Technology Analysis – Partner ecosystem management solutions

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Catalyst

Communications service providers (CSPs) around the world are marching forward with the deployment of the 5G network. Yet, even as CSPs take the new network live, much of the telecoms industry is still unsure what the key revenue drivers will be for 5G or what monetization strategies they will employ.

The Informa Tech *5G World Series Market Survey* found that 42% of CSPs plan to turn to B2B2X business models to monetize 5G-related services. While such model will enable CSPs to branch out into new industry verticals and support initiatives like IoT, smart cities, and Industry 4.0, successfully implementing a B2B2X strategy requires the coordination of multiple partners and suppliers across industries. Furthermore, many CSPs currently lack the IT capabilities needed to orchestrate the delivery of complex services involving multiple partners across industries.

New service offerings, such as IoT, smart cities, Industry 4.0, and several other new use cases, will require CSPs to coordinate across several partners and suppliers to deliver these use cases. As the number of B2B2X-enabled services that CSPs offer grows and likewise, as the number of partners in the CSP's ecosystem grows, having a partner management solution in place to manage the ecosystem and the delivery of partner-enabled services will be key to the success, scalability, and sustainability of B2B2X services. This report assesses the technology landscape for partner management solutions in the telecoms industry—highlighting some of the vendor partner management solutions currently available to CSPs.

Omdia view

To preserve its place within the telecoms industry, CSPs will need to take a new approach to monetization with 5G. Rather than focusing on being connectivity providers, CSPs need to become service enablers and partner with businesses, developers, and other players across domains and industries in order to create unique 5G service offerings to differentiate themselves in the market. To find success in the 5G era, CSPs will need to maintain an ecosystem of partners that allows the CSP to innovate and expand its reach across industry verticals. Doing this successfully will require CSPs to implement a partner ecosystem management strategy and solution. Partner ecosystem management solutions available on the market today are either horizontal, end-to-end solutions that have been verticalized for the telecoms industry or are vertical solutions that include basic partner management features.

Key messages

- CSPs must become service enablers and leverage the network as a platform, on which partners can develop and create 5G-enabled services. This will allow CSPs to differentiate themselves in the market and protect its quickly eroding market share that is being lost to internet content providers (ICPs).

- Partners that provide technology, domain, and other types of expertise will be critical to a CSP's success in the 5G era.

- CSPs must implement a partner ecosystem management strategy and solution that enables them to recruit, onboard, manage, sell, and market to partners in their ecosystem while also meeting the unique requirements of the telecoms industry.

- Billing, settlement, onboarding, and reporting are the most common features across partner ecosystem management solutions available in the telecoms industry. Additional features vary depending on whether solution vendors take on a horizontal or vertical approach to development.

Recommendations for service providers

- **Identify a partner ecosystem strategy before investing in solutions.** Before investing in a partner ecosystem management solution, CSPs must have a clear partner ecosystem strategy in place. There are many components and different approaches to partner ecosystem management solutions; to understand which types of solutions best meet the needs of the organization, clear vision of the partnership strategy is needed. CSPs will need to consider the types of partnership models, initial target industries, partner recruitment strategy, go-to-market strategy, and other business objectives, and how these impact the organization's IT requirements for a partner ecosystem management solution.

- **Remember that attracting and retaining individual partners is important to ecosystem management.** As CSPs invest in partner ecosystem management solutions, they should remember that finding and recruiting the appropriate partner and ensuring that these partners have a mutual beneficial relationship with the CSP is important to the success of a partner-led monetization strategy. When considering the organizational needs in a partner management solution, CSPs should consider how they plan to attract and retain partners within the ecosystem and consider what tools they will need to do so. Having these capabilities in mind will help CSPs create a shortlist of vendor solutions.

- **Consider solutions that can evolve with your partner strategy.** For most of the industry, complex partner ecosystems and partner management strategies are nascent. However, over time as a CSP's partner ecosystem grows and supports various use cases and business models, the CSP's needs in a partner ecosystem management solution will likely evolve. CSPs should keep this in mind when investing in a partner ecosystem management solution and consider those solutions with robust partner management capabilities that can be added on or made available from a vendor solution partner.

Recommendations for vendors

- **Find the right balance between horizontal and vertical capabilities.** Vendors hoping to differentiate their partner ecosystem management solutions in the market should aim to strike the right balance between horizontal and vertical capabilities in the solution. While the telecoms industry has unique requirements in partner ecosystem management (e.g., requirements around service fulfillment), CSPs will also need more traditional partner management capabilities such as onboarding and sales management. Vendors should develop partner ecosystem management solutions that offer the best of both worlds—traditional partner management capabilities with telecoms industry expertise.

- **Form strategic partnerships to enhance solution capabilities.** Those vendors that either are unable to deliver end-to-end partner management or telecoms vertical expertise in a single solution will need to look to strategic partnerships to help supplement solution capabilities.

Those vendors with robust partner ecosystem management solutions for the telecoms industry can also use strategic partnerships to extend the capabilities of their solutions to differentiate their offerings in the market and meet the evolving needs of CSPs.

Technology overview

Market context

More than 130 CSPs worldwide have already launched 5G. Yet, the telecoms industry remains largely unsure how it will monetize the next-generation network. Omdia and Informa Tech's *5G World: 2020 Global Insights* survey found that nearly 60% of CSPs who have already launched 5G said, "finding profitable business cases" was the biggest challenge they faced.

This is concerning for several reasons. For years, CSPs struggled to monetize 3G and 4G even though the value proposition was clear—mobile applications. In recent years, the telecoms industry has been disrupted by ICPs, like Facebook, Apple, and Amazon, that have created a paradigm shift among consumers and across the telecoms industry by delivering more relevant and personalized digital services to consumers. These digital players have carved out a niche within the telecoms industry and have eroded the market share of CSPs to the point that CSPs are now in grave danger of becoming the minority player in their own industry.

Outdated monetization strategies in which network connectivity is seen as a utility and wherein consumers are charged based on the amount of data consumed, is no longer a profitable business strategy in a data-heavy economy. In 4G, this monetization strategy lay the groundwork for ICPs to develop solutions on top of the network and reap the profits of offering digital services that meet the needs of specific customer segments, while CSPs saw customers churn away from traditional services like voice and SMS, in favor of digital alternatives.

Despite the lack of a "killer use case" for 5G, many CSPs are unwilling to accept a similar fate for 5G as they did in 3G and 4G. Instead, hoping to return to revenue growth, many CSPs are keen to diversify revenue streams, expand into new industry verticals, implement new business models, and embrace new monetization strategies for 5G. Becoming a service provider or enabler, rather than a connectivity provider, and leveraging the network as a "platform" is one way that the industry is preparing to monetize 5G.

Partners will play a key role in CSPs shift from connectivity provider to service enabler. Playing the role of channel partner or service cocreator, partners will provide the telecoms industry with many of the missing pieces needed to expand into new industry verticals, implement new business models (e.g., B2B2X, digital marketplaces, etc.), and diversify revenue streams. Incorporating partners into the 5G monetization strategy, however, requires CSPs to implement a partner ecosystem management strategy and tools.

The concept of partner management is evolving in telecoms

Partner management is not a new term within the telecoms industry, but the concept of partner management, as it pertains to its role in monetization, is changing. CSPs have always had partners—whether roaming or interconnect partners, MVNOs, direct carrier billing partners, or authorized dealers. However, these partnerships require only minimal management, and contract management is typically the extent of what is done.

In recent years, the types and nature of the partnerships formed has evolved significantly. A recent trend has been for CSPs to form partnerships with ICPs to differentiate themselves in the market. T-Mobile's Un-

Carrier program is perhaps the most famous of this partnership model. A lineup of rotating partners, like Spotify, Pandora, and Netflix, have helped CSPs capture the attention of consumers and snatch market share. Many of these partnerships, however, are simply strategic partnerships. They serve to entice consumers to become subscribers of the CSP so that they can take advantage of a partnership deal, or they create relevancy among the existing customer base. It is also important to note that CSPs today typically only have partnerships with a handful of companies at a given time and these partnerships often do not result in the creation of new services or products.

By contrast, in the 5G era, partnerships will play a critical role in the creation and cocreation of 5G services. As **Figure 1** illustrates, Omdia's recently published *OSS/BSS Evolution Survey – 2021* survey found that 53% of CSPs were implementing a partner ecosystem management strategy to deliver a wide range of 5G services and 47% to support new business models.

