

OPENET CHARGING

THE 5G TREASURY

Built for Monetising Digital / 5G Services
Widen Your 5G Advantage Even Further

H1 2021



“Openet’s Evolved Charging Suite (ECS) has been rated by leading service providers as the world’s leading real-time, convergent charging system”

INTRODUCTION

Today’s “on demand” customers already expect real-time visibility and real-time provisioning of offers and plans. With 5G, customers, including new B2B and B2B2X customers, need the same “on demand” visibility and control - but at a much greater scale. 5G will see an explosion of connected devices, IoT and connected societies that will push requirements to new levels. These requirements are driving the need for cloud-based solutions with unlimited scaling and vice-versa. This growth will have an impact on how massive data expansion needs to be processed and monetised by service providers.

As a convergent solution, Openet’s Evolved Charging Suite (ECS) supports pre-paid and post-paid models for 3G, 4G and 5G mobile, fixed, IoT, content and any other digital services that service providers will want to monetise as new opportunities are released from their networks. These can combine hybrid pre- and postpaid propositions and a vastly expanded range of network capabilities in 5G, all of which can be monetised efficiently. As 5G evolves for B2B, new opportunities from slice availability and edge-driven services will further increase demands for SLA-driven charging capabilities. Service providers can expand offerings with more relevant and spontaneous upselling and launch new services in minutes rather than months.

ECS is built for 5G and determines the exact offer / subscription to act on in real-time in this new landscape. It executes the appropriate rating and charging actions per the relevant priorities and conditions. It ensures all balance updates are applied, reflecting the decisions made within charging.

ECS plays a critical role in the flexible configuration, launch, management, monitoring and of course monetisation of differentiated services and service chains in a provider’s network. It delivers the flexibility required to compose charging orchestration flows for all of the new service producer functions and partner integrations in the evolving 5G core.

ECS has been rated by leading service providers as the world’s leading real-time, convergent charging system. It allows service providers to manage emerging rating and charging requirements. It allows extreme convergence and scale in addition to self-service for non-technical personnel and the introduction of new business models that the wider 5G ecosystem is enabling. As such it is being seen as the “treasury”, focal point and “single source of truth” for service creation and monetisation.

BENEFITS

FASTER TIME TO MARKET

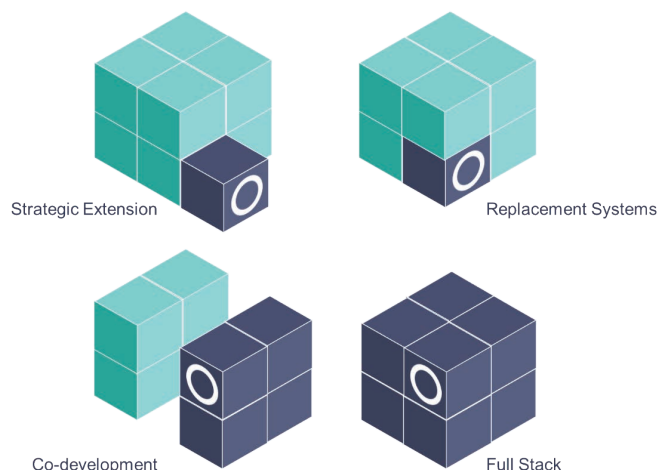
Openet provides a self-service catalog configuration approach that is key to release of opex benefits from ECS. It allows a service provider to configure offers faster, reducing time to market by up to 70%. The Openet approach to developing microservices-based solutions also takes advantage of the composability, independent deployability and updatability of microservices. This is to facilitate deploying new features without having to wait for the next “forklift upgrade”.

DEPLOYMENT EASE & FLEXIBILITY

Whatever the starting point, Openet ECS supports various easy and flexible deployment models (Figure 1) that further improve time-to-market and time-to-value benefits, including:

- Providing one or more microservices (and a co-development approach)
- A number of microservices addressing an adjunct charging capability (strategic extension, right sized for service provider needs)
- A fully-converged system comprised of microservices, capable of fully integrated Policy and Charging (PCC)
- Distributed models for deployment closer to the edge as they emerge.

