OPENET

Charging 8.0

BUILT FOR

MONETISING

DIGITAL & 5G SERVICES

Widen your **5G advantage**
even further

"Using the latest mesh capabilities Openet ECS 8.0 brings as much as 30% more processing efficiency with additional efficiencies in latency"

INTRODUCTION

The Openet Evolved Charging Suite (ECS) has been rated by leading service providers as the world's leading real-time, convergent charging system. It allows service providers to manage the rating and charging of device activities on 2G/3G/4G and 5G networks in real-time.

As a convergent solution ECS supports pre-paid and post-paid models for mobile, fixed, IoT, content and any other digital services that service providers want to monetise. This enables service providers to provide more relevant upsell offers. These can combine hybrid pre- and postpaid propositions for a range of service offers - from a zero rated movie offer to a family data share offer.
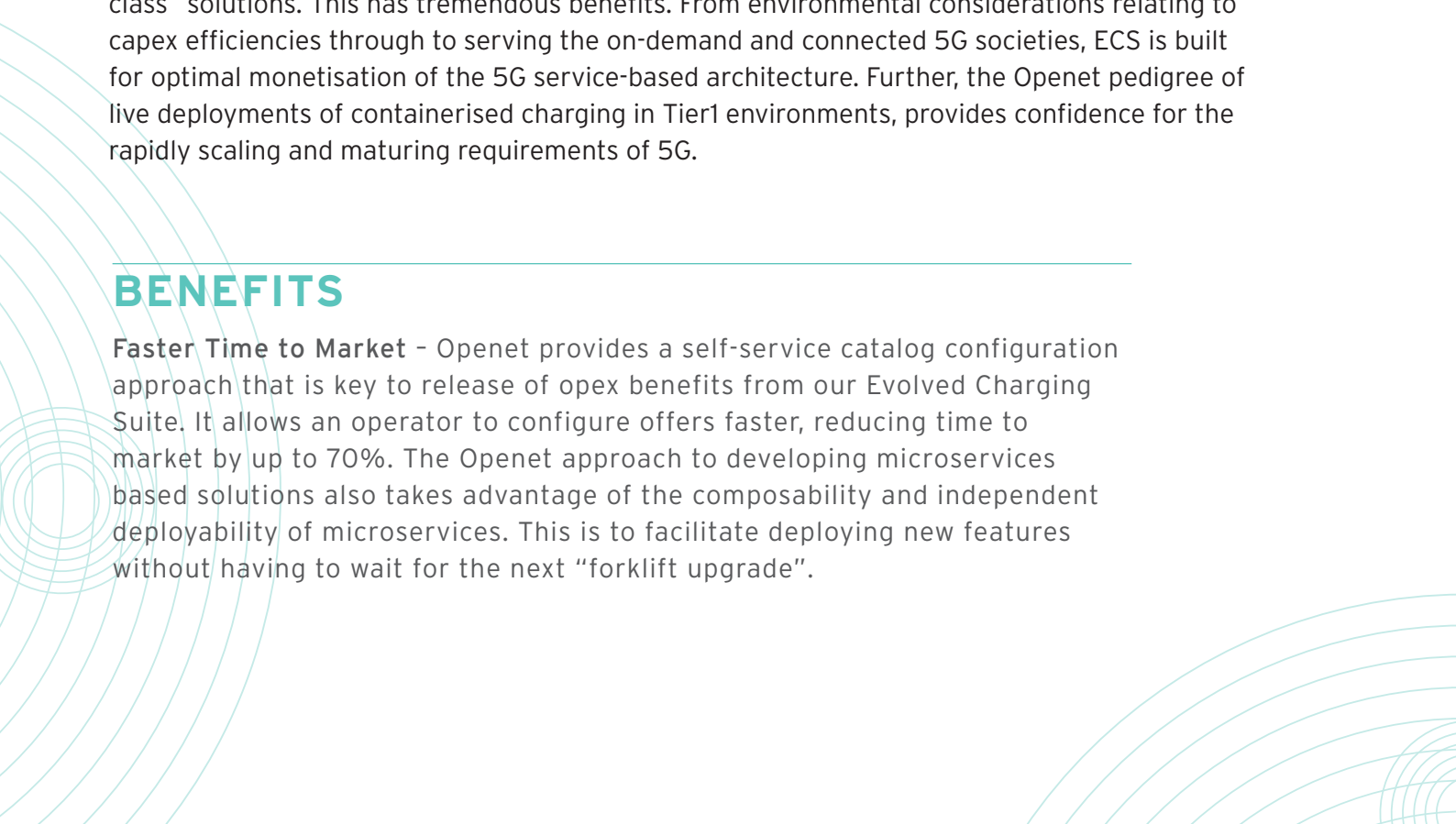
Today's "on demand" customers expect real-time. They expect real-time usage visibility and real-time provisioning of offers and plans. ECS provides real-time usage data which provides the foundation for digital 'self-service' and real-time offers.