1. Figure 1: CSPs are driven to invest in partner management systems to deliver 5G services

What is driving your partner ecosystem management strategy?
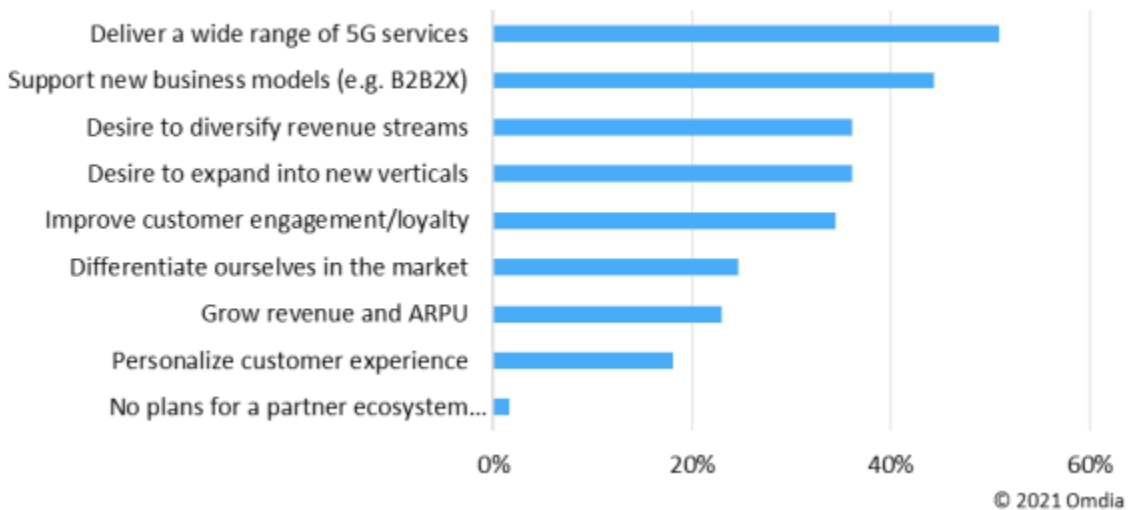
Source: OSS/BSS Evolution Survey – 2021, Omdia

Many complex 5G services and use cases such as autonomous driving, smart cities, and numerous Industry 4.0 use cases, will require the support of multiple partners. Deutsche Telekom (DT), for example, announced in late 2019 that it had formed a 5G partnership with Ericsson, E&K Automation GmbH, Konica Minolta, and Endress+Hauser to deliver several Industry 4.0 services, including automated guided vehicle systems, augmented reality glasses, and industrial measurement technology.

Omdia anticipates that as the 5G network matures alongside 5G use cases, CSPs will partner with hundreds of companies, including vendors, enterprises, equipment manufacturers, and vertical industry experts. Managing this growing and ever-changing ecosystem of partners will present a challenge for the industry unless CSPs invest in partner ecosystem management solution.

What does a partner ecosystem management solution include?

2. Figure 2: Core components of a partner ecosystem management solution

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Source: Omdia

Partner management solutions are an established technology area that has traditionally been served by horizontal (or industry agnostic) vendors. **Figure 2** shows that traditional partner ecosystem management solutions can be broken down into five core components, including recruitment, portal, relationship management, marketing, and sales management.

Recruitment

Finding and attracting the right partners into the partner ecosystem can often be a challenge for enterprises. As such, many partner ecosystem management solutions include tools to aid the recruitment process. Recruitment tools can include channel marketing capabilities that enable the enterprise to create marketing campaigns aimed at attracting new partners. Additionally, some solutions include tools like lead forms and the ability to tag partner lead to various recruitment campaigns such as campaigns targeted toward prospective partners in a specific region or industry.

Portal

The partner portal serves as a hub where partners are onboarded and provided access to vital information about the enterprise and the partnership. Within the portal, an enterprise may provide partners with access to a resource library, information related to governance and compliance, training and certification, access to partner communities and other support tools, access to partner surveys, and a dashboard with reporting and insights.

Relationship management

The relationship management component, as the name suggests, provides enterprises with the tools that they need to manage the relationship with each of their partners. Relationship management capabilities

Information Classification: General

vary depending on the solution and targeted industry. Some standard components include enterprise controls to manage the onboarding process, including the approval or denial of partners during the onboarding process. Access to the enterprise's product catalog, pricing and offer schemas, contract management, dispute management, and customer and partner care capabilities can also be provided by the relationship management tools.

Marketing

Many horizontal partner ecosystem management solutions also include marketing components to help facilitate the promotion of partner cocreated services and offerings. The features and capabilities within the solution itself, however, typically vary from solution to solution. The most common marketing capabilities include allowing partners to create direct mail and email marketing campaigns, tools for the cobranding of services and other assets. Marketing campaign management, allocation of marketing budget to partners, tools to create microsites, and the ability to integrate with the enterprise's mobile app and website.

Sales management

The sales management component enables the enterprise to provide tools to its partners to help facilitate the sale of its services and products. Sales management tools can include out-of-the box configure-price-quote (CPQ) or salesforce management systems. Within the sales management component, enterprises are often provided with tools to help incentivize partners to sell more. Commission scheme setting, gamification, and partner rewards are some examples of tools that allow enterprises to motivate partners to sell.

Key feature requirements and vendor selection criteria for the telecoms industry

Although partner ecosystem management is an established solution area, its presence within the telecoms industry, as a tool to support the coordination of a dynamic partner ecosystem and the cocreation of services developed on the CSP network, is still nascent. The telecoms industry also has unique operational requirements that vendors must consider when presenting a partner ecosystem management solution to CSPs.

Omdia's *Telecoms – ICT Enterprise Insights 2021* survey found that implementing a platform approach to partner management is a growing priority for CSPs, with more than 35% of CSPs listing it as a very important IT project for 2021. To understand what features and capabilities that are most important to CSPs as they invest in partner ecosystem management solutions, Omdia conducted further primary research.

Of those CSPs who plan to invest in partner ecosystem management capabilities in 2021, 57% will invest in service fulfillment capabilities, according to Omdia's *OSS/BSS Evolution Survey – 2021* and as illustrated in **Figure 3**. Additionally, having orchestration capabilities to ensure the coordination and prompt delivery of partner and cocreated services is also of importance to CSPs. Nearly 40% of respondents also indicated that they plan to invest in a platform to facilitate the onboarding and management of partners in 2021.

3. Figure 3: CSPs seek service fulfillment and orchestration when investing in partner management

What IT systems and capabilities will you invest in to support your partner strategy?
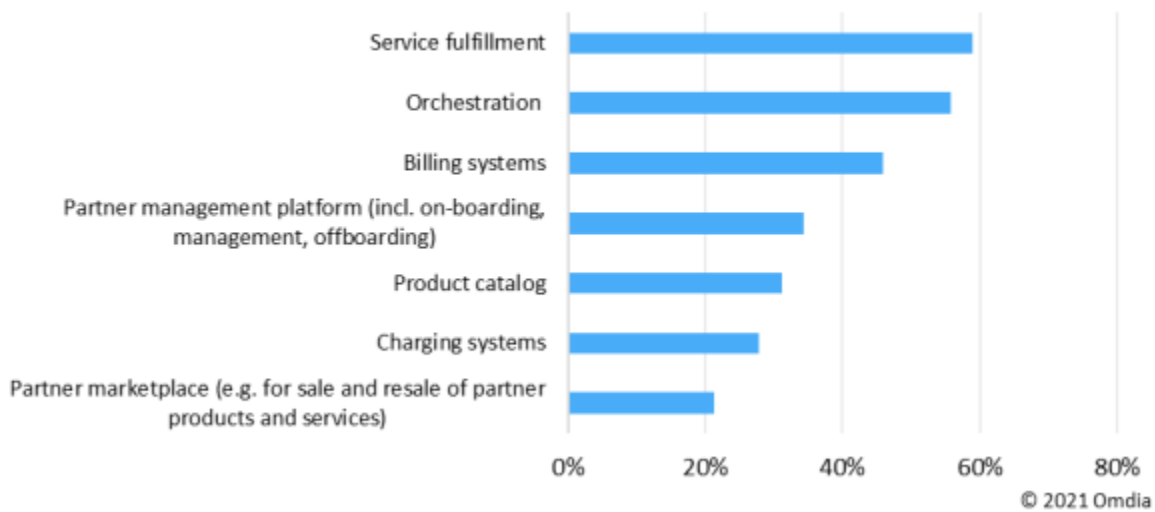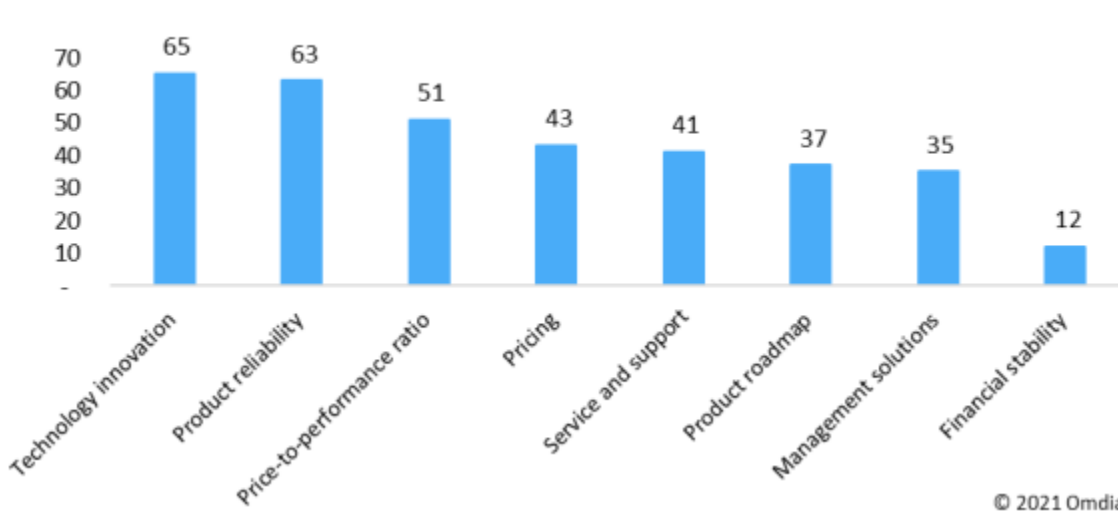

