GlobalData.

Amdocs Revenue Management

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PRODUCT ASSESSMENT REPORT - REVENUE MANAGEMENT

REPORT SUMMARY

Amdocs' CES21 portfolio is focused on the 5G "value plane," which brings together Amdocs' catalog, real-time charging and billing, with Amdocs' new strength in policy from its acquisition of Openet in 2020.

SUMMARY

GlobalData.

Product Ratings

Amdocs Revenue Management ▪ Product Class Average

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WHAT'S NEW

- **February 2021:** The A1 Telekom Austria Group selected Amdocs for cloud-native and microservices-based online charging and policy control, with the policy component to be deployed in Austria, Croatia, North Macedonia, Serbia, and Slovenia.

- **November 2020:** Amdocs signed a new, multi-year strategic agreement with AWS to offer cloud-native BSS offerings running natively on AWS. Amdocs and AWS will also collaborate on a suite of new migration and system modernization services.

- **November 2020:** Amdocs signed an agreement with Sky UK to jointly lead the modernization and expansion of Sky UK's mobile network, using Amdocs' flexible, cloud-native real time converged charging and monetization capabilities.

- **November 2020:** AT&T selected Amdocs' 5G Openet cloud-native solution to monetize its next wave of network and business model innovation around cloud, edge computing and IoT while also increasing operational agility and service differentiation.

- **August 2020:** Amdocs completed the acquisition of Openet, a provider of 5G charging, policy, and cloud technologies.

PRODUCT OVERVIEW

Product Name	Amdocs CES21
Description	The company offers a number of revenue management products within its over-arching CES21 customer experience suite. RevenueONE portfolio is designed to focus on 5G-ready real-time charging and billing to enable new revenue opportunities by focusing on helping CSPs launch their own, and partner-built, service offerings through a host of new business models. RevenueONE also focuses on "taking charging to the edge" by enabling operators to deploy on AWS or other cloud environments. RevenueONE is complemented by CatalogONE for flexible service packaging, and DigitalONE, which focuses on omnichannel customer care. Amdocs RevenueONE addresses operators looking to consolidate their business support systems, services, and processes across all lines of business. Amdocs combines core software competencies with design and managed service resources in areas such as customer self-service, analytics-driven proactive care, real-time convergent charging, real-time billing, policy, and streamlining the introduction of new services with a unified definition framework across pricing, rating, and policy logic. Amdocs provides end-to-end lifecycle management encompassing service design and orchestration as well as inventory management via its cloud-native and microservices-based service & network automation solution.
Components	• Convergent Charging • Real-time Billing • CatalogONE • Partner Management • Policy • BriteBill / Billing

Key Customers	• A1 Telekom (Austria)	• KT (South Korea)
	• Airtel (India)	• Orange (France)
	• Altice (U.S.)	• Safaricom (Kenya)
	• AT&T (U.S.)	• Sky UK
	• Bell Canada	• Telefonica (Latin America)
	• BT (U.K.)	• Verizon (U.S.)
	• Charter (U.S.)	• Vodafone Germany
	• Hotwire (U.S.)	

Key Rivals	• Ericsson
	• Huawei
	• Netcracker
	• Nokia
	• Oracle
	• Whale Cloud

ESSENTIAL ANALYSIS

Strengths	Limitations
• **5G Focus:** Fueled by its 2020 acquisition of Openet, Amdocs is carving out a new angle on a persistent challenge: 5G monetization. By taking an advanced approach that highlights the importance of policy in facilitating monetization capabilities, Amdocs can offer capabilities that other vendors either can't, or haven't yet.	• **B2B Competition:** While Amdocs is among the strongest in its focus on consumer monetization, it faces much stiffer competition in B2B, where much of the industry's 5G revenue expectations reside.
• **Network-as-a-Service:** Amdocs has arguably been the most active vendor in building a portfolio to support a multitude of potential network-as-a-service opportunities, either alongside or as a lead-up to 5G network slicing. That said, the company should keep the pedal down on clarifying NaaS, whose precise definition remains elusive- with operators, and even more so with the enterprises to which they would like to sell NaaS.	• **Down-Market Challenges:** Amdocs continues to be perceived as a vendor best suited to large operator engagements. While the company's Optima portfolio does rely on CES11 components like CatalogOne and Charging, the industry perception of Optima being separate and apart from CES21 assets may hamper Amdocs' ability to gain traction with some smaller operators.
• **Global Services:** With approximately 26,000 employees serving over 350 operator customers (including at least 32 revenue management customers) in more than 85 countries, Amdocs wields significant global support resources in the revenue management market, particularly in managed services.	• **Internal Innovation:** Amdocs' reliance on acquisitions for innovation- while laudable in some respects- arguably points to a lack of internal development capabilities. Amdocs can do more to emphasize the value of its internal + acquired R&D as an advantage.