Figure 1 : Deployment Flexibility



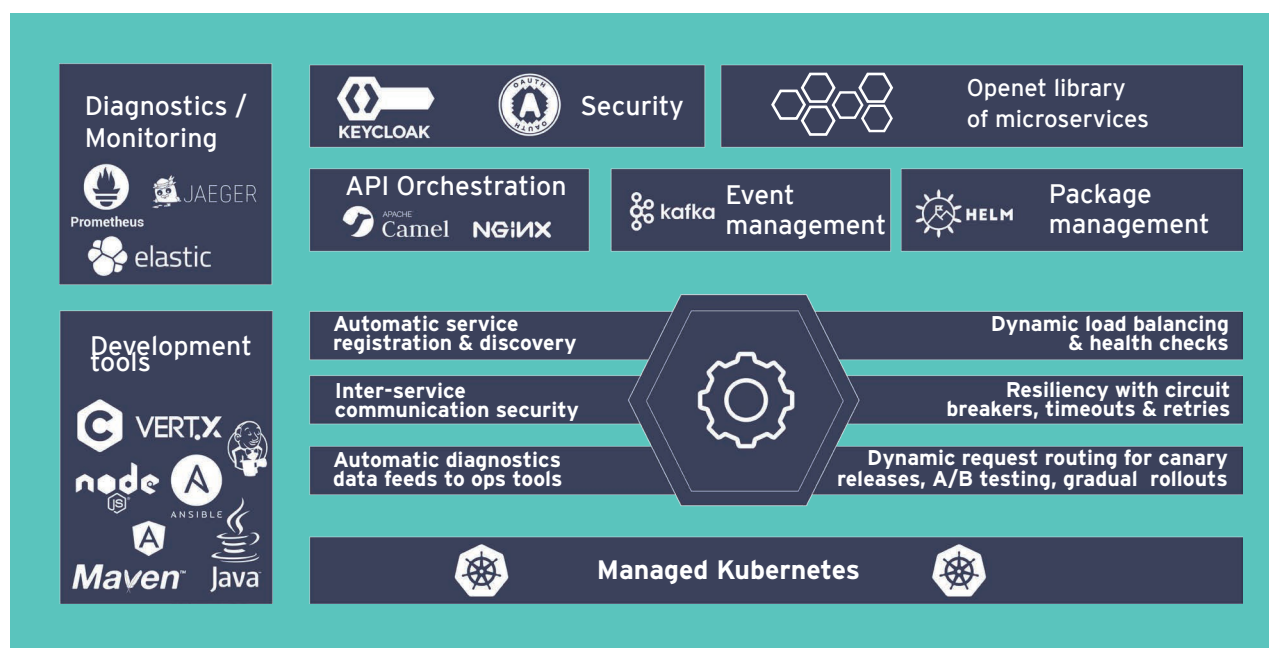
Openet has a vast library of proven interfaces to assist with whatever flavour of the above deployments a service provider requires. Since ECS is microservices-based, setup and updates ensure that services are not interrupted and are infinitely scalable. It's cloud-native by definition so deployable multi-cloud and hybrid-cloud options are tailored to suit. Edge deployment has been anticipated by Openet for a number of years.

BENEFITS

REDUCING COSTS AND DELIVERING PERFORMANCE BY LEVERAGING THE BEST OF OPEN SOURCE

Openet ECS leverages open source components (Figure 2) to take advantage of the best-in-class components the world has to offer. This includes software like Docker, Kubernetes, elasticsearch and Kafka. This allows us to use the right tools for the right task, without being wedded to a specific technology, promoting choice and thereby reducing implementation risk. Openet has however evolved its own service mesh to ensure telco-grade efficiencies and reliability. This has provided over 30% improvement in CPU usage versus alternatives. This has tremendous benefits. From environmental considerations relating to capex efficiencies through to freeing up resources for the enablement of a greater number of new services. ECS is built for optimal monetisation of the 5G service-based architecture.