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Source: OSS/BSS Evolution Survey – 2021, Omdia

In addition to investing in these capabilities to manage the partner ecosystem, CSPs also show a preference toward cloud-native partner ecosystem management solutions. Omdia's *Telecoms – ICT Enterprise Insights 2021* survey found that CSPs are more likely to invest in partner management systems that use a microservices architecture than almost any other IT system in their ecosystem, hinting toward the need for scalability of the partner ecosystem itself. Moreover, the same survey found that nearly 80% of CSPs plan to host their partner management systems in the cloud in 2021.

Finally, as **Figure 4** shows, Omdia's *OSS/BSS Evolution Survey – 2021* survey found that as CSPs seek out technology vendors to procure the partner ecosystem management solutions, technology innovation is the most important vendor selection criteria.

4. Figure 4: Technology innovation is the most important vendor selection criteria for CSPs

What are the top three most important criteria for choosing an OSS/BSS vendor?

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Source: OSS/BSS Evolution Survey – 2021, Omdia

The emphasis on technology innovation is an important trend for vendors to note. The telecoms industry is still very much in the early stages of implementing partner ecosystem management strategies and solutions. There is a lot of market education that still needs to be conducted within the telecoms industry, and CSPs will look to vendors to take the lead on developing solutions that consider the unique needs of the industry. Vendors that can provide innovative solutions that bridge the gap between the industry's current partnership model (i.e., interconnect and dealer relationships) and incorporate features and tools that will allow them to evolve their partnership approach for the 5G era, will stand out in the market.

Partner ecosystem management solution trends

To better understand the partner ecosystem management market, current and emerging trends, and the solutions available for the telecoms industry, Omdia requested briefings and demo sessions with several vendors with partner ecosystem management solutions.

Omdia reached out to 18 vendors with partner management solutions and was subsequently briefed by nine vendors on their respective solutions for the telecoms industry. Based on the responses and briefing sessions, Omdia identified the following trends among partner ecosystem management solutions for the telecoms industry:

- **Onboarding, billing, settlement, and reporting are standard features** – All of the solutions Omdia reviewed included partner onboarding, billing, settlement, and reporting capabilities as standard, out-of-the-box features. CSPs seeking out partner ecosystem management solutions should consider these features to be the baseline, non-differentiating capabilities.

- **Software as a service (SaaS) licensing models** – Most of the partner ecosystem management solutions that Omdia reviewed were available via a SaaS licensing model. SaaS licensing means that the solutions can be deployed within the CSP's ecosystem faster than in a traditional license implementation. The cost for a SaaS license is also typically more economical than a traditional license, and CSPs are also afforded access to new features and capabilities automatically via software updates, as opposed to traditional licensing and delivery methods.

- **Partner experience management** – Nearly every reviewed vendor solution included some capabilities to enable CSPs to manage the partner experience. The tools include self-service portals, apps, knowledge centers, and partner loyalty and rewards programs. As partner-led models become the norm across the telecoms industry, there will be increased competition among CSPs to attract and retain the right types of partners so that they can differentiate themselves in the market. Partner experience management, as a result, will become a critical piece of the partner management strategy.

- **Digital marketplaces** – Several vendors offered digital marketplaces—a separate, complementary platform on which prospective partners were pre-integrated. The digital marketplace makes it easier for CSPs to quickly get started with creating services with partner services and assets.

- **Marketing support** – Horizontal solutions typically had robust marketing capabilities. The solutions provided CSPs with marketing capabilities to recruit partners into their ecosystem and provided CSP partners with tools to market cobranded or codeveloped solutions. The horizontal solutions also typically provided CSPs with the ability to set up a market development fund

(MDF) that allows CSPs to allocate market budget to partners that need help promoting co-branded or co-developed services.

Two distinct schools of thought in partner management solution development

The most significant trend identified among the vendor solutions was the differences in product development strategy. Among those vendor solutions Omdia was briefed on, two different schools of thought on product development were apparent. Vendors either started with a horizontal or vertical strategy for the development of their respective partner ecosystem management solutions.

The vendors with a horizontal approach to their partner ecosystem management solution tended to have more robust offerings. The solutions typically included capabilities such as onboarding, management, self-care, insights, and sales support. These solutions were also more likely to include tools to support partner recruitment and partner marketing capabilities (which enable the CSP partner to market its services to a target audience). Vendors with a horizontal approach to partner management also generally made add-on components available to verticalize the solution to meet the unique requirements of the telecoms industry.

Other vendors took a vertical approach to the development of partner management solutions. These vendors typically had a long history in the telecoms industry and in offering interconnect and roaming settlement capabilities. Partner management solutions from vertical-focused vendors tended to focus heavily on monetization and service delivery capabilities such as charging, policy, service activation, and provisioning, more so than those vendors that took a horizontal approach. Conversely, vertical-focused vendor solutions tended to include less partner management capabilities than the solutions from horizontal-focused vendors.

These differences are important for CSPs to note as they seek out a partner ecosystem management solution provider. When evaluating potential solution providers, CSPs should have a clear partner strategy in mind and a clear understanding of its IT needs to narrow down whether a more horizontal or vertical solution best meets their business needs.

Partner ecosystem management vendor profiles

Partner ecosystem management solution serving the telecoms industry is a relatively small market that is still growing. Omdia anticipates that vendor revenue for telecoms partner ecosystem management solutions will grow at a compound annual growth rate (CAGR) of 4.8% over the next four years and will generate $275mn in revenue for vendors by 2025.

To provide a glimpse into which vendors are currently serving this market, Omdia has provided vendor profiles of selected vendors that have launched a partner ecosystem management solution for the telecoms industry as of December 2020.

Amdocs – MarketONE

About Amdocs' MarketONE

Amdocs' approach to partner ecosystem management is focused around the capabilities of MarketONE. Born out of companies acquired by Amdocs in the last 5 years, focused on identity and commerce, the products began as a way to create digital identities for online purchases in digital stores and management of recurring subscription billing. Over time, the concept evolved to include the onboarding and management of partners, including incorporating settlement capabilities Amdocs already had in-house (for interconnect and roaming settlement) and service provisioning. Today, more than 30 CSPs use MarketONE; it hosts several partners across video streaming, music, gaming, and other entertainment and lifestyle subscription services and also supports the management of partners across the partner lifecycle.

Amdocs comes at the challenge of the partner ecosystem from a unique perspective. As CSPs begin to warm to the idea of expanding their partner ecosystem to offer differentiated services, many CSPs are seeking support and guidance in how to recruit, onboard, and manage the right types of partners. With MarketONE, Amdocs has taken on this challenge on behalf of CSPs. The results are a turnkey solution and marketplace of potential partners from which CSPs can choose.

Technical capabilities

Amdocs' MarketONE is an out-of-the-box partner ecosystem management solution. The solution is fully compliant with 3GPP standards and partially compliant with TM Forum's Open Digital Architecture. The core components of MarketONE focus on the onboarding of "developers" or prospective partners onto the MarketONE solution and tools for CSPs to manage the partner ecosystem, including digital identity and subscription billing and management capabilities.

Developer portal

Companies hoping to become CSP partners can be onboarded onto MarketONE once they have reviewed the developer documentation and APIs and have been approved as a certified partner by Amdocs. Once completing the certification process, developers are onboarded on the MarketONE partner marketplace and provided access to the Developer Portal where they can begin looking for potential CSPs to partner with.

From the Developer Portal, developers can indicate the types of partnerships they want to form. Selecting from several parameters, such as partnership model (e.g., reseller, integration) and settlement model (e.g., revenue share, profit share). Within the portal, developers can also see the workflow status of existing partnerships such as if the partnership contract is under review, in progress, or expired.