With 5G, customers, including new B2B and B2B2X customers, need the same "on demand" visibility and control. But at a much bigger scale. 5G will see an explosion of connected devices. IoT and the emergence of connected societies will take scale to a new level. This will drive the need for cloud-based solutions and unlimited scaling. This growth will have an impact on how data needs to be processed by service providers.

Using the latest mesh capabilities Openet ECS 8.0 brings as much as 30% more processing efficiency with additional efficiencies in latency. This is versus previously-considered "best-in-class" solutions. This has tremendous benefits. From environmental considerations relating to capex efficiencies through to serving the on-demand and connected 5G societies, ECS is built for optimal monetisation of the 5G service-based architecture. Further, the Openet pedigree of live deployments of containerised charging in Tier1 environments, provides confidence for the rapidly scaling and maturing requirements of 5G.

BENEFITS

Faster Time to Market – Openet provides a self-service catalog configuration approach that is key to release of opex benefits from our Evolved Charging Suite. It allows an operator 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 and independent deployability of microservices. This is to facilitate deploying new features without having to wait for the next "forklift upgrade".
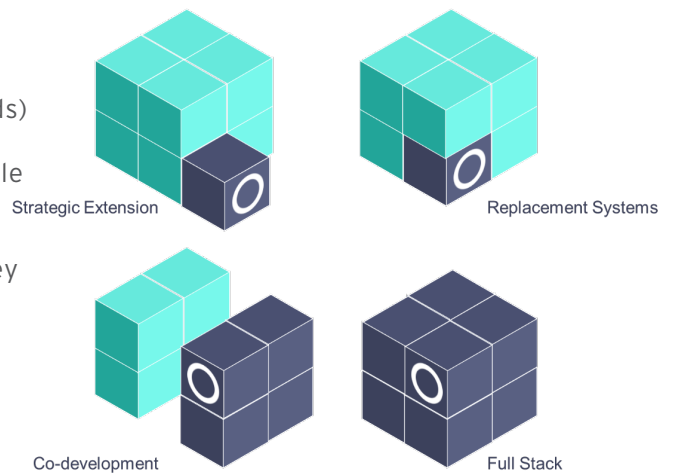
"Openet ECS leverages open source components to take advantage of the best-in-class components the world has to offer"

Low TCO – ECS provides market leading price performance which supports full virtualisation or containerisation of all capabilities. Now providing as much as 40% in opex efficiencies over "next best" alternatives.

Deployment Flexibility - Openet ECS supports various deployment models based on:

a) providing one or more microservices (and a co-development approach)

b) a number of microservices addressing an adjunct charging capability (strategic extension, right sized for operator needs)

c) a fully-converged system comprised of microservices, capable of fully integrated Policy and Charging (PCC)

d) distributed models for deployment closer to the edge as they emerge.

Strategic Extension

Replacement Systems

Co-development

Full Stack

LEVERAGES OPEN SOURCE

Openet ECS leverages open source components 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 as well as latency improvements in ECS 8.0.