Figure 2 : ECS Leverage of Open-Source



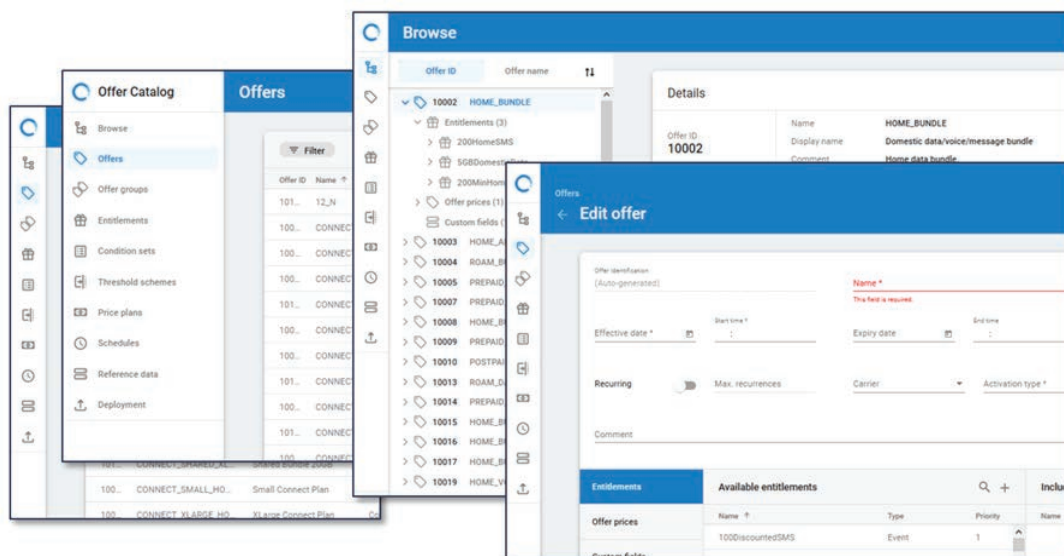
BENEFITS

FASTER OFFER SET UP THROUGH SELF-SERVICE USABILITY

Openet values the self-serve usability needs of our customers, and have invested heavily in the continuing evolution of the tools we put in your hands (Figure 3). By leveraging the usability of ECS Openet customers can quickly build, configure their offers, products and business rules themselves thus further speeding up time to market and delivering additional agility.

We also value the security of the access you allow and support standards-based authentication mechanisms as well as role-based access controls (RBAC) to all our user interfaces, and the APIs that serve them.

Figure 3 : Extreme usability



LOW TCO

Deployment options, greater use of open-source, superior usability and greater cloud-driven flexibility all point to more value as well as lower cost per service supported. As services emerge that need to be tested, then they can be - but at a far lower risk to the business than could have been imagined via previous or disparate revenue platforms. As services are identified as proving better than competitors' services they can easily scale accordingly.

FEATURES

Usability	<ul style="list-style-type: none"> • Single UI providing a rich and intuitive UX • Out of the box fully working set of intuitive functionality that can be deployed “as is” or customised as necessary to fulfil service provider needs • Auto testability • Designed to be highly observable - monitoring capabilities • Ability to control and monetise service • Ability to control and monetise service slicing for enterprise and B2B2X customers 	Operability	<ul style="list-style-type: none"> • Monitoring dashboards <ul style="list-style-type: none"> • Subscriber tracing dashboard • Unified logging and alarming dashboards • Support on-boarding and lifecycle management with ONAP
Cloud native	<ul style="list-style-type: none"> • 5G Supports for HTTP/2 based communication • All NF's are built using micro service design patterns • All micro services are stateless by design, only introducing stateful services where necessary • Independently deployable as Docker containers • Manage service upgrades and updates 	4G to 5G interworking	<ul style="list-style-type: none"> • Openet ECS supports migration options and 5G backward compatibility with 4G via the Openet Diameter to REST Bridge (DRB) • Deployable using the same CI/CD and software base • Operational software base which delivers additional operational efficiencies
Record distribution	<ul style="list-style-type: none"> • Record distribution in a cloud-native environment • Integration with Openet Data Fabric (ODF) via the ODF plugin (supporting, file, elastic and Kafka distribution formats) 	Offer catalog	<ul style="list-style-type: none"> • The Offer Engine is the “astonishingly clever mind” of ECS. Together with offer catalog they are driving up to 70% reductions in time-to-market • ECS enables a rapid concept to configuration and then to deployment approach
Testability & automation	<ul style="list-style-type: none"> • Continuous integration and continuous development platform • Platform for enabling innovation and partnerships 	5G partnerships	<ul style="list-style-type: none"> • Close partnerships to provide alignment of roadmaps and feature set • Integration labs to introduce a complete end to end architecture
Upgradability	<ul style="list-style-type: none"> • In-service updates (no more “upgrades” due to microservices) is paramount emphasis • Elastic scaling is available on all stateless micro services • Compliance with latest 3GPP spec releases 	API Driven - Ability to script & automate policy configuration	<ul style="list-style-type: none"> • All Interactions are via a published API • E2E Policy and Charging integration: seamless integration and synergies from Openet Policy Controller
Legacy migrations	<ul style="list-style-type: none"> • Backward compatibility and ability to easily add and update new capabilities via microservices 	Overload protection/robustness	<ul style="list-style-type: none"> • Latency protection • Overload conditions

