ALLinONE

OCS

deployment and integration

lifecycle

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adaptable deployment options to support your business model and seamlessly integrate with existing infrastructure

Lifecycle provides a variety of customisable deployment options for the OCS to suit a range of business models. The OCS can be hosted in Lifecycle's private cloud and managed by Lifecycle, enabling providers to focus on growth. Alternatively, the OCS is public cloud compatible to offer a greater choice of hosting options, whereby Lifecycle can offer service management packages or the provider can self-manage. The OCS can be embedded into the provider's existing platforms, for installations where the provider requires the charging system to integrate with established business support systems.

To ensure compatibility with the network infrastructure, the OCS can be integrated through an industry standard 3GPP Diameter interface or through an HTTP REST API. Traffic into the OCS can be load balanced by the client, or Lifecycle can handle request routing into the system.

The OCS can be deployed across multiple sites, servers or as a single instance depending on business requirements. All the OCS components can be deployed on virtual machines or directly onto the hardware.

To find the best deployment strategy, volumes can be modelled in the OCS simulator. A profile is created based on the type of services offered by the provider, and the expected number of end users. The hardware specifications can be adjusted to match the desired deployment approach. The simulator is run to produce performance data that is used to determine whether the solution will support the expected volumes, and to gain insight into the capacity to grow within the boundaries of the current deployment.
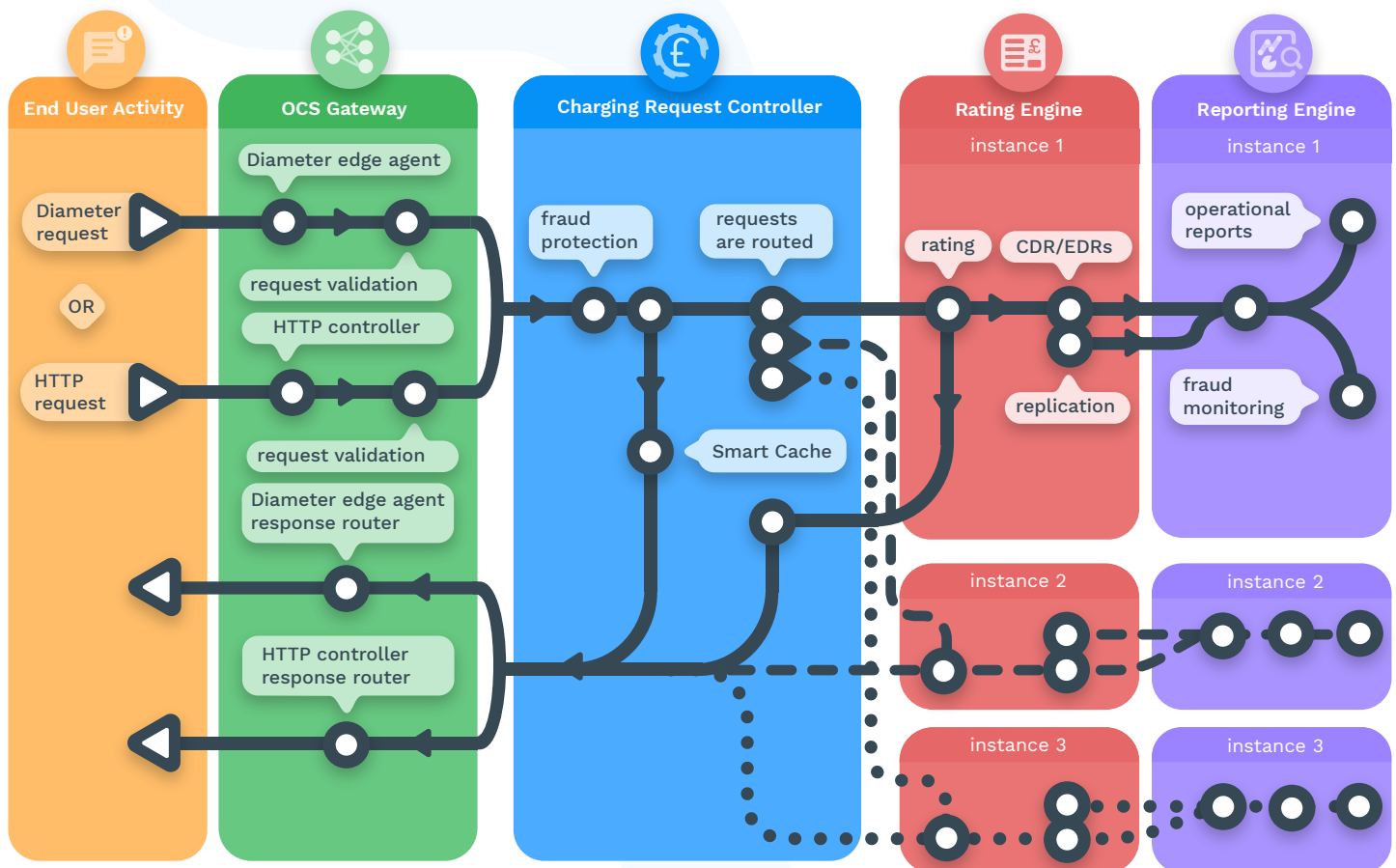
In a managed service environment, the OCS can be extended with additional business support applications from the ALLinONE BSS suite. Applications include a comprehensive CRM system to manage the needs of end users, with integration options into provisioning services and third party SIM fulfilment providers. The end user self-care platform can be deployed with a customisable user interface, or accessed via APIs if the provider opts to design their own product. Further benefits include automated payment collection services through Lifecycle's own Direct Debit solution or integration with third party payment providers. Branded end user notifications can be delivered via SMS and email from system generated events.