Diagnostics / Monitoring

Prometheus JAEGER elastic

KEYCLOAK OAUTH MANGO **Security**

Openet library of microservices

API Orchestration
APACHE Camel NGINX

kafka **Event management**

HELM **Package management**

Development tools

C VERT.X node JS A ANSIBLE A Maven Java

Automatic service registration & discovery

Inter-service communication security

Automatic diagnostics data feeds to ops tools

Service Mesh

Dynamic load balancing & health checks

Resiliency with circuit breakers, timeouts & retries

Dynamic request routing for canary releases, A/B testing, gradual rollouts

Managed Kubernetes

"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 and the exacting requirements to support Tier 1 service providers"

WHY OPENET FOR CHARGING?

Openet has a long history of evolving charging to meet the current need. It has been Diameter-centric for 3G\4G and now REST-centric for 5G and the needs of a Cloud-Native future.

We have extensive lessons learned from customer trials and 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 Telco.

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 are working with leading container management providers to deliver an agnostic approach to containerisation and the infrastructure choice criteria of service providers.

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.

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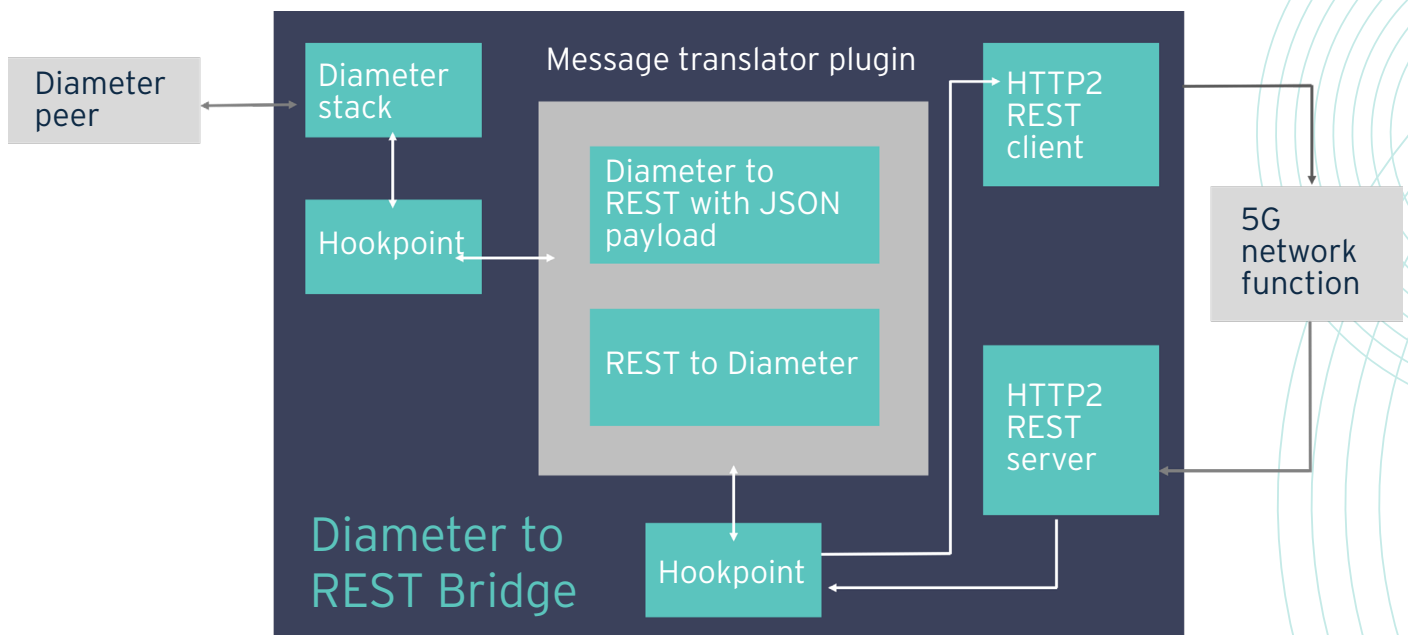
THE CRITICAL ROLE FOR OPENET CHARGING IN 5G

Openet ECS plays a critical role in the flexible configuration, launch, management, monitoring and of course monetisation of differentiated services in a service provider's network.

