

# Revenue Management: Competitive Landscape Assessment

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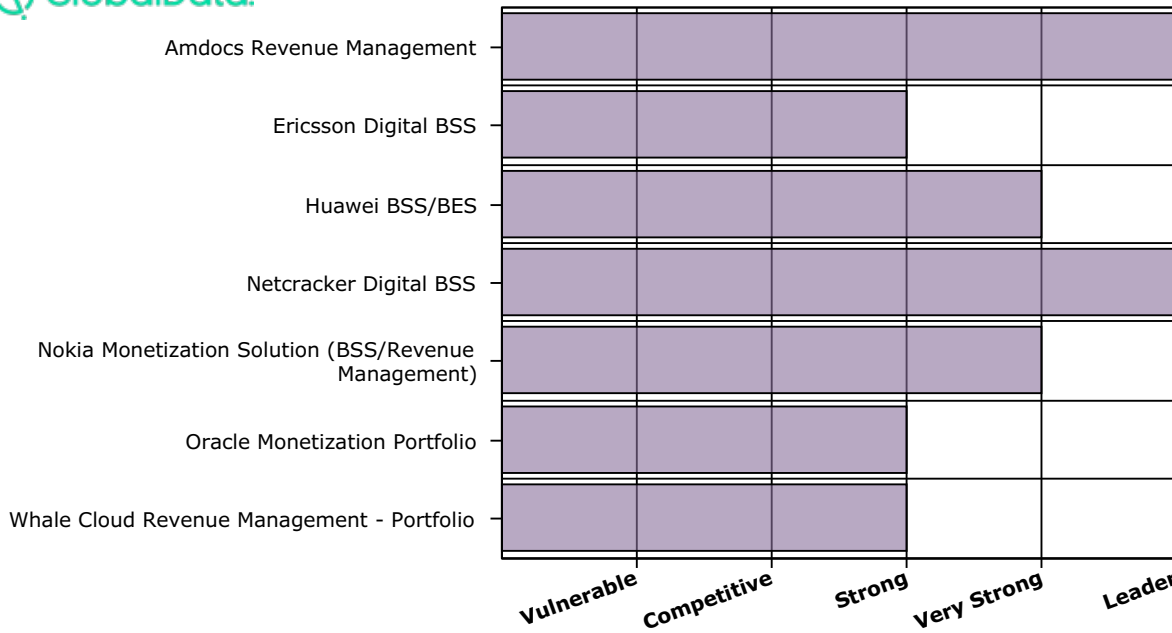
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## COMPETITIVE LANDSCAPE ASSESSMENT - REVENUE MANAGEMENT

### REPORT SUMMARY

Operators increasingly seek cloud-native revenue management solutions and alliances with multiple public clouds. CSPs are also increasingly looking to their vendors to build developer ecosystems to help create new 5G revenue streams.

### PRODUCT CLASS SCORECARD



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### MARKET OVERVIEW

<b>Product Class</b>	Revenue Management
<b>Market Definition</b>	<p>The revenue management market consists of business support system (BSS) offerings primarily related to mediation, converged rating and charging, online charging systems (OCS), customer billing management, partner billing management, collections management, bill presentment, voucher management, policy and control charging, and monetization.</p> <p>Revenue management solutions increasingly support digital operator business models including real-time pricing and consumption, as well as overall network and business agility. The accelerated deployment of cloud-native revenue management systems has expanded as operators look to build personalized digital interactivity, customer self-service portals, analytics-driven proactive</p>