WHY WE'RE DIFFERENT

The Openet pedigree of live deployments of containerised charging in the world's largest and most innovative service providers, instills confidence for the rapidly scaling and maturing requirements of 5G.

Openet has a long history of evolving charging to meet and surpass the current need. It has been Diameter-centric for 3G\4G and now REST-centric for 5G and the needs of an infinitely-scalable cloud-native future.

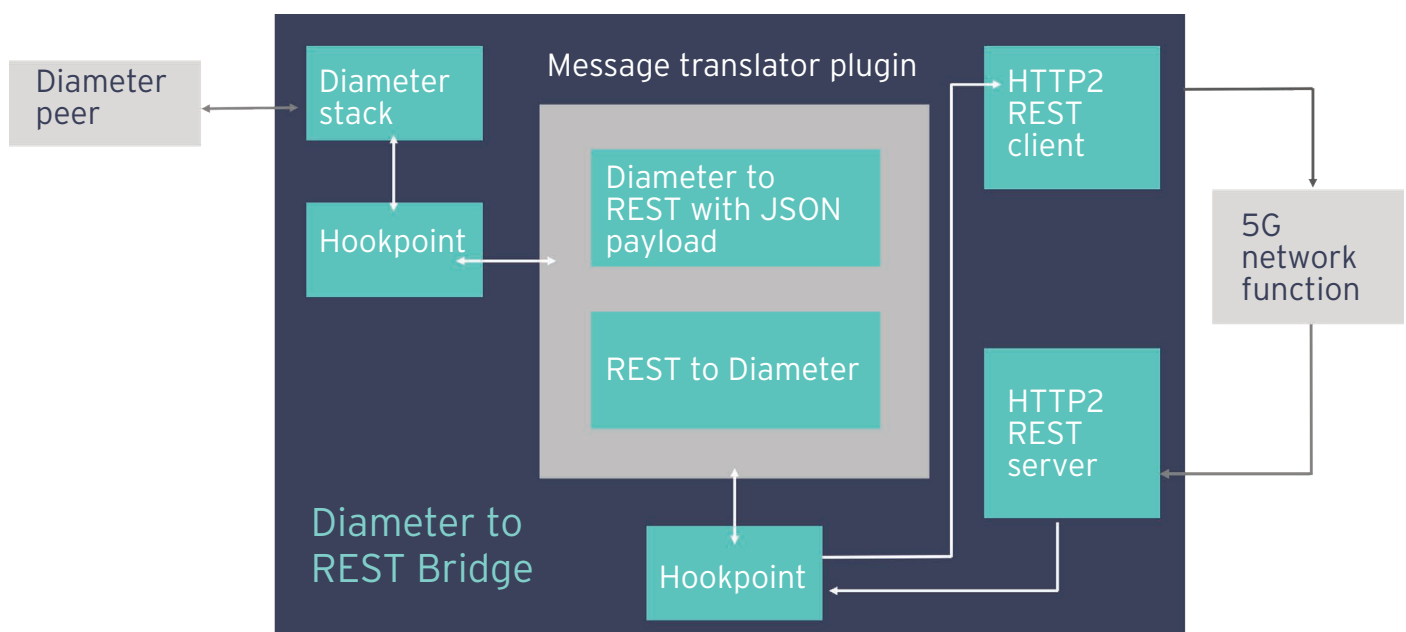
We have extensive lessons learned and deep service expertise from live deployments. This includes understanding that certain open source service mesh technologies are not telco grade. Testing has shown over 30% and as much as a 50% overhead in using pure open source mesh vs the Openet developed version. Openet has taken the practical approach to telco grade microservices implementations rather than following purist microservice development patterns. This allows us to deliver on the business benefits of using microservices without compromising the network grade performance and latencies expected from every service provider.