CURRENT PERSPECTIVE

LEADER

Amdocs is a leader in the revenue management market. The CES21 end-to-end suite of customer and revenue management assets includes the new RevenueONE platform, which focuses on 5G monetization. Amdocs has increasingly focused its assets on 5G, which increasingly aligns real-time charging with a focus on policy that was sharpened in 2020 with Amdocs' acquisition of former rival Openet. Amdocs' packaging of policy, convergent charging, and real-time catalog solutions into an offering that serves the "5G value plane" represents a point of potential differentiation in a market which is now replete with a host of vendors calling out their 5G monetization credentials.

Amdocs continues to focus on the cloud-native approach underpinning the entire CES21 portfolio, including moving to a regular cadence of updates rather than a major update every year. The company offers a strong services approach to enabling operators to modernize their environments in a way that enables them to simultaneously monetize their investment in legacy platforms that will remain in place over a long transitional period.

COMPETITIVE RECOMMENDATIONS

PROVIDER

- **Explain the Plane:** Amdocs' introduction of the "5G value plane" concept represents a nuanced approach to the market, and one that plays to Amdocs BSS and network platforms and skill sets. This is particularly the case with Amdocs newly-strengthened policy assets via the Openet acquisition. As operators become increasingly concerned with the continued challenge of actually identifying new revenue streams, Amdocs should look to showcase early wins- i.e., use cases in which operators are applying the value plane concept to earn 5G revenue.

- **Diversify:** Amdocs continues to rely on a handful of customers- primarily in North America- for the bulk of its revenue; the company also generates nearly two-thirds of total revenue from just ten customers. The now-completed Openet acquisition enables Amdocs to provide even more modular solution capabilities that can cater to a growing list of smaller network operators as well as MVNOs, alternative brands from existing operators, and the like.

- **Leverage Media Expertise:** Amdocs' expensive relationships with content and media solutions providers represents a differentiator for Amdocs. The company should consider how best to package its content assets in a way that can help network operators monetize video content through joint solutions with content providers.

COMPETITORS

- **Geographic Flexibility:** While Amdocs continues to expand its penetration of smaller operators, competitors may point to recent revenue declines from emerging markets as evidence that Amdocs' approach is not yet resonating in all regions.

- **Vertical Expertise Uncertainties:** Competitors with established vertical billing systems experience, such as Nokia, Oracle, and Netcracker, can highlight Amdocs' relatively limited focus on non-CSP vertical markets.

BUYERS

- **Quantify 5G Monetization:** Operators should press Amdocs to provide more real-life details on how Amdocs' portfolio is driving true revenue growth from 5G, both in consumer and B2B use cases.

- **Explore Ad and Media Tie-Ins:** Operators should encourage Amdocs to bring specialized advertising and media products to the table to augment its core service billing solution, capabilities most rivals lack in their service billing offerings.

- **Billing Bonus:** Operators should investigate Amdocs' supplemental billing offerings, specifically BriteBill, to see how they can contribute to Amdocs' revenue generating capabilities. Amdocs' enhanced integration of BriteBill customer insights may help generate new revenue opportunities if properly deployed.

METRICS

PORTFOLIO CAPABILITIES	
Rating:	**Leader**
Mediation :	Amdocs Mediation converts network data into business information by collecting and processing multi-source, raw network data and distributing the information in real time or batch mode. Amdocs Mediation offerings have been significantly enhanced with Openet's Data Fabric- an evolution of Mediation. It is Kafka-based and enables real-time data streaming, correlation and enrichment from multiple sources.
Converged Rating & Charging/5G Charging Function Support :	RevenueONE offers 5G-ready Convergent Charging for online/ offline charging. It is a unified system for all lines of business (voice, data, broadband, VAS, IPTV, MVNO, 5G) and 5G scenarios (network slicing, edge resources, IoT, etc.). The solution is cloud-native and microservices-based, and supports a distributed hub and edge architecture, in which some of the charging functions can be pushed to the edge as lightweight "wallet" solutions- thus minimizing signalling backhaul and HW footprint. RevenueONE's policy and charging were augmented following Openet acquisition, enabling Amdocs to launch the 5G monetization capabilities which support the Value Plane- comprised of Openet cloud-native Converged Policy Control & Charging (PCC), integrated with CatalogONE spanning across BSS-OSS layers with distributed architecture for charging & analytics at the edge.
Online Charging System (OCS) :	RevenueONE supports OCS capabilities, including real-time charging virtualization apps.
Customer Billing Management :	RevenueONE includes a new cloud-native Real Time Billing engine- turning batch billing processes into real-time functions, with immediate charge calculation and spend view, advanced payment flexibility and subscription billing models.
Partner Billing Management :	Amdocs OTT and Partner Monetization is a comprehensive partner management, settlement and monetization solution designed to support the complete partnership lifecycle. The partner offering is designed to support partners beyond media- foreseeing the in-depth partnership models of the 5G ecosystem. Consequently Amdocs is leveraging its expertise in the partner domain to expand into marketplace offerings.