CSP partner management

From the perspective of CSPs, MarketONE is a marketplace of potential partners from which CSPs can choose. Since developers onboarded onto MarketONE only after going through Amdocs' partner certification process, all the partners visible from the MarketONE platform can be seamlessly onboarded into the CSP's partner ecosystem without working the compatibility between the partner and the CSP's IT ecosystem. Any partner onboarded onto MarketONE is also automatically made available to every CSP using MarketONE and vice versa.

Using MarketONE, CSPs can also set the parameters of the relationship, including billing plan types (e.g., subscription), frequency (e.g., monthly, weekly, etc.) Moreover, CSPs can make assets and products from its master catalog available within a separate partner product catalog for MarketONE and create bundles with

partners' offers. The CSP can set rating and pricing parameters and create campaigns available for the partner (e.g., offering a discount for new subscribers).

Add-on and cross-platform functionality

MarketONE also includes cross-platform functionality such as allowing CSPs to indicate whether they want the partner to manage the relationship (i.e., direct carrier billing agreements) or if the CSP will manage the relationship, offering more flexibility in the types of partnerships that can be formed. Subscription management capabilities from Vindicia are also integrated into MarketONE and allow CSPs to offer flexible billing and payment methods and unique pricing for users based on their profiles.

To create a more robust partner management offering, Amdocs also offers several add-on components to complement MarketONE. CatalogONE, for example, enables CSPs to separate the partner product catalog from the product catalog of its core business. RevenueONE includes revenue management capabilities like billing and settlement that enable the CSP to support multiple revenue models for partners, including direct carrier billing.

In addition to CatalogONE and RevenueONE, Amdocs also offers policy control, charging, CRM, orchestration, CPQ, omnichannel sales, content management, service-level agreement (SLA) management, and product catalog as possible add-ons to MarketONE.

Amdocs has pre-integrated support for partners in the automotive, education, media and entertainment, and retail industries. The vendor can also support partners from other industries as an add-on feature to MarketONE.

Strategy

Development strategy

MarketONE is updated four times a year, typically once per quarter; however, maintenance of the product happens on a much more frequent basis using the Amdocs CI/CD model. Maintenance updates to the product are released monthly, while critical fixes can occur on a more frequent basis when needed.

Amdocs develops the product roadmap for MarketONE by focusing on its role as partner aggregator. As the aggregator and core facilitator of the partnerships between CSPs and developers, Amdocs places emphasis on building a product roadmap for MarketONE that is aimed at improving the ease and speed with which developers are onboarded onto the marketplace and at improving management tools. Consequently, Amdocs plans to expand the cloud-native capabilities of the solution, continue to build out the ecosystem of partners onboarded in the marketplace, to improvements to the user interface, and improve reporting and analytics capabilities to provide CSPs and partners with additional reporting and insights.

MarketONE can be deployed within four to six months for most CSPs, with the average deployment time of three to four months. New partners can be onboarded within four to six weeks. Once deployed within the CSP's IT ecosystem, CSPs can launch new partner offerings within weeks of onboarding the partner into the ecosystem.

Commercial strategy

Amdocs' MarketONE is sold direct to market and is available via a SaaS license. CSPs that want add-on capabilities, such as RevenueONE or CatalogONE, can purchase the solutions via traditional license. The vendor also offers several professional services capabilities, including integration, maintenance, consulting, and managed services.

BearingPoint//Beyond – Infonova Digital Business Platform

About the Infonova Digital Business Platform

BearingPoint//Beyond's Infonova Digital Business Platform is designed to help CSPs develop and scale their partner ecosystem. The solution focuses on providing CSPs with a single platform on which they can automate and orchestrate the complex selling, fulfilling, and monetizing processes of the partner ecosystem.

Moreover, Infonova Digital Business Platform aims to support CSPs in executing on four key partner ecosystem strategies: cocreating of joint offerings with partners (Digital Marketplace), economy of scale for developing solutions in one location and selling them across lines of business or markets, selling through channel partnerships, and developing joint offerings with customers (B2B2X). The product, which was launched in 2019, has been deployed to 40 customers in total, 29 of which are CSP customers.

Omdia view

BearingPoint//Beyond offers a unique perspective to partner ecosystem management in the telecoms industry. The vendor has spent time developing a solution that is completely cloud-native and compliant with all the major frameworks in the telecoms industry, including TM Forums Open Digital Architecture. Moreover, Infonova Digital Business Platform focuses heavily on the ability to orchestrate and fulfill services across the partner ecosystem, which is perhaps the biggest challenge CSPs will face as they scale their ecosystems.

Technical components

Infonova Digital Business Platform is a cloud-native, cloud-agnostic SaaS digital business platform and partner ecosystem management solution. The platform has been developed using a microservices-based architecture and leverages open APIs. Additionally, the solution is compliant with TM Forum's Open Digital Architecture standards and is partially compliant with 3GPP standards.

The core out-of-the-box capabilities of Infonova Digital Business Platform can be broken into five pillars: create and sell, order and fulfill, bill and serve, partner and grow revenue analyze and act.

- **Create and sell** – include capabilities like product and service catalogs to expose CSPs and partner products and services that enable CSPs to offer and manage their own services combined with the different partners' services.

- **Order and fulfill** – include catalog-driven order management, CPQ, and service fulfillment. Orchestration capabilities allow CSPs automatically manage the technical dependencies between services (including those from other ecosystem partners) during service fulfillment. This is essential to ensuring that the CSP's own and partner services can be provisioned and activated for CSP customers and end users when appropriate.

- **Bill and serve** – include capabilities that allow for the management of revenue and customers. Functions include rating and charging, invoice and collections, customer management, product inventory, and service inventory.

- **Partner and grow revenue** – provide tools and capabilities for the management of partner relationships and enable CSPs to grow revenue generated from partner relationships. This enables the CSP to create a separation between its partner ecosystem and its core business and allows each partner to run their own profit and loss (P&L) statement. Features include partner product catalog, automated partner orchestration, and partner settlement. It also features

partner management capabilities, which include onboarding and registration management, contract and SLA management, and partner dashboard, among other features.

- **Analyze and act** – provides CSPs and partners with analytics and intelligence capabilities across revenue and growth, operational efficiency, customer experience, and the partner ecosystem.

In addition to these out-of-the-box capabilities, the platform also provides self-service capabilities for different users, including end customers, partners, and product managers. Partner training and certification are available as an option. BearingPoint//Beyond also bolsters Infonova Digital Business Platform's capabilities through its network of strategic partners that include AWS, Salesforce, and Zendesk, while Matrixx Software provides policy and online charging. BearingPoint//Beyond also works with several technology partners, including AWS and IoT.nxt to pre-integrate with Infonova Digital Business Platform and enable CSPs to reduce time to launch new B2B, 5G, and IoT solutions.

CSPs can deploy and go live with the Infonova Digital Business Platform within three months. Once the platform is live, CSPs and their partners can launch new offerings to the market in weeks.

Strategy

Development strategy

Infonova Digital Business Platform is developed using a continuous delivery model in line with agile methodologies and cloud-native principles. As a result, updates to Infonova Digital Business Platform are delivered on a weekly basis to the SaaS version of the product. Moreover, BearingPoint//Beyond uses a single common code for both SaaS and traditional license versions of Infonova Digital Business Platform, ensuring that both versions of the product function in the same manner and that product updates can be released more frequently via an automated continuous integration/continuous deployment (CI/CD) pipeline.

The product roadmap and updates for Infonova Digital Business Platform are developed using a fully automated CI/CD pipeline in accordance with agile methodologies. On the product roadmap for Infonova Digital Business Platform for next year, BearingPoint//Beyond plans to increase the number of partners pre-integrated into the solution to help with the rapid onboarding of partners for CSPs. Plans to improve the type of insights made available for CSPs and partners and self-service capabilities for partners are also on the roadmap for Infonova Digital Business Platform.

Commercial strategy

BearingPoint//Beyond has a strategic network of partners, including NTT Comware, NTT Data, and Salesforce, to aid the vendor's go-to-market strategy for Infonova Digital Business Platform. The solution is typically available via a SaaS subscription model. BearingPoint//Beyond also offers several professional services, including integration, maintenance, consulting, and managed services.

Comviva Technologies – PRM Suite

About the PRM Suite

Comviva Technologies' PRM Suite is targeted toward the enablement of multifaceted partner ecosystems that include other service provider partners, digital service providers, vendors and suppliers, and logistics partners. The solution leverages capabilities from across Comviva's portfolio of IT solutions and has been deployed for more than 80 CSPs.

Comviva's PRM Suite reflects the vendor's commitment to providing value-added services and capabilities to the telecoms industry. Like many partner management solutions, Comviva's PRM Suite offers CSPs many of the tools needed to manage the partner ecosystem throughout the partner lifecycle. Where PRM Suite stands out, however, is in its ability to provide consumer-like support tools and capabilities for partners. Features like self-service portal, field partner sales apps, and partner rewards and loyalty programs add unique capabilities that enable CSPs to focus on partner engagement and retention, as much as management itself, that will be important for CSPs as their partner ecosystems hit critical mass.