Openet recognises that cloud systems can be complex, especially if you are not sure which one to choose - Amazon, Microsoft or Google, among others. We work with leading container management providers to deliver an agnostic approach to containerisation and the infrastructure choice criteria of service providers.

Whether the focus is on 4G, 5G or hybrid environments, backward-compatibility is catered for via Openet's Data Bridge (Figure 4), facilitating conversion from 4G to 5G and the reverse if needed.

Openet charging is continuously evolving with new features and functions to ensure our customers have the most advanced 5G charging system in the world.

Figure 4 : Diameter to REST Bridge ("Openet Data Bridge")



WHY WE'RE DIFFERENT

Openet understands that operational observability is key at this juncture in the evolution of service providers to cloud-native solutions. We live by the 3 pillars of observability (logging, metrics and tracing). We leverage the best solutions of choice: including, Elastic stack, Prometheus and Jaeger. Based on 20 years of "telco pedigree" we also understand the key signals to measure, and observe, on the border between the worlds of Network and IT, namely: latency, traffic throughput, errors and saturation.

Openet is the most credible and proven vendor focused on real-time monetisation and PCC for 5G, and is deeply experienced in best practice delivery, including DevOps, massive data migration and the exacting requirements to support the world's leading service providers.

As part of Amdocs, Openet can leverage the expertise, scale and solutions of Amdocs to provide our world leading products stand-alone or as part of a wider multi-product solution.



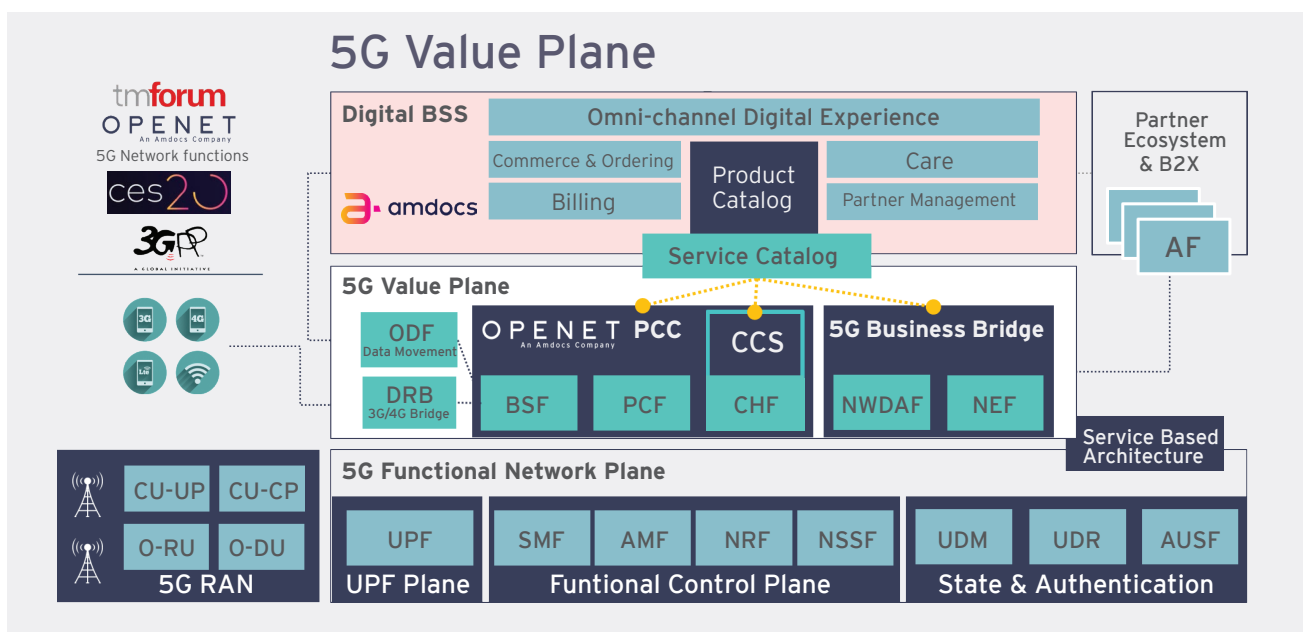
WHY WE'RE DIFFERENT

For 5G our products support a range of use cases and applications. A sample of these are highlighted in Figure 5.