	<p>care, precision marketing, and real-time convergent charging. Revenue management vendors are streamlining service and plan creation as well as customer-driven personalization with a unified and orchestrated billing framework that supports catalog, rating, and policy logic in real-time.</p> <p>The revenue management vendor landscape includes the top-tier OSS/BSS suppliers as well as specialized vendors like Matrixx, Nexign, CSG, Hansen, Cerillion, and Alepo, which may focus more on prepackaged, standardized, cloud-delivered solutions.</p>
<b>Rated Competitors</b>	<ul style="list-style-type: none"> <li>• <a href="#">Amdocs</a></li> <li>• <a href="#">Ericsson</a></li> <li>• <a href="#">Huawei</a></li> <li>• <a href="#">Netcracker</a></li> <li>• <a href="#">Nokia</a></li> <li>• <a href="#">Oracle</a></li> <li>• <a href="#">Whale Cloud</a></li> </ul>
<b>Additional Competitors</b>	<ul style="list-style-type: none"> <li>• Alepo</li> <li>• Cerillion</li> <li>• CSG</li> <li>• Ericsson</li> <li>• Hansen</li> <li>• Matrixx</li> <li>• Nexign</li> <li>• Tango Telecom</li> </ul>
<b>Changes Since Last Update</b>	<ul style="list-style-type: none"> <li>• <b>February 2021:</b>Telefônica Brazil Vivo announced a six-year agreement to deploy Ericsson Charging across its prepaid, postpaid, hybrid-consumer, and enterprise-convergent businesses. The solution will serve nearly 100 million customers using OpenStack on Vivo’s private cloud platform.</li> <li>• <b>November 2020:</b> Amdocs signed a new, multi-year strategic agreement to run its BSS offerings natively on AWS. Amdocs and AWS will also collaborate on a suite of new migration and system modernization services.</li> <li>• <b>November 2020:</b>Oracle announced Oracle Digital Experience for Communications, a new cloud-based customer experience (CX) management solution that offers communications charging, operations support, and billing and revenue management.</li> <li>•<b>August 2020:</b> Amdocs completed the acquisition of Openet, a provider of 5G charging, policy, and cloud technologies.</li> <li>•<b>April 2020:</b> Netcracker announced the deployment of its full stack Digital BSS/OSS and Orchestration applications on AWS. Netcracker announced a similar deal with Google Cloud the previous month.</li> <li>•<b>March 2020:</b>Whale Cloud launched ZSmart 5G Master Solution, incorporating 5G network management, operation and orchestration along with AI-fueled network assurance to drive 5G business models.</li> <li>• <b>February 2020:</b> Huawei launched Convergent Billing System (CBS) R20, a 5G SA network-based monetization solution.</li> </ul>

## MARKET ASSESSMENT

The revenue management market is evolving rapidly thanks to increasing operator investment in cloud-based billing platforms aimed at facilitating more targeted user experiences and much shorter time to market in emerging 5G/digital environments. Operators of all stripes are on a path toward cloud-native revenue management capabilities that can flexibly meet the personalized and customized service demands of their customers using self-service interfaces to shorten time-to-market. However, with all vendors in this space claiming cloud-native capabilities, true proof of capabilities will be in the ability to showcase operator customers embarked on multi-year cloud-native

journeys – and seeing meaningful benefits in terms of agility, flexibility, and incremental revenue – as a result.

Operators are dealing with the challenges of unifying rating, billing, and integrated online charging and policy control onto a single platform. Operators require converged billing systems to capitalize on the economic benefits of network convergence across fixed, mobile, and IP services as well as multiservice convergence across voice, data, SMS, and content. Equally important, converged platforms unify prepaid, postpaid, and hybrid payment models and integrate a variety of third-party integration capabilities. Complicating this picture further is the gradual transition from the 4G EPC's combined Policy and Charging Rules Function (PCRF) to the 5G Core's Policy Control Function (PCF) and Charging Function (CHF).

Increasingly, operators are concerned with their inability to monetize current and planned 5G investment. This growing unease means that revenue management vendors are under pressure to show how, e.g., real-time charging, unified catalogs, and innovative bill presentment capabilities can help drive revenue. On the enterprise/B2B side in particular, revenue management providers are building in a more proactive approach to network-as-a-service offerings as well as a migration path to dynamic network slicing.