Technical components

Comviva's PRM Suite comprises functionalities from the vendor's portfolio of IT solutions for the telecoms industry, including iPACS 3.0, PreTUPS™ 7.X, DSDP 2.0, and MobiLytix™ Loyalty Management System 3.8. Comviva's PRM Suite is developed using a microservices architecture and compliant with TM Forum Open Digital Architecture; it also uses REST and Open APIs. The solution is also cloud agnostic and can be deployed on the cloud infrastructure and environment of choice.

PRM Suite provides six core functions:

- **Partner acquisition and retention –** feature capabilities like automated partner onboarding that enables creation of partner profiles, hierarchy creation, and geo-tagging for dealers. Digital document authentication allows CSP business users to create criteria, predefined business rules, and metrics against which to determine whether a partnership is approved or denied during the onboarding phase. CSPs can also create "geofencing" for partners with restricted selling locations (e.g., retailer, distributor, reseller).

- **Marketing and sales execution –** include access to next-best offer recommendations that use analytical models and business rules to determine which service to offer end users to drive upsell and cross-sell of partner-led services. The "Event Detection" module provides CSPs with in-memory transaction-based insights to determine events to trigger marketing campaigns. CSPs and partners are also provided with access to market intelligence, guided sales by geofencing, and intelligent push notifications. Gamification and commission schemes can also be established for partners to encourage selling.

- **Rewards and loyalty –** provide tools to enable the implementation of partner programs and loyalty management such as real-time incentive calculators that can be configured to incentivize or pay commissions to partners based on targets or per transaction and tier-based loyalty points redemption. Additional features, such as a partner loyalty program, enable CSPs to create loyalty programs in which partners gain points and are granted loyalty tier (e.g., gold, platinum, etc.) based on CSP-configured rules or thresholds. CSPs can also set up loyalty redemption programs where partners can redeem their loyalty points.

- **Partner operations –** provide CSPs with tools to manage channel and field partnerships. Partner operations tools include field sales partner app, intelligent routing, retailer mapping with field partners, real-time stock tracking, and inventory transition view.

- **Service and support –** include support for CSP-to-partner communications to ensure business continuity and access to important information. Partners are also able to manage grievance redressal, approval management, and service requests. CSPs can also implement partner self-care portals.

- **Reporting and monitoring –** provide CSPs and partners with dashboards and tools to monitor the performance of partner relationships. Users are provided with access to role-based

dashboards, real-time sales tracking, and advanced visualization capabilities to track KPIs such as campaign metrics, number of drop-offs and offers, and other insights.

In addition to these capabilities, Comviva's PRM Suite includes monetization capabilities such as charging, billing, policy, and settlement capabilities which CSPs can implement for the management of the partner ecosystem. Comviva's PRM Suite can be deployed within a year, depending on the size of the CSP. The average deployment time for the solution is two months, while deployments for the largest CSPs take an average of 12 months. Comviva's PRM Suite also comes pre-integrated with capabilities to support the financial services, retail, and transportation industries. Once onboarded into the CSP's ecosystem, partners can bring new services or products to market within three days.

Strategy
Development strategy
Comviva develops the product roadmap for its suite of partner relationships management capabilities by combining feedback from customers along with market insights. Updates to the products are released two to three times a year and are made available to customers via patch updates.

On the roadmap for Comviva's PRM Suite, the vendor plans to enhance the solutions configurability, incorporate dynamic reports and dashboards, and enable predictive upselling so that partners can have a better understanding of what services and products they can upsell.

Commercial strategy
Comviva's PRM Suite is available direct to market or via one of Comviva's partners. The solution is offered as a SaaS or a traditional license; it is also available as a managed service. In addition to the solution, Comviva offers several professional services, including maintenance, integration, and consulting services.

A network of sales partners also supports Comviva's PRM suite; Comviva has also formed strategic partnerships to enhance the capabilities and delivery of PRM Suite, including partnerships with AWS and Azure, offering CSPs flexibility with how and where the solution can be deployed.

CSG – Digital Partner Management

About the Digital Partner Management
CSG's Digital Partner Management was launched in August 2020. As a vendor with a strong heritage in the wholesale and B2B space, CSG's progression into partner management reflects the needs of its customer base. Understanding its customers' need to become digital service providers, CSG focused on leveraging its existing settlement and building out complementary partner management capabilities. As of January 2021, CSG's Digital Partner Management has been deployed for two CSP customers, one of which manages an ecosystem of more than 900 partners.

Omdia view
CSG has a strong heritage in the B2B and settlement space and Digital Partner Management builds on many of the existing capabilities the vendor has mastered for the B2B and wholesale markets. The solution profiles especially well for CSPs looking to extend their partner ecosystem beyond traditional wholesale models and toward 5G monetization strategies such as IoT, smart cities, and B2B2X services.

Technical components

CSG's Digital Partner Management is a pre-integrated solution developed with the goal of enabling CSPs to manage a partner ecosystem of digital or content services. The solution complies with aspects of 3GPP standards and TM Forum Open Digital Architecture. It is a cloud-ready solution with components of the platform developed to deliver a serverless, multi-tenant architecture, and the solution can be deployed in any cloud environment. Digital Partner Management comprises pre-integrated partner management and partner settlement capabilities. Together, these components provide CSPs with the tools to manage the partner ecosystem across its lifecycle, including:

- **Onboarding** – includes several tools that enable partners to onboard themselves into the CSP's ecosystem. Capabilities include access controls, registration and validation of the partners, and contract and document management. Partners are also provided access to a partner product catalog that provides a view of those services that CSPs want exposed to the partners.

- **Service management** – provides CSPs with the tools needed to set rating scenarios and rules, to define and capture event detail records (EDRs), and to manage the billing process and adjustments.

- **Settlement** – enables CSPs to manage settlement schemas such as revenue or profit share models and can be configured to manage complex settlement models such as fixed price, usage based, one-off charges, recurring charges, and tiered pricing. CSPs can also manage financials and invoicing for partner services. The settlement component is available pre-integrated into CSG's Digital Partner Management; however, existing customers of CSG's settlement solution can opt to only purchase the partner management capabilities. The settlement component is required for those CSPs using a third-party settlement solution, however.

- **Reconciliation** – enables the management of disputes made by the partner or CSP.

- **Monitoring** – includes dashboards and reporting to provide CSPs and partners with insights and reports, such as revenue reports, and transaction summaries.

In addition to the out-of-the-box capabilities, CSG also offers charging, policy control, billing, and service fulfillment capabilities as an add-on via its flagship business support systems (BSS) offerings. Though the solution has only recently launched, CSG has formed strategic partnerships with two cloud vendors to provide additional deployment options for the solution.

Strategy

Development strategy

CSG develops the roadmap for Digital Partner Management by incorporating input from its existing customers and prospects, along with following market trends and insight to understand the emerging needs of the industry.

Based on an agile development methodology, Digital Partner Management's feature enhancements and functional improvements are supported with regular updates to the software.

Priorities on the product's roadmap for the next year include continuing to improve the functionality of Digital Partner Management and identifying additional strategic partnerships to enhance the functional reach of the solution.

Commercial strategy

Digital Partner Management is available via traditional license or as a managed service either direct to market or via one of CSG's channel partners. CSPs can also select from a traditional on-premises deployment of the solution or it can be deployed on the cloud infrastructure and environment of choice for the CSP.

CSG also offers professional services, including integration, maintenance, and consulting services, to complement its partner management solution.

Netcracker – Netcracker Digital BSS

About Digital BSS

The Netcracker Partner Management portfolio, which consists of Partner Lifecycle Management, Partner Portal, Partner Billing Management, and Digital Partner Enablement products and has been deployed for more than 90 CSPs, takes two different but complementary approaches toward partner ecosystem management for the telecoms industry. Netcracker Digital Marketplace offers CSPs a turnkey solution with more than 300 pre-integrated partners for CSPs to leverage. Netcracker Digital BSS provides CSPs with the tools needed to build their own partner ecosystem (or extend capabilities of their digital marketplace) and manage it end-to-end across the partner lifecycle. Additional capabilities across Netcracker Digital BSS allows CSPs to extend the capabilities of the digital marketplace and create their own partner ecosystem wherein they can enable self-onboarding and management of partners in their ecosystem.

Omdia view

Netcracker Digital BSS is a comprehensive and end-to-end partner ecosystem management solution that provides CSPs with the tools they need to create and scale their partner ecosystem. Most compelling, however, is the vendor's digital marketplace that provides CSPs with turnkey network monetization capabilities by turning the network into a service (i.e., network as a service [NaaS]). As the telecoms industry figures out how to turn the network into a platform that developers can create services on top of, Netcracker Digital Marketplace provides CSPs with the necessary foundation tools.