Collections Management :	Amdocs Collection supports manageable collection processes aimed at improving revenue assurance by preventing and detecting revenue leakage.
Bill Presentment :	RevenueONE provides pre-integrated products such as Amdocs Billing, Amdocs Accounts Receivable, and Amdocs Collections to cover bill presentment and overall postpaid operations. RevenueONE also includes BriteBill, which consolidates data from multiple billing systems and presents it in a personalized, designed, customer-centric format.Furthermore, BriteBill Spark offers a template based solution, for faster time to market, low entry cost option for revolutionizing bill experience.
Voucher Management/Loyalty Plan Management :	Supported by RevenueONE (e.g., Omni-Channel Billing Experience Solution).
Analytics Integration :	Amdocs RevenueONE products offer integrated data intelligence and analytics features to automate and optimize core monetization functions and use cases. Examples include network analytics to proactively identify and pre-empt network issues and their impact on the customer experience, guide service billing investment decisions, and clarify what service billing factors influence Net Promoter Score (NPS) results.
Policy Control and Charging :	Amdocs Policy Controller and Virtualized Policy Controller products contain configurable policy toolkit and onboard metering engines for time-, volume-, and application-based charging applications.Amdocs' policy offering has been augmented by Openet Policy Controller (OPC)- a multi-cloud solution that includes microservices that a synergistic to the combined Amdocs/Openet charging microservices. These included: profile & balance manager, sessions manager and diameter to REST bridge microservices.
Enterprise Monetization Solutions :	Amdocs RevenueONE is the company's flagship cloud-native solution for monetizing 5G services, IoT and smart spaces, the digital ecosystem and the subscription economy.

RevenueONE supports the emerging 5G Value Plane- With cloud native policy and charging managed by a single business driven catalog (CatalogONE) which enables seamless exposure of network business and IT, empowering new business models such as NaaS, PEN (in various iterations), B2B2X, and more- enabling a world of enterprise monetization possibilities. The company also offers several additional monetization solutions to address specific market segments, including:

- Amdocs Optima is a cloud-based billing system and rating engine designed for innovative communications challengers, including tier 2 cable/pay TV providers, and MVNx players.

- Vindicia subscription management platform is a SaaS-based subscription billing software solution that supports the entire subscription lifecycle, from customer acquisition and recurring billing, to customer retention and business growth.

- The Amdocs Mobile Financial Services product enables a variety of monetization capabilities including airtime top-ups, direct-to-operator bill payment, P2P, loyalty and gifting, merchant payments (P2B), B2B supply chain management, and cash disbursement (G2P and B2P).

DELIVERY MODEL

Rating:	Leader
Managed Services Approach :	Amdocs provides a fully managed service when required as per specific project scope.
'As-a-Service' Models :	Amdocs solutions are cloud-based and can be made available "as a Service" on all major cloud platforms when required.
Hybrid/Multicloud Consumption Models :	Hybrid and multicloud options are available. Deployment is fully flexible.
Engagement Structures :	Continual delivery via DevOps and cloud-native modular, microservice-based releases across multiple BSS business domains.
Average Delivery Cycle Length (on most recent version of BSS platform) :	Delivery length depends heavily on project scope and specifications. As an open and modular suite of solutions, projects can be rolled out in a phased manner as per customer specifications.
Delivery Features :	• Continual delivery via DevOps and cloud-native modular, microservice-based releases across multiple BSS business domains. • Amdocs leverages automation of processes and artificial intelligence. • The Amdocs Intelligent Operations Center is a cross-ops monitoring and governance platform that includes best practices from across Amdocs accounts, BizOps team and tools, business and IT monitoring and reporting.
Partners :	AWS, Azure, Google Cloud, IBM, HP, Hildebrando, Atos, Kapsch, Ideal Systems, Red Hat, Juniper, Teoco, Vitusa, Samsung, Dell

SERVICE AND SUPPORT

Rating:	Leader
Workforce :	Over 25,000 employees serving customers in over 85 countries.
Delivery Centers :	• Development and Operations Centers in Brazil, Canada, Cyprus, India, Ireland, Israel, Mexico, the Philippines, the UK, and US • Business Process Operations Center in India
Research and Development :	Spent $274 million on R&D during FY 2019, representing 6.7% capital intensity, relatively steady compared to the prior two years.

CUSTOMER SUCCESS AND STABILITY

Rating:	Leader
Momentum :	Amdocs claims more than 1.8 billion subscribers served by its OSS/BSS portfolio and supplies its service billing solutions to some of the largest operators in the world, including recent wins with AT&T, Bell, Globe, Telkomsel, Claro, Orange group, VF group, A1 group, PLDT, Comcast, Airtel, Altice USA, BT, and KT. This creates significant, long-term BSS transformation upsell opportunities for Amdocs.
Corp Stability :	During fiscal year 2019, Amdocs had revenue totalling $4.1 billion, up slightly from $4.0 billion during 2018. Of the vendor's total revenue, managed services accounted for $2.25 billion in revenue, or slightly more than half.
SP Customers (# of SPs, # of customers served, key reference accounts) :	N/A
Customer split (Mobile/ fixed/ converged/ cable-MSO/ MVNO/ satellite/ enterprise) :	Amdocs revenue management solutions (including Openet) cover all range of customers with many cases of addressing multiple LoBs.