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Amdocs Openet Policy Controller

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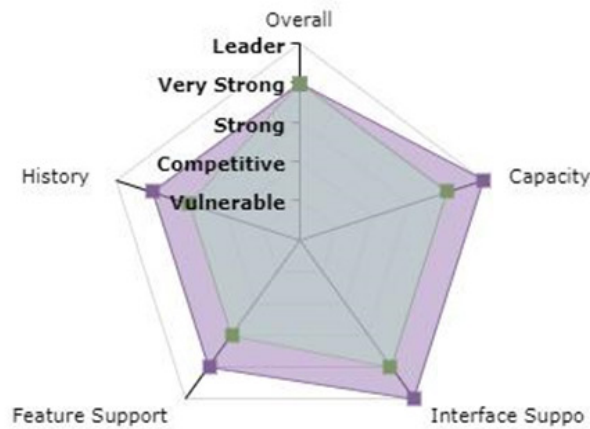
PRODUCT ASSESSMENT REPORT - POLICY CONTROL

REPORT SUMMARY

Amdocs has made its recently acquired Openet Policy Controller (OPC) its lead product in the area. OPC is a strong cloud-native 5G PCF, but should expand into converged 4G/5G operation as well as intent-based networking.


SUMMARY

Product Ratings



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 Amdocs Openet Policy Controller

 Product Class Average

WHAT'S NEW

- **February 2021:** The A1 Telekom Austria Group selected Amdocs for online charging and policy control, with the policy component to be deployed in Austria, Croatia, North Macedonia, Serbia, and Slovenia.
- **November 2020:** AT&T selected Amdocs' Openet 5G Monetization solution, citing potential new 5G services such as gaming, mobile AR/VR, vehicle-to-vehicle (V2V) communications, and remote health.
- **August 2020:** Amdocs completed its acquisition of Openet to enhance its 5G charging and policy portfolio, for \$180 million in cash. In addition to its real-time policy, charging, mediation, and data management assets, Openet will help diversify Amdocs' revenue base, which is dominated by North American accounts.
- **June 2020:** Openet launched Openet Policy Controller (OPC) 2.0 as the latest version of Openet's 5G policy management system available on AWS and Microsoft Azure public, hybrid, and private cloud; since the announcement Openet has also introduced support for Google Cloud Platform.
- **Q2 2020:** A Tier 1 North American CSP selected OPC for policy control.
- **February 2020:** Amdocs introduced its 5G Slice Manager solution, designed to help CSPs monetize emerging capabilities such as network slicing and edge computing. The solution addresses the complexity that network slicing introduces in slice modelling and design, slice automation, and orchestration and slice operation.

PRODUCT OVERVIEW

Product Name	Amdocs Policy Solutions	
Description	<p>After its acquisition of Openet, Amdocs has made the Openet Policy Control the center of its policy roadmap. OPC is a cloud-native 5G PCF, with a converged 4G PCRF planned for early 2021. It supports containers on VMs, bare metal, and private/public/hybrid clouds, and offers a mature self-service policy creation and management interface.</p> <p>Amdocs will continue to support existing implementations of APC for all those customers that wish to retain it. In the long term, Amdocs will bring both products together into single product line.</p>	
Components	<ul style="list-style-type: none"> • Openet Policy Controller 2 (OPC) • Amdocs Policy Controller (APC; for existing customers) 	
Key Customers	<ul style="list-style-type: none"> • A1 (Austria, Croatia, North Macedonia, Serbia, and Slovenia) • Claro (Brazil, Chile, Colombia, Dominican Republic, and Puerto Rico) • Internet Initiative Japan • INWI Morocco • Iridium • Liberty Global • NTT DoCoMo • Optus (Australia) • Orange Egypt, France, Slovakia, Poland • SaskTel 	<ul style="list-style-type: none"> • Singtel • SoftBank • Sri Lanka Telecom • Telekom Austria Group • Telkomsel • TracFone • UScellular • Viasat • Vodafone Ziggo (Netherlands) • YahSat