Figure 5 : Sample of 5G use cases enabled by Amdocs and Openet products



Together with Amdocs we have combined products that provide a real-time and dynamic bridge between telco IT and the 5G network. At the core of the 5G Value Plane are the Openet 5G data management, charging and policy products and the Amdocs Service Catalog - CatalogONE. Openet's products provide the integration point to the 5G network and Amdocs CatalogONE provides the integration point to the business / IT universe. Having this foundation for 5G management and monetisation also opens up new opportunities to update adjacent solutions - such as digital customer experience management on the business side and network optimisation on the network side. This opens up the opportunity to monetise the 5G network by enabling higher value, 5G network driven use cases and offers that realise the potential of 5G.



ABOUT OPENET:

Openet, an Amdocs company, is a leading software and services provider to communications companies. Our deep domain expertise & understanding of complex systems, underpinned by the tenacity and determination of our people, enable us to radically transform how our customers do business, providing best in class digital and 5G business support systems.

In an industry where the only constant is change, our open and innovative technology is built for change. For the last 20 years we have helped the world's most innovative communications companies manage and monetise their business and evolve from communications companies to digital service providers. This gives our customers the power to enter new markets, open new revenue streams and increase profitability.

AMDOCS & OPENET:

Amdocs (with Openet as an important part of the engine) has evolved to be the best vendor-partner to drive the enablement of 5G innovation to become commercial reality and help change the industry. We combine agile, cloud-native IT with the power of the 5G network to enable new opportunities for service providers, open new markets and develop new business models. Beyond the vision for software products, Amdocs has expanded its delivery, support and operations models that are most suitable for our customers' needs. 5G is driving change in our societies and economies, and offers huge opportunities for our customers.

Together Openet and Amdocs are Built for Change.

OPENET PRODUCTS:

Openet Charging:

Real-time convergent charging for digital and 5G services

Openet Policy:

Network policy control for next gen fixed, mobile and converged networks

Openet Data:

Data management, data processing and data governance solution designed to collect and manage data at 5G volumes in real-time

Openet Digital Platform:

End to end Digital BSS/OSS stack containing Openet & our partners' products

Openet Forge:

The digital enablement toolkit which contains Openet's library of microservices, upon which all Openet products are built

DELIVERING BUSINESS VALUE:

40%

Reduction in time to market for new offer creation

28%

Uplift in offer uptake

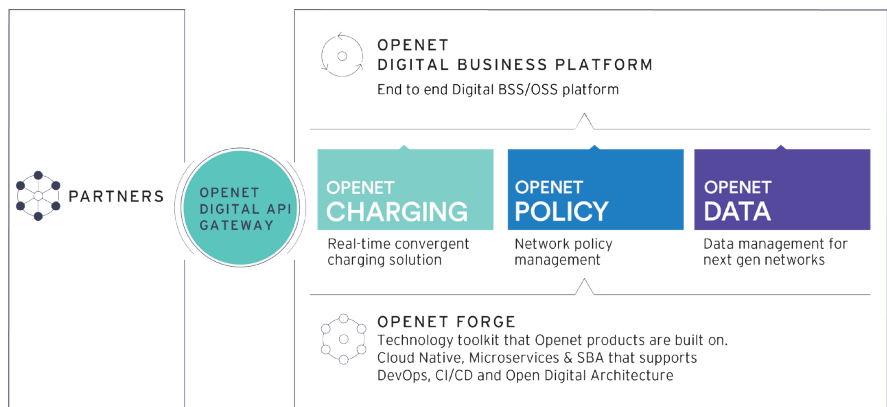
11%

Increase in mobile data ARPU

41%

Increase in mobile data revenues

OPENET PRODUCT PORTFOLIO



OPENET

An Amdocs Company

OUR CUSTOMERS



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