Technical components

Netcracker Digital BSS is a cloud-native solution developed using a microservices architecture. The solution is fully compliant with 3GPP and TM Forum Open Digital Architecture and Open API standards. Its core capabilities can be broken down into four core capabilities:

- **Partner onboarding and management** – enable partners to self-onboard into the CSP's ecosystem. During the onboarding phase, CSPs can indicate pricing and service attributes based on the partner, configure discounting schemas and promotional campaign support, and create individual pricing schemas for partners. Conversely, partners can manage the pricing of their services. Onboarding capabilities also provide partner contract management, including indicating which products and services are available for the partner to sell and setting the terms of compensation. Partners can also register employees under defined user profiles to give them access to the partner portal.

- **Monetization** – includes billing management features such as billing configurations based on partner account type, the generation and exchange of partner bills and data files needed for partner settlement, and automated capture, categorization, and processing of partner billing issues. CSPs are also able to configure various settlement, revenue share, and pricing schemas for partners. Features such as billing on behalf of, partner events processing (via Open APIs), and

add to bill functions enable CSPs to offer flexible billing and payment methods for partner's end users. Policy control and charging functionality is also available to support different pricing and partner QoS needs.

- **Partner self-service** – provides partners with tools to monitor and manage their accounts and relationship with the CSP. Tools include dashboards, reports, and account information. Partners are also provided visibility into the status of settlements between the partner and the CSP, partner subscriber management, order management and sales enablement tools such as CPQ, and pricing engine. Partners can also manage bulk orders and open and manage issue or service requests on behalf of end users.

- **Digital Marketplace** – is an end-to-end solution that can be deployed on its own or alongside other components of Digital BSS. Digital Marketplace includes pre-integrated tools and partner enabled services that can be bundled with CSP network assets (such as VNFs) and value-added capabilities to offer unique services to customers. Digital Marketplace is pre-integrated with more than 300 partner offerings. Digital Marketplace enables CSPs to support connectivity services, value-added network apps like firewalls, parental controls, IT apps and IoT services, and verticalized services.

Netcracker Digital BSS can be deployed within six months for most CSPs, depending on the configuration, with the average deployment time being four to eight months. Netcracker Digital BSS comes pre-integrated with support for partners across 14 industries, including agriculture, automotive, government, healthcare, and financial services. Partners onboarded into the CSPs ecosystem can bring new offerings to market within three to six weeks of being onboarded.

Strategy

Development strategy

Netcracker Digital BSS is developed by incorporating feedback from direct engagements with customers, user and customer feedback, and market insight and insight gained from competitive and strategic analyses. Netcracker follows an agile joint development method using DevOps to work with its customers to further develop the solution. Digital BSS has one major update release per year and three minor releases per year. Customers that deploy a cloud-native version of the product can receive releases on a more frequent basis, with Netcracker supporting customer sprint releases for customers one to two times per month.

Customers that choose a SaaS, a managed service, or cloud-native deployment of Digital BSS can receive updates to the product automatically. Alternatively, those CSPs that opt for a traditional license, non-cloud-native version of the product can receive updates via patch updates.

Commercial strategy

Netcracker Digital BSS is available direct to market and via its parent company NEC. The solution can be purchased as a SaaS, a traditional license, or a managed service. CSPs can also choose between a cloud-ready and a cloud-native (microservices architecture) deployment of the solution.

Oracle - Digital Experience for Communications

About the Digital Experience for Communications

Oracle Digital Experience for Communications (DX4C) is an end-to-end offering launched in October 2020 and developed specifically for the telecoms industry. DX4C contains an array of front and back office capabilities, including several functions that are focused on enabling CSPs to manage the entire partner

lifecycle for channel and other partners. The solution also uses a common user interface throughout—Oracle Redwood—to provide CSP and partner users with a consistent and simplified view across all components. For CSPs who wish to customize the UI of DX4C, Oracle also supports UI customizations.

Oracle DX4C takes on a holistic approach to partner ecosystem management, providing CSPs with all the tools that they need to manage and scale their partner ecosystems. Most impressive is the vendor's ability to incorporate features typically seen in horizontal solutions, like partner marketing, and combine them with verticalized features such as convergent charging for 5G and legacy networks.

Technical components

Oracle DX4C was developed using a microservices architecture, REST APIs, and is compliant with 3GPP and TM Forum Open Digital Architecture standards. In addition to DX4C, elements from Oracle's broader solution portfolio complement the partner management offering to enable CSPs to manage the entire partner lifecycle include: Oracle Marketing, Oracle Sales, Oracle Monetization, Oracle DataFox, and Oracle Cloud Platform. The capabilities of the solution can be broken down into the following lifecycle stages:

- **Recruiting and onboarding –** include tools for CSPs to attract and onboard new partners into their ecosystem. The onboarding portal includes views for the CSP (to onboard the partner) and for the partner (for self-onboarding). It also enables CSPs to define onboarding tasks that prospective partners must complete. The onboarding tool also enables CSPs to automate elements during the onboarding phase by configuring thresholds for automated approval or denial of partners. During the onboarding phase, CSPs can also provide new partners with access to a resource library with brand assets and guidelines, make product training available, and assign partners to different territories.

- **Planning –** allows CSPs and partners to define a business and marketing plan with various initiatives for each partner and track their progress. CSPs have the ability to delegate segments of a market or channels to partners.

- **Marketing –** is natively integrated from Oracle Advertising and Customer Experience (CX). These integrated capabilities enable CSPs to manage and implement a consistent approach to marketing partner services. Elements include collaborative tools for comarketing, an asset library of design and branding assets to be used with marketing collateral, and marketing campaign management. CSPs also have the option to allocate market development funds to partners to reimburse partners' marketing costs.

- **Sales –** features built-in sales and lead management capabilities to support channel partners and provide CSPs visibility of the sales pipeline across their partner ecosystem. The sales component also includes Oracle DataFox that uses artificial intelligence during the sales lead-to-order process to predict and provide a probability score for each lead in the sales pipeline. This allows partners and CSPs to see how likely a lead is to convert into a sale. Additionally, pre-integrated CPQ allow the CSP to ensure consistency in the pricing for services throughout the partner ecosystem. From a customer-facing perspective, CSPs can also create an external "partner finder" tool to enable customers and other end users to search for services by the CSP partner. This will enable the CSP to increase its reach by leveraging the brand awareness of its partner ecosystem.

- **Support –** allows CSPs to create a knowledge portal for its partners to be used to provide customer support. Partners can also be provided with a management system where they can log and track service requests and issues for internal (partner) and customer issues.

- **Monetization –** integrates capabilities from Oracle Converged Charging System provide CSPs with 5G-ready monetization capabilities, including product catalog, charging capabilities for 5G and legacy (4G/3G/2G) networks, charge calculation and balance management, account management, bill calculation, accounts receivable, bill inquiry and disputes management, collections management, payments and receivables, settlement, and business and operations reporting.

- **Insights –** are powered by Oracle Analytics Cloud; CSPs are provided with insights gathered from different sources (e.g., sales, marketing, survey, etc.) to provide partners and CSPs with visibility into the relationship.

Oracle also offers several add-on features such as a resource library (for the management of marketing, sales, and brand assets that can be made available to partners), microsite implementation and management, and content management via Oracle CX. CSPs can also add-on Oracle Intelligent Advisor partner survey capabilities that enable them to survey customers on their perceptions of the CSP partner, the partner service, and experience.

Oracle also offers add-on capabilities to support unique requirements of partners in the financial services, manufacturing, media and entertainment, public sector, and retail industries.

Strategy

Development strategy

DX4C is updated on a quarterly basis and made available to customers via patch updates. Oracle develops its product roadmap for DX4C and Oracle's partner management solution by gathering input from a few sources, including Oracle's Customer Advisory Board events and Cloud Customer Connect that incorporate feedback from existing Oracle customers. The vendor also analyzes market trends to build in features that will meet future needs of the market.

On the product roadmap, Oracle plans to invest in building out an integrated platform to enable unified B2B selling with salesforce automation, partner relationship management, commerce, CPQ, and subscription management, connected with AI and back-office enterprise resource planning (ERP). The vendor also plans to focus on building out persona-based guided experiences to simplify marketing and sales process for partners. Finally, the vendor plans to incorporate more intelligence in the solution, focusing on providing customer intelligence that incorporates front- and back-office customer touchpoints to create a 360-degree view of end users.

Commercial strategy

DX4C is sold direct to market and via partners. The solution is available as a combination of SaaS and traditional license, with the majority of DX4C components available as SaaS being deployed on Oracle Cloud Infrastructure. The monetization and fulfillment components of DX4C are licensed and can take advantage of cloud native deployment on Oracle Cloud Infrastructure or the client's environment of choice.