Key Rivals

- Cisco
- Ericsson
- Huawei
- Nokia
- Oracle
- ZTE

ESSENTIAL ANALYSIS**Strengths**

- **Easy Service Plan Creation:** Based on Google Material Design patterns, the OPC's self-service interface is designed to be easy to use by non-engineers, including a GUI-based policy design toolkit and substantial pre-packaged, configurable service plans.
- **Strong PCF Momentum:** The Openet acquisition brings substantial deployment expertise in cloudified policy control, including the PCF necessary for 5G SA networks.
- **Tight BSS Integration:** Unsurprisingly, Amdocs is strong at Northbound interfaces into billing and charging systems, supporting multiple APIs as well as integrated configuration management. Policy and charging integration is vital to 5G monetization.

Limitations

- **PCRF/PCF Integration, but Not Convergence:** Designed to operate in tandem with an existing 4G PCRF, OPC's 5G PCF does not yet have a converged PCRF component, although Amdocs is porting APC services into OPC.
- **Lagging Intent:** Although Amdocs has integration with all major network equipment vendors' gateways, its policy offerings are not as advanced as its network-centric competitors in integrating policy and orchestration to enable intent-based networking.
- **Up for Review:** When a product's roadmap is disrupted, it will often trigger a vendor review at SPs where it is installed. Amdocs will have to defend its policy incumbency at all carriers that run APC.

CURRENT PERSPECTIVE**VERY STRONG**

Amdocs is very strong in the policy control market. Having acquired Openet in August 2021, Amdocs has now named OPC its primary policy control product while it continues to support its APC install base. OPC is a cloud-native policy product centered on the 5G PCF with a promising early install base, strong self-service rule creation and management capabilities, and tight integration with charging.

OPC is designed for the 5G and edge computing era, when operators prefer microservices to virtual network functions because they instantiate much more quickly and demand fewer resources. It supports containers on VMs and bare metal, and is designed to run on private and/or public clouds, or a mix of the two. Amdocs says that OPC can run on AWS, Microsoft Azure, and Google Cloud Platform.

Built on top of this cloud-native architecture is a strong suite of policy creation and management capabilities, including APIs and a self-service policy creation and management interface based on Google Material Design patterns. Amdocs also includes pre-defined service plans including data gifting, multi-device sharing, congestion management, fair usage, bandwidth on demand, application service passes, roaming service passes, device type policy, video optimization, dual personas (BYOD), content bundles and controls, sponsored data, real-time contextual offers, parental controls, tethering management, and some early slicing support in IoT QoS and slice management and URLLC QoS and slice management.

For mobile operators that will be operating 4G in concert with 5G for several years- which is to say, most mobile operators- Amdocs has included standard interfaces that can be used to integrate its PCF with existing PCRF implementations. Since 4G will play an important role in most 5G networks (enabling voice communications and mobile data fallback where 5G new radio is unavailable), however, many will want a converged PCRF/PCF product that uses the same rules and interfaces, and that smooths the gradual migration of users and services to 5G. Amdocs recognizes this need and says that it plans to introduce converged PCRF in H1 2021.

COMPETITIVE RECOMMENDATIONS

PROVIDER

- **Lean on ONAP Expertise:** Policy control is usually associated more closely with core network evolution than with network management and orchestration, but Amdocs should make the most of its experience as an ONAP champion to pitch the benefits of close policy/MANO integration. It should continue to develop automation and make sure that its policy engine keeps pace with virtualized services.
- **Bask in the BSS Spotlight:** Policy and charging are joined at the hip, so Amdocs should continue to strengthen its BSS/policy integration, for example in its Value Plane solution and unified product catalog. By adding additional resources in enterprise services in particular, Amdocs can construct an even more compelling use case portfolio.
- **Demonstrate Agility Benefits:** In the last few years, Amdocs has bet on CI/CD, design thinking, microservices, and other fundamentals of agile development. It should work to demonstrate that these new ways of working lead to top- and bottom-line benefits.

