’s Network Analyzer for an efficient diagnosis of the access network
  - SMP integrates with Nokia’s IMPACT & HDM platforms for providing visibility into the home network
  - It can be pre-integrated with Salesforce Service Cloud for additional case management and CRM functionality.

Integration Framework

• Integrated data aggregation layer and integration framework to handle communication with a multitude of southbound systems, which separates the development of integration components from the care process

• Lowers customer effort to integrate APIs with OSSs/BSSs for end-to-end service management
• A Node-RED tool allows Service Operations to be built using a graphical tool without the need for software coding.

• API gateway provides features for API translation and throttling.

Workflow Builder
• Intuitive, drag-and-drop GUI for the creation, testing and deployment of customer care and service troubleshooting workflows, and business process workflows

• Out-of-the-box palette of Flow Control, Control Transfer, Display and Device/Service Operation objects

• Automatic discovery of device and service operations created in Nokia SMP

• Instantiation of customer support and guided troubleshooting processes into interactive workflows across various channels, such as assisted and self-care, and field technicians

• Easy creation of complex service models that combine device and system configurations and dependencies with business logic to execute a task, function or operation, such as service activation, problem diagnosis or remediation.

Dynamic Intelligent Workflow
• Automatically adapts to changes impacting guided troubleshooting, such as the introduction of new devices and firmware versions during the execution of a workflow; it is based on Bell Labs machine-learning algorithms

• Pocket of Flexibility enables the specification of a section of workflow for which the execution path is determined at runtime to solve a customer issue in the shortest possible time

• Next Best Action engine selects the next best action to execute (based on historical data) by choosing activities in the Pocket of Flexibility that have the highest probability to resolve a customer problem or fill a request in the shortest time.

Automated Test Framework
• Enables workflow developers and project teams to automate testing of workflow projects, avoiding time-consuming manual testing and improving quality

Digital Engagement Bot SMP Module
The Digital Engagement Bot Module allows service providers to bot-enable their existing SMP system.
Built in plug-ins for Facebook Messenger, Google Assistant and Amazon Alexa channels

• APIs to create plug-ins for new interactive bot channels

• Built-in NLP plug-ins for Google Dialog flow and Microsoft LUIS

• APIs to create plug-ins for other NLP engines, with support for Intents and Entities

• Action framework APIs to integrate workflow and non-workflow action types

• Integrated Bot Builder tool which allows a developer to specify and test interactive bot use cases and actions, configure Natural Language Processors, and bot channels

Intelligent Care Assistant SMP Modules (for Salesforce)
SMP enables troubleshooting through the Salesforce Service Cloud with a joint application called the Nokia Intelligent Care Assistant:

• Salesforce service cloud

• Case management including history

• Next best action workflows across technology domains and channels

• Proactive workflow execution and recommendations

• Networks and device insights including network map and health checks

• Reports and dashboards

• Mobile app for field services for field services testing, diagnostics and resolution.
Technical specifications

Deployment options
- Traditional deployment on bare metal servers
- Traditional deployment on virtual machines
- Containerized deployment on bare metal servers using Nokia Container Management
- Containerized deployment on OpenStack, AWS, or VMware using Nokia Container Management
- Virtualized Network Function deployment on Nokia CBIS 19

Platform requirements
- Red Hat® Enterprise Linux® 7

Nokia Customer Care family of products

Nokia Autonomous Customer Care delivers the best in customer experience with award-winning solutions that have delivered over €3B cost savings to our top ten customers. We are the global leader in home, mobile and Internet of Things device and service management solutions that simplify provisioning and care processes and achieve the following ROI:

- More than 1.5 billion devices managed
- Approximately 1 million CSRs supported
- More than 2.5 billion workflow executions per month
- More than 10 million self-service sessions per month

Our portfolio consists of:
- Service Management Platform
- Home and Access Analytics
- IMPACT device manager

Learn more about the Nokia Customer Care portfolio at: https://networks.nokia.com/solutions/customer-care

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Document code: SR1905035246EN (June) CID200420