DX4C is architected to interoperate with existing systems of record and can also be rapidly deployed in greenfield environments.

Information Classification: General

Salesforce – Sales Cloud Partner Relationship Management

About the Sales Cloud Partner Relationship Management

Salesforce's Sales Cloud Partner Relationship Manager is a horizontal solution that has been verticalized for the telecoms industry. Salesforce believes that 5G will serve as a catalyst for how the telecoms industry views the network and believes that CSPs will need to see the network as a service, platform, and ecosystem. Sales Cloud Partner Relationship Management was verticalized for the telecoms industry with the goal of providing CSPs with a library of APIs and resources that will allow CSPs to expose the capabilities of the network and enable developers to innovate applications on top of it.

Salesforce offers a unique perspective of the partner ecosystem and partner ecosystem management for the telecoms industry. The vendor has built its own business on a platform-enabled partnership strategy.

The features and capabilities available in the basic version of Salesforce's Sales Cloud Partner Relationship Management standout as a well–thought out solution by a vendor with extensive experience in partner management. Moreover, several acquisitions made in recent years—such as Einstein, Tableau, and Vlocity—contribute to the robustness of the offering, providing CSPs with advanced capabilities such as dynamic pricing for partners and real-time partner engagement.

Finally, Salesforce's own AppExchange—one of the most comprehensive partner marketplaces with solutions available from more than 5,000 developers and more than 6 million customer installs—serves as proof of the vendor's expertise in the space and its ability to develop a solution for the telecoms industry that builds on the best practices the vendor has learned on its own journey. If there are any shortcomings with the solution, it would be in the vendor's lack of back office (OSS/BSS) support capabilities such as charging and policy control, though this is an area that is addressed via several strategic partners with telecoms software vendors and systems integrators.

Technical components

Salesforce's Sales Cloud Partner Relationship Management is a fully integrated, end-to-end partner ecosystem management solution that has been verticalized to meet the specific needs of the telecoms industry. Sales Cloud Partner Relationship Management is developed on a microservices architecture and uses REST and Open APIs to ease the integration within the CSP IT ecosystem. The solution is also partially compliant with TM Forum Open Digital Architecture standards.

The core capabilities of Sales Cloud Partner Relationship Management are developed to address various points across the partner lifecycle. The capabilities include:

- **Onboarding –** includes tools that enable CSPs to attract and onboard partners into their ecosystem. Built-in capabilities such as Evergage (which was acquired in 2020) enables CSPs to create profiles of prospective partners, allowing them to create targeted marketing campaigns for prospective partners. Evergage also allows CSPs to dynamically present information that is most relevant to a partner or prospective partner to entice recruitment and to create a personalized partner experience. Sales enablement and onboarding tools are also available out-of-the-box to help CSPs onboard new partners. Features, such as partner recruitment, adoption, partner locator, and channel plans, are also available as an add-on at no additional cost via the Salesforce AppExchange.

- **Marketing –** includes tools for CSPs to manage marketing development funds to support the marketing partner services, content marketing, email marketing cobranding capabilities, and a campaign marketplace. CSPs can add on capabilities such as distributed marketing, cobranding,

rebates and incentives, and partner marketplace, which are available via Salesforce and its AppExchange partners.

- **Sales/Co-selling –** many of the sales support capabilities are pulled in from Salesforce's horizontal Sales Cloud offering. These capabilities include deal registration, lead distribution, lead and opportunity management, and price books and quotes. In addition to these horizontal features that are available out-of-the-box, Salesforce offers telecoms-specific capabilities such as Enterprise Product Catalog, CPQ, Digital Commerce, Contract Management, and Order Management. Embedded machine learning functionality from Salesforce's Einstein allow CSPs to incorporate dynamic, custom pricing for partners based on different market conditions.

- **Service –** capabilities draw on Salesforce Service Cloud and provide CSPs with the tools needed to manage service and knowledge requests from partners. Capabilities include knowledge portal, self-service support, (service) case management, SLAs and entitlements, and feeds and groups. Live chat support is also available as an add-on.

- **Analytics –** insights and analytics are made available to CSPs and partners, made available via Salesforce's Lightning dashboards and reports. CSPs will also have access to management reports and insights from Google Analytics. CSPs can also purchase Tableau CRM (acquired in 2020) as an add-on for enhanced insight visualization.

- **Platform capabilities –** provides CSPs with additional tools and capabilities to manage the partner ecosystem. These capabilities include channel partner management tools like partner scorecards, channel sales app, and account management. It also includes access to enterprise, sales enablement, and productivity tools like Chatter, Salesforce Connect, and identity and encryption tools.

The vendor also provides pre-integrated capabilities that support partners in the automotive, banking, energy and utilities, education, financial services, government, healthcare, insurance, life sciences, manufacturing, media and entertainment, professional services, public sector, retail and transportation industries.

CSPs implementing the basic version of Salesforce's Sales Cloud Partner Relationship Management can deploy the solution within six months. CSPs looking for additional features and capabilities, can add on (free and paid) features via Salesforce's AppExchange. Once partners are onboarded into the CSP's ecosystem, new partner products and services can be brought to market within three to six months.

Strategy
Development strategy
Salesforce develops the product roadmap for Sales Cloud Partner Relationship Management by incorporating feedback from partners, conversations across the industry, and from its IdeaExchange. Updates to the product are automatically released to the platform three times per year.

On the product roadmap, Salesforce plans to invest in improving the customer experience, incorporating more intelligence in the solution to improve processes, B2B capabilities, and to partner marketing capabilities.

Commercial strategy
Salesforce's Sales Cloud Partner Relationship Management is available direct to market and can be deployed within one to six months depending on the size of the CSP, with an average of six months

deployment time for Tier 1 CSPs. Salesforce has also built an extensive ecosystem of solution partners via its AppExchange. More than 5,000 developer partners have made their solutions available in Salesforce's AppExchange enabling CSPs and other Salesforce customers to add on additional capabilities to enhance their solution. Examples of key partners supporting Salesforce's partner management solution include Mindmatrix (cobranding), Fielo (rebates and incentives), Advanced Communities (partner marketplace), Bloomberg Vault (compliance), Box (file management), and OSF (e-sign). They also have industry-specific strategic partnerships with vendors and systems integrators in the industry, such as Nokia, Ericsson, Matrixx Software, Capgemini, and Accenture, to support the delivery of an end-to-end, front to back office partner ecosystem management solution.

Like all of Salesforce's products, Sales Cloud Partner Relationship Management is available via SaaS licensing model. The vendor also offers integration, consulting, and maintenance and support services for CSPs. More recently, the vendor has seen a growing demand for professional services to help CSPs establish a partner ecosystem management strategy, including establishing a governance strategy and marketplace for partners.

Subex – Partner Ecosystem Management

About the Partner Ecosystem Management

Subex's Partner Ecosystem Management was launched in 2019 and is a comprehensive solution aimed at providing CSPs with the capabilities to manage the partner ecosystem across the lifecycle. The solution has been deployed for more than 50 CSP customers and to supports several partnership models ranging from simple to complex.

At the core of the Subex development methodology is the "Digital Trust" framework. The Digital Trust framework—built on principles of risk (i.e., fraud and risk management) mitigation, identity and security, intelligence, and privacy—is a methodology by which the vendor develops solutions to ensure that Subex and CSPs can build trust with its customer base. Establishing "Digital Trust," especially as the partner ecosystem and customer touchpoints grow, will be important for CSPs. Partners will want to know that CSPs can protect against security concerns and fraud and minimize many of the risks involved in complex partnership models. Similarly, CSPs will want to ensure that they deliver a secure and reliable experience to their customers and partners, with their brand at the forefront.

Omdia view

Subex has a storied history providing solutions to mitigate risk and fraud. The vendor has been a trusted provider of fraud and revenue assurance solutions for the telecoms industry for decades, and this heritage brings a unique perspective to the vendor's approach to partner ecosystem management. Subex has also been a long-standing provider in the partner settlement space with over two decades of experience serving CSPs in Europe.

Perhaps most unique about Subex's Partner Ecosystem Management is its support for blockchain-based wholesale settlement. Although blockchain-based settlement is still nascent in its adoption across the telecoms industry, Subex's incorporation of these capabilities highlights the vendor's commitment to technology innovation as part of its offering for end-to-end partner ecosystem management and continued support of its "Digital Trust" ethos.

Technical components

Subex's Partner Ecosystem Management is a 3GPP-compliant solution developed on a microservices architecture. The solution is cloud-agnostic and leverages REST and Open APIs for integration with systems in the CSP's ecosystem.

Partner Ecosystem Management was developed to provide CSPs with the tools needed to manage the partner ecosystem and partners across its lifecycle. The solution supports CSP partnerships with any combination of app developers, content aggregators, MVNOs, multiservice operations, and interconnect partners. The vendor also has prebuilt integrations supporting the communications, healthcare, transportation, manufacturing, and finance industries.