## MARKET DRIVERS

- **Cloud-Native Capabilities are Table Stakes:** All vendors are, to some degree or another, embracing their cloud-native, microservices-based approach to flexible revenue management. As a result, differentiation becomes more difficult to carve out. Though it is at times challenging to differentiate among vendors voicing common portfolio evolution goals, there is clear differentiation currently among vendors that can point to more extensive cloud-native engagements with named customers – and those that are in the earlier stages of leading legacy installed base to next-gen platforms.
- **Transform Customer Experience:** While vendors have always utilized traditional revenue management capabilities to boost customer experience outcomes, the role revenue management plays in CX is greater than ever. However, the challenges continue to become more complex. New network capabilities enable new user experiences and services for consumers and enterprises; revenue management solutions must have the agility and flexibility to deliver and monetize those services.
- **5G Monetization Imperative Growing:** Some vendors were arguably ahead of the market in focusing on 5G monetization several years ago. However, as 5G networks proliferate and mature over the next two years, a critical mass of CSPs will be trying to figure out how to make money from their 5G investments. Revenue management vendors must therefore focus their portfolios - and related services - on building a path that starts with simple 5G use cases like immersive stadium experiences, but can evolve to increasingly transformative cases based on robust network slicing capabilities.
- **Controlling OpEx:** OpEx has continued to increase as operators struggle to keep pace with increasing uptake of mobile, fixed broadband and video services, and executing digital transformation. Automating billing processes decreases errors, lowers opex, and powers overall business agility. Successful revenue management platforms will enable non-engineers (e.g., marketing and promotion teams) to design tariffs, promotions, and services; meanwhile, new pay-as-you-go (PAYG) licensing and cloud operations (private or public) enables greater agility and shorter release cycle, reducing costs to introduce new services.

## BUYING CRITERIA

- **Portfolio Capabilities:** Specific criteria included mediation; converged rating and charging; 5G charging function support; online charging system (OCS) capabilities; customer billing and partner billing management capabilities; collections management; bill presentment; voucher/loyalty plan management; analytics integration; policy control and charging portfolio; and enterprise monetization solutions.
- **Delivery Models:** Criteria included details about the depth and breadth of their managed services offerings; support for emerging "as-a-service" models, and flexibility and degree of support for hybrid/multicloud consumption

models. GlobalData also asked vendors about their support for waterfall and agile development methodologies, as well as traditional delivery cycles achievable using the latest version of their BSS platforms. Finally, we asked vendors to identify significant delivery partners.

- **Service & Support:** This was analyzed based on total workforce in the relevant focus areas; support in terms of global solution delivery centers; and R&D investment in terms of total investment and R&D/innovation focus areas.
- **Customer Success & Stability:** Success and stability is assessed by analyzing recent financial performance, including revenue and margin performance, debt profile, and other factors indicating corporate stability. Customer success was analyzed by referencing number and diversity of revenue management customers; recent momentum with “showcase” customers; and new badges as well as expanded customer relationships in the past year.

## VENDOR RECOMMENDATIONS

- **Cloud-Native Readiness:** Revenue management vendors must embrace cloud-native architecture and help their operator customers to embrace open APIs and open source software to improve their agility.
- **Complexity Management:** Operators need solutions to the inevitable complexity coming with hybrid 4G/5G capabilities. 4G/5G core functions will converge and eventually be migrated to full 5G at a very slow pace, and in some paces 3G will proliferate for years. As a result, vendors should work to build solutions that can accommodate platform capabilities that will vary by device, geography, and many other factors, over an indefinite period.
- **Emphasize Speed:** A key source of differentiation among revenue management vendors is the balance of speed and customization. Vendors should highlight their use of - for example - configuration-based service and tariff creation, CI/CD engagement methodology; standardization combined with frequent upgrades; and/or managed and professional service engagements. They should also be able to help quantify the cost benefits of each.

## BUYER RECOMMENDATIONS

- **Monetization Ecosystem:** Particularly in 5G, monetization will rely on a robust ecosystem of development partners. This in turn requires platforms that can onboard, manage, bill on behalf of and settle with, increasing complex ecosystems that collectively create value. These ecosystems will vary significantly between consumer and enterprise value chains; and between different vertical markets.
- **Evaluate Public Cloud Options:** Tier 2/3 operators need to evaluate the long-term economic benefits of using the public cloud infrastructure to affordably scale their billing systems. Adopting public cloud-enabled software-as-a-service (SaaS) models, including billing-as-a-service (BaaS), can provide a viable option to meet core digital transformation objectives such as avoiding the cost and complexity of deploying a hybrid cloud or on-premise implementation. Pay-as-you-grow licensing models reduce upfront costs and speed time-to-market for rolling out new service billing innovations.
- **NaaS/Network Slicing Portfolio:** With a new generation of network-as-a-service offerings increasingly possible due to the proliferation of virtualized network functions, operators need to press vendors for their ability to support NaaS by enabling enterprise self-service capabilities, and by offering consultative engagements on how NaaS potentially changes how solutions are sold by CSPs into enterprises. Operators should also press vendors for a roadmap of how NaaS can evolve into network slicing capabilities in the future.

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