To deliver the provider's unique business goals, Lifecycle can develop bespoke microservices that plug in to the OCS or any of the ALLinONE applications.

Feature	Hosted OCS	Embedded OCS
Realtime rating	✓	✓
Cloud compatible	✓	✓
ALLinONE BSS	✓	
OCS management APIs	✓	✓
Performance monitored by Lifecycle (managed service)	✓	
5G ready	✓	✓
Post-pay billing	✓	✓
Pre-pay billing	✓	✓
Retail billing	✓	✓
Wholesale billing (support for reseller model)	✓	✓
Multiple site resiliency	✓	✓
Single site installation option		✓
Operational reporting	✓	✓
Service/performance dashboards		✓
Network CDR/EDR reconciliation	✓	
Managed integration with payment providers	✓	
Regular feature and performance updates	✓	✓
Virtual machine compatible	✓	✓

OCS workflow

End User Activity · **OCS Gateway** · **Charging Request Controller** · **Rating Engine** · **Reporting Engine**

Diameter request — OR — HTTP request

Diameter edge agent · request validation · HTTP controller · request validation · Diameter edge agent response router · HTTP controller response router

fraud protection · requests are routed · Smart Cache

instance 1 · rating · CDR/EDRs · replication · instance 2 · instance 3

instance 1 · operational reports · fraud monitoring · instance 2 · instance 3

end user activity

Usage charging requests are generated when end users access the network to request or receive a particular service offered by the provider.

OCS gateway

This is the authenticated entry point into the OCS from the network. Where the Diameter protocol is used, the request is handled by the Diameter edge agent. Alternatively, the request enters via the HTTP controller. The first level of validation is performed to ensure the request carries the required information to be able to rate the service requested.

charging request controller

The controller routes the request to the rating engine instance required to rate the service request. The above diagram illustrates an installation example where a single entry point from the network into the OCS can support multiple instances of the rating and reporting engines. This type of deployment approach would suit a wholesaler who needs to provide individual rating engines to their resellers. In this model, an instance of the ALLinONE business support applications could be installed for each reseller to provide a complete MVNO BSS offering.

The Smart Cache resides in the charging request controller to provide end user tailored responses during maintenance periods, ensuring the end user experience is not disrupted and the revenue risk to the provider is significantly reduced.

The charging request controller can also provide fraud protection by blocking barred destinations/numbers which can be kept up to date from the GSMA list.

rating engine

The service request is rated in realtime to provide authorisation for the end user to access the service for the quoted amount or duration. The rating response is calculated from in memory processing to optimise the end user realtime experience. The response is routed back out through the charging request controller and to the OCS gateway, to be received into the network. The network will provide or deny the service according to the response given by the OCS.

reporting engine

A replication of the rating engine coupled with the CDR/EDR feed is used to extract data for operational reporting and to feed integrated BSS via a provided API solution. Additional fraud monitoring capabilities can be added into the reporting engine to provide alerting to suspicious activity.

collaborate with us and start leading in a 5G connected world

If you think you would benefit from the services Lifecycle offers, or require the technical expertise to enable an innovative business idea then get in touch with us.

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