Subex's Partner Ecosystem Management comprises four modules: Partner Lifecycle Management (PLM), Partner Self-Care Portal (PCP), Partner Billing and Settlement (PS), and Blockchain Wholesale Solution.

- **Partner Lifecycle Management (PLM) –** starts from the onboarding and management of partners in the ecosystem. PLM module supports self-onboarding for partners; configuration-based approach to set up signup criteria; the scoring of partners against various criteria configure by the CSP; and workflows to support rule-based automatic approval, rejection, or more information from partners as they are onboarded into the ecosystem. PLM also enables CSPs visibility and control of partnership approvals, managing partner approval, and relationship management criteria (measured with a partner "health score" and "performance score" that use ML to define the best partner in a group and what others need to do to achieve the same level). It also allows CSPs to create and manage contracts (using AI/ML models to transform the image of a contract in actionable data), interpret SLAs, and view reports and insights from across the partner ecosystem.

- **Partner Self-Care Portal (PCP) –** is where partners can self-manage their relationship with the CSP. Tools provided in PCP include a dashboard, account information, usage summary, bills, credit notes, dispute manager, customer (end user) complaints manager, and partner surveys.

- **Partner Billing and Settlement (PS) –** includes a product catalog to define rating, billing, and settlement for partners, to manage all event-based and non-usage-based charges. While PS has billing capabilities, the solution can also integrate with CSP's existing billing system. PS also supports the complete management of billing operations (including payments, aging, and alerting mechanism in case of credit breaches, approvals, and dispute management) for the partner ecosystem and supports the creation of different billing profiles with different billing criteria, such as interconnect partner bills or network slicing service bills, roaming, content revenue sharing models and configurable rating and rule-based discounting engine. The solution also provides access to predictive analysis and forecasts on partner relationships and business models via the insight's portal.

- **Blockchain Wholesale and Fraud Mitigation Solution –** enables carrier-to-carrier roaming and interconnect settlement via blockchain. Wholesale settlement on the blockchain is an emerging area for which there is still no widescale adoption across the telecoms industry, and proof-of-concept trials are ongoing throughout the industry as Subex and other members of blockchain consortia continue to work on scaling the adoption and use cases of wholesale settlement on the blockchain. The solution provides fraud mitigation options for Smart FAS and Wangiri frauds. Subex is also the member of GLF's Communication Blockchain Automation Network.

Information Classification: General

Subex's Partner Ecosystem Management can be deployed within two to six months for most CSPs. For CSPs that implement the full Subex's Partner Ecosystem Management solution, new partner service offerings can be brought to market within a day of onboarding the partner into the ecosystem.

Strategy

Development strategy

Subex's Partner Ecosystem Management is developed and delivered using agile principles. Major releases for the product are scheduled for a maximum of four times a year, with additional sprint releases occurring every four weeks. Subex's roadmap for Partner Ecosystem Management is driven by feedback from customers, industry insights, analysts, and internal discussions. Subex also engages with its customers to contribute to its product roadmap.

Updates to the product are delivered based on the licensing model chosen. Customers who opt for SaaS or managed service licenses will receive updates automatically, while those who buy Partner Ecosystem Management via an on-premises approach can choose to plan their upgrade as desired. On its product roadmap for Partner Ecosystem Management, Subex plans to incorporate advanced document management capabilities, extend the product catalog capabilities to include product lifecycle management, add dealer/reseller management capabilities, add partner marketplace, and improve the partner analytics capabilities by incorporating artificial intelligence and machine learning.

Commercial strategy

Subex's Partner Ecosystem Management is offered directly and via a selected set of Subex partners. The solution can be purchased as either a SaaS, a traditional license, or as a managed service and is cloud-agnostic.

Subex also offers professional services to support its Partner Ecosystem Management solution, including Build Own Operate Transfer (BOOT), integration, and maintenance. For customers looking to get advice and guidance on industry best practices, process frameworks, and operationalizing strategy, Subex also offers consulting services.

Wipro – Deltaverge

About the Deltaverge

Deltaverge was launched in 2018 and was developed with a goal of providing cross-collaboration throughout the CSP partner ecosystem. The solution was developed following growing CSP demand for Wipro to work on custom partner ecosystem management projects. Additionally, the vendor has focused on building out capabilities to manage and have visibility into the partner ecosystem and the delivery of physical and digital services.

Omdia view

Wipro offers a unique perspective to partner ecosystem management. While many partner management solutions focus on the role of partners in the collaboration and cocreation of digital services, Wipro's Deltaverge targets those CSPs who will need to manage physical assets and digital products across the partner ecosystem.

Another unique aspect is the vendor's role within the telecoms industry. As a system integrator and a managed service provider, Wipro's solution is developed to interoperate with third-party systems, meaning CSPs that want to integrate aspects of the partner ecosystem with existing systems in their IT ecosystem, should face less challenges in doing so.

Technical components

Wipro Deltaverge is a cloud agnostic solution developed on a microservices architecture. Deltaverge is partially complaint with TM Forum Open Digital Architecture and leverages REST APIs with the ability to support Open APIs as an add-on capability.

Deltaverge is targeted toward those CSPs who will rely on distribution, reseller, and other partnership models that require the management and tracking of physical assets and digital products such as handsets or headsets (e.g., for virtual/augmented reality). Its capabilities include:

- **Partner management –** includes onboarding, dashboard, and relationship management capabilities. To streamline the partner onboarding process, CSPs can create configurable rules around what information prospective partners must provide during the onboarding phase. This information can then be used to automatically approve, deny, or request more details from prospective partners during the onboarding phase. Dashboards are also available to provide CSPs and partners with an overview of the ecosystem, including top-level and drill-down visibility into the partnerships. The dashboard also provides a top-level view of the status of items or inventory of physical and digital products.

- **Profile, access, and authorization –** enable warehouse partners access to multi-warehouse location capture for distributors and to configurable approval workflow.

- **Product catalog –** provides CSPs and partners with access to a common product catalog in which products can be created and priced. Product hierarchies can also be established. CSPs can also create authorized access to specific products or services in the product catalog and restrict the buying or selling of these products to different partner types (e.g., distributor, retailers, etc.)

- **Order management –** includes tools to manage distributor to band orders, purchase order creation, and sales order creation.

- **Delivery and payment –** include support for delivery notes, goods receipt note (GRN) creation for partnerships that involve physical and digital products and invoicing for distributors.

- **Inventory management –** provides logistics partners with distributor inventory tracking and visibility. Partners also have access to inventory capture, creation, reservation, and transfer.

- **Reporting –** provides CSPs and partners with reports for visibility into sales, fulfillment status, and performance and other configurable KPIs.

Deltaverge can be deployed for most CSPs within six to twelve months, with most deployments being implemented in six months. The solution is pre-integrated to support partnerships and services in the automotive, manufacturing, and retail/wholesale/distribution industries. New partners in industries, already supported by Deltaverge, can bring new products and services to market within a week of being onboarded into the CSP's ecosystem. For new partners in industries that are not yet supported, new services can be brought to market between 20–340 days, depending on the complexity of the deployment.

Strategy

Development strategy

Updates to Wipro Deltaverge occur twice a year and are automatically rolled out to customers. Wipro develops the product roadmaps for Deltaverge by incorporating input from the market, customer feedback, and lessons learned from previous implementations. On the roadmap for the solution, Wipro plans to implement a "minimum base quantity" feature for partnerships that require the management of physical

assets and digital products. The roadmap will also focus on improving product catalog to incorporate more industries (such as automotive and IoT). The vendor also plans to implement a marketplace model for partner to partner models.

Commercial strategy

Deltaverge is available direct to market as a managed service. In addition to the solution itself, Wipro also offers several professional services, including integration, consulting, and maintenance services for CSPs.

In addition to Deltaverge, Wipro is also a venture-investor in the partner management company, Workspan. In addition to making Deltaverge available to its customers, Wipro customers can also opt to deploy Workspan's partner management solution. CSPs seeking a partner ecosystem management solution from the managed service provider are given an option between Wipro Deltaverge and Workspan's partner management solution.

Appendix

Methodology

The information included in this report is based on primary research based on in-depth briefings and solution demos from nine software vendors and insights gained via surveys conducted with CSP executives. The report also includes insight from secondary research, including forecasts, publicly announced contracts, and previously published research.

Further reading

Beyond 2020: What's ahead for 5G? (August 2020)

Creating a Dynamic Partner Ecosystem (June 2020)

Informa Tech 5G survey results (August 2019)

OSS/BSS Evolution Survey – 2021 (November 2020)

Telecoms – ICT Enterprise Insights (September 2020)

Telecoms IT Vendor Revenue Forecast 2020-25 (September 2020)

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