As a key part of ECS, the next generation Charging Manager is the flexible orchestration or "beating heart" of the solution. It is designed for asynchronous operation, and the scalable needs of cloud-native deployment. It delivers the flexibility required to compose charging orchestration flows for all of the new service producer functions in the evolving 5G core.

If the Charging Manager is the heart, the Offer Engine is the "astonishingly clever mind" of ECS. It determines the exact offer subscription to act on in real-time. 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.

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

Increasingly, service providers are looking for alternatives to the evolutionary paths they've sometimes been on for years. Full replacement of existing systems is of course still an option, especially with Openet, but there are alternatives such as extension of existing systems to meet a particular market requirement. Joint development (often involving DevOps methodologies) is an increasingly popular choice providing speed to market and control that the on-demand economy now requires. The flexibility of options from Openet provides more powerful time-to-revenue.
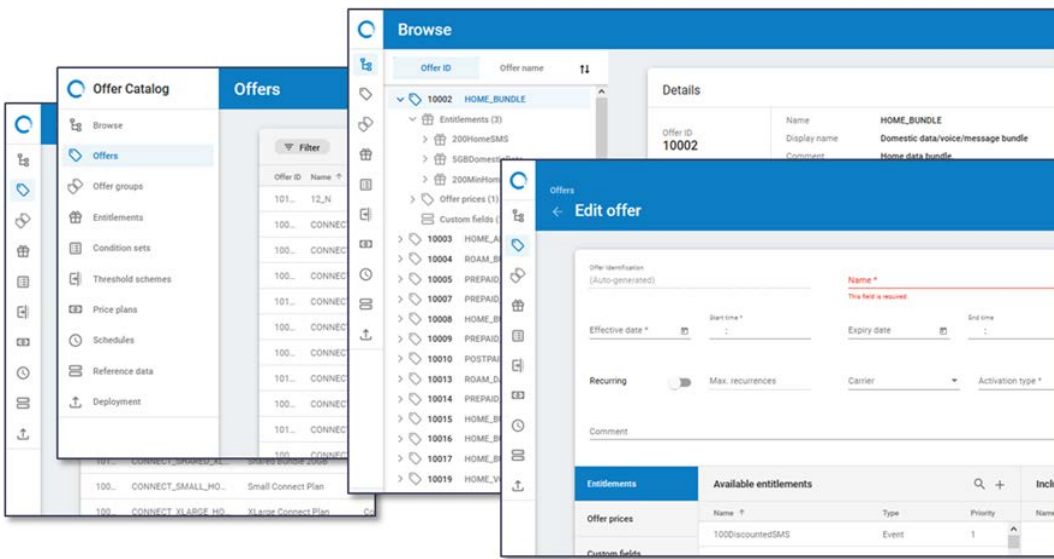
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KEY FEATURES OF OPENET CHARGING

Usability	Single UI providing a rich and intuitive UX Out of box fully working set of intuitive functionality that can be deployed "as is" or customized as necessary to fulfil operator needs. Auto testability Designed to be highly observable - monitoring capabilities Ability to control and monitise service slicing for enterprise and B2B2X customers	**Operability**	Monitoring Dashboards Subscriber Tracing dashboard Unified Logging and Alarming dashboards Support on-boarding and lifecycle management with ONAP
Cloud native	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**	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 efficiencies!
Record distribution	Record Distribution in a Cloud-Native environment Integration with ODF via the ODF Plugin (supporting, File, elastic and Kafka distribution formats)	**Offer catalog**	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	Continuous integration and continuous development platform Platform for enabling innovation and partnerships	**5G partnerships**	Close partnerships to provide alignment of roadmaps and feature set Integration labs to introduce a complete end to end architecture
Upgradability	In-service updates (no more "upgrades" due to microservices) is paramount emphasis Elastic scaling is available on all stateless micro services Latest compliance to Release 15 3GPP specs for charging, i.e. 15.4 from Sept 2019	**API Driven - Ability to script & automate policy configuration**	All Interactions are via a published API E2E Policy and Charging integration: seamless integration and synergies from Openet Policy Controller
Legacy Migrations	Backward compatibility and ability to easily add and update new capabilities via microservices	**Overload protection/ robustness**	Latency protection Overload conditions

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. 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.