COMPETITORS

- **Intentions for Intent?:** Despite its strengths in orchestration and policy, Amdocs has not yet ventured very far into intent-based networking. Although this concept is still fairly nascent on the carrier side and is discussed more by network equipment vendors than IT vendors, competitors should show off their evolving capabilities in this area.
- **Emphasize Multi-generational Support:** Even though Amdocs plans a converged PCF/PCRF in 2021, vendors like Huawei and Nokia that already offer multigenerational policy control should counter Amdocs' concept of 4G/5G bridging with their own plans for easier operations and migration.
- **Call Network Credentials into Question:** Cisco, Ericsson, Huawei, and Nokia should combat Amdocs' improved network policy use cases by emphasizing where their own policy suites have stronger integration with network control for functions like congestion management or video optimization.

BUYERS

- **Ascertain Cloud Ties:** While few telcos have so far deployed policy control on the public cloud, the shift to cloud-native architectures and the rise of edge computing makes the public cloud proposition more compelling. Early adopter operators should dig deep into Amdocs' claims as well as those of its competitors to determine whether the public cloud implementations of policy control a) work as advertised, and b) support real-world hybrid cloud implementations.
- **Use OPC for Digital Guinea Pigs:** As with Telkomsel's work with Openet, some large telcos are using new sub-brands to prove out modern, cloudified stacks as well as the agile working models they are meant to enable. Telcos should put OPC on their short lists as they look to establish their own cutting-edge offerings like by.U Indonesia or Verizon Visible.

- **Prepare to Slice the World:** Carriers should evaluate Amdocs' as well as competitors' rule creation interfaces not only for their ability to enable policy management by non-engineers, but also for their ability to fit into end-to-end network slice and service design, and **eventually to enable end-user self-service** as well.

METRICS

PRODUCT CONFIGURATION & CAPACITY

Rating:	Leader
Product/Series Name and Release Number:	OPC 2 (currently at 2.6) for 5G and previous generations via converged policy platform; (with maintenance of earlier Bridgewater / Amdocs PCRF as needed)
Hardware Platform Support, If Relevant:	Openet OPC is containerized and fully cloud-native. It supports containers on bare metal, containers on VMs and containers on CaaS / cloud (including various forms of private, hybrid, public, and multi-cloud).
Virtualized/Cloud Platform Support:	No response provided
Public Cloud Deployment Support:	Azure, AWS, Google
Support for Hybrid and/or Multicloud Deployment:	Yes, as needed
Support for Edge/Distributed Deployment:	Yes, in all cloud deployment modes
Geographic Redundancy Support:	Yes: multi-site active replication as required
Related Components from the Same Vendor:	<p>Amdocs / Openet PCC (Policy and Charging Control), Mediation/ Data Fabric and adjacent offerings including its 4G/5G Data Bridge, VoLTE (soon to be VoNR), Offer Management, and digital APIs are all now complemented by the fuller Amdocs BSS suite.</p> <p>Amdocs is rolling out converged charging, policy, and network control under the name of Value Plane.</p>
Upgradability from Previous Versions of Product:	Solutions are composed of cloud-native microservices and can be upgraded using automated tools / processes (CI/CD pipeline).
Other Relevant Information:	No response provided

STANDARDS & INTERFACE SUPPORT

Rating:	Leader
Support for Diameter and/or HTTP/2 Signaling:	Yes; as per 3GPP standards both Diameter and HTTP/2 signaling are supported.
Support for Gx Interface:	Yes. Release 15 Gx supported.
Support for N5 Interface:	Yes
Support for N7 Interface:	Yes
Support for N15 Interface:	Yes
Support for Migration to 5G and/or Hybrid Network Operation:	Yes. Non-Standalone (NSA) and Standalone (SA) 5G options are fully supported. Common policy configuration supporting 5G and legacy Diameter.
Support for Northbound Interfaces into BSS:	Yes, via the Digital API Gateway and Amdocs provisioning microservices.
Support for PCRF/PCF Roaming:	Yes
Support for Traffic Detection Function (TDF) in DPI or Other Media Devices:	Yes
Support for WiFi Access Control:	Yes. OPC can detect the use of WiFi access and provide specific policies for this scenario. This supports both voice and data services over WiFi.
Support for CMTS QoS Control:	Yes
Other Relevant Information:	No response provided

FEATURE SUPPORT

Rating:	Very Strong
Service Plan Support:	Extensive, configurable applications available.
Operator Service Plan Creation:	Policy management rules engine, profile manager, offer catalog, and associated interface GUIs. GUIs use Google Material Design industry patterns (self-service). GUIs use RESTful APIs, which are also available for automation support. Tight integration to 5G enabled charging capability as required; integration with Amdocs BSS provides a tight bonding between business and technical aspects of service plan creation.
Out-of-the-Box Policy Features:	Yes. Configurable out-of-the-box Policy Blueprints based on Service Plan Support description above.
Mobile Device Policy Enforcement Support:	Yes. For 4G: Supported via Digital API Gateway. For 5G: Supporting ANDSP and URSP policies pushed to the device via the AMF NF.
Access-Agnostic Policy Support:	Products are open. Since Amdocs Openet is a real-time BSS specialist, it ensures that its products integrate with required network and other BSS/OSS elements. Amdocs Openet possess a significant number of interfaces to most network equipment vendors and OSS and BSS platforms.
RAN Congestion Management:	The RAN Congestion Awareness Function (RCAF) provides a 3GPP-compliant mechanism for the PCRF to receive RAN congestion information. In 5G, subscriber and slice-specific QoS is managed by the PCF. The Network Data Analytics Function (NWDAF), combined with closed-loop policies will mitigate congestion scenarios.
Interoperability Partners for PCEF/SMF:	Extensive.
Interoperability Partners for Charging:	Extensive.
Customer Notification:	SMS, e-mail, redirects, rich embedded and system API integration via Amdocs/Openet Notification Server or third-party notification servers.
Customer Service Plan Modification:	Yes, supports real-time modification of plans and trigger mid-session updates.
Group Shared Quota Capabilities:	Roadmap for later in 2021
Location of Usage Tracking, Balance:	Multiple options available, including SPR, UDR, and UDSF NF (for 5G) and via the optional Balance Manager module.

Support for Intent-based Networking:

A suite of analytics and machine-learning tools support the PCC solution set. This enables deployment of more enhanced use cases such as next-best offers, advanced OSS use cases such as RAN congestion control, network and condition-based offers.

Further evolution of Release 16 & 17 will enrich the experience.

Analytics Support:

Amdocs Real-Time Digital Intelligence. This combines machine learning, integrated artificial intelligence engines from Amdocs partners, Amdocs cognitive computing and Amdocs Real-Time Data Management.

Other Relevant Information:

No response provided

DEPLOYMENT HISTORY

Rating:**Very Strong****First Availability:**

PCRF: 2007; PCF: 2019

First 3GPP Release Supported:

R7

Latest 3GPP Release Supported:

R15

Live Deployments (Telco/Other):

Confidential information.

Fixed/Mobile/ Converged Deployment Ratio:

PCRF approx. Mobile: 87%, Fixed: 3%, FMC: 10%; PCF: Mobile 100%

Pre-IMS/IMS Deployment Ratio:

VoLTE live in several operators

Top Public Customer References:

A1 Telekom Austria group, Globe Telecom

Largest Live Deployment:

Confidential information.

SI Partners/Own Policy SI Capabilities:

Extensive Amdocs / Openet SI

Other Relevant Information:

No response provided