CUSTOMER REFERENCE: BELL

A new approach to developing and delivering BSS lets Bell break free from the traditional approach of being tied to the vendors' product roadmaps and release dates. Using microservices and DevOps enables Bell to innovate at the speed their market demands. By having this agile approach to BSS, Bell's IT team responsible for BSS can cater for the current marketing demands for IT to support 4G services, and enables the platform to support the vast range of use cases that 5G will empower.

ABOUT OPENET

Headquartered in Ireland with operations across the globe, Openet is the leading independent 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.

Openet. Built for Change.

www.openet.com

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 platform which contains Openet's library of microservices, upon which all Openet products are provided.

DELIVERING BUSINESS VALUE:
RESULTS REALISED BY OPENET CUSTOMERS

40%
Reduction in time to market for new offer creation
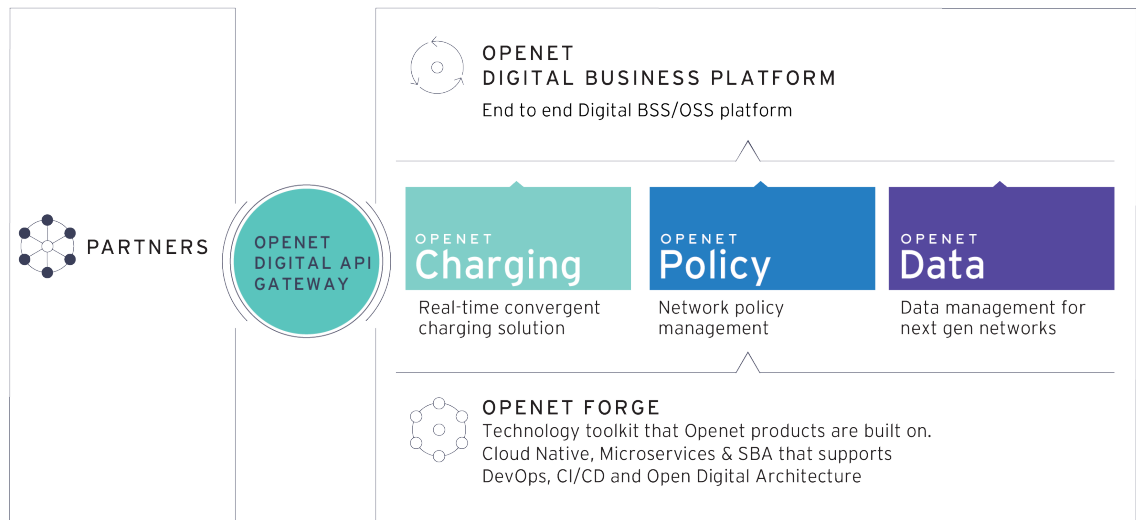
28%
Uplift in offer uptake

11%
Increase in mobile data ARPU

41%
Increase in mobile data revenues

OPENET PRODUCT PORTFOLIO:

OPENET
DIGITAL BUSINESS PLATFORM
End to end Digital BSS/OSS platform

PARTNERS

OPENET DIGITAL API GATEWAY

OPENET Charging
Real-time convergent charging solution

OPENET Policy
Network policy management

OPENET Data
Data management for next gen networks

OPENET FORGE
Technology toolkit that Openet products are built on. Cloud Native, Microservices & SBA that supports DevOps, CI/CD and Open Digital Architecture

OPENET

OUR CUSTOMERS

AT&T · Bell · BT · Claro · Globe · Magenta · OPTUS · orange · Singtel · SoftBank · T··Mobile· · Telia · TELKOMSEL · vodafone

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