

system provides a platform with a collection of APIs in a single place which may dramatically reduce the development overhead associated with building API driven propositions.

[0004a] According to a first aspect of the present invention, there is provided an extensible single point orchestration system for application program interfaces (APIs) comprising: a processor configured to execute a context service to generate, based on a service request to an API proxy, an identifier of one of a plurality of stored configuration entities, a plurality of parameters, and a service type indication comprising an aggregation service type or a selection service type; the processor further configured to apply a first stored configuration entity identified with the identifier to a first core capability service, in response to the service type indication being the aggregation service type, to dynamically adapt the first core capability service to generate a plurality of different API specific service call messages containing at least some of the parameters, the first core capability service executed by the processor to communicate respective different API specific service call messages to each of a plurality of different APIs of a plurality of different external third party provider services; and the processor further configured to apply a second stored configuration entity identified with the identifier to a second core capability service, in response to the service type indication being the selection service type, to dynamically adapt the second core capability service to generate an API specific service call message containing at least some of the parameters, the second core capability service executed by the processor to communicate the API specific service call message to only one API of only one of the plurality of different external third party provider services.

[0004b] According to a second aspect of the present invention, there is provided an extensible single point orchestration system for application program interfaces (APIs) comprising: a processor, in response to one of a plurality of possible service requests from an application, configured to identify a single third party provider service or a plurality of third party provider services and retrieve a stored configuration entity; wherein, in response to identifying the single third party provider service, the processor further configured to: dynamically adapt a core capability service, using the stored

configuration entity, so as to set an appropriate message format for a data transmission; and transmit a service call message to an external API of the identified single third party provider service in the appropriate message format, the appropriate message format being compatible with the external API of the identified single third party provider service; and wherein, in response to the processor identifying a plurality of third party provider services, the processor further configured to: dynamically adapt the core capability service, using the stored configuration entity, so as to set a respective appropriate message format for a parallel data transmission of service call messages to each of the respective identified plurality of third party provider services; and transmit the service call messages to respective external APIs of each of the third party provider services in the respective appropriate message format, the respective appropriate message format being compatible with the respective external APIs of each of the third party provider services.

[0004c] According to a third aspect of the present invention, there is provided a method of performing extensible single point orchestration for application program interfaces (APIs), the method comprising: identifying, with a processor, a single third party provider service or a plurality of third party provider services in dependence upon a type of a service request from an application, the service request being one of a plurality of possible service requests; retrieving, with the processor, a stored configuration entity in dependence on the service request; dynamically adapting a core capability service, with the processor, using the stored configuration entity, so as to set an appropriate message format for a data transmission for the single third party provider service, or so as to set a respective appropriate message format for a parallel data transmission to each of the respective identified plurality of third party provider services; transmitting, by the processor, with the core capability service a service call message to an external API of the identified single third party provider service in the appropriate message format when the appropriate message format is compatible with the external API of the identified single third party provider service; and transmitting, by the processor, with the core capability service, the service call message to respective external APIs of each of the third party provider services in the respective appropriate

message format when the appropriate message format is compatible with the respective external APIs of each of the third party provider services.

[0005] The system may enable an intelligent, configuration based approach to managing the centralized consumption of API products from multiple sources.

Historically it has been easy to create a solution that aggregates or selects over a small set of similar APIs by building services or components that physically implement logic to do the aggregation (calling many services but producing a single set of results) or selection (choosing a specific service out a large group of similar services based on a set of criteria). However, this becomes increasingly unwieldy to manage, maintain and grow as the number of services increases or the services vary in form (e.g. number/style of inputs or output formats). It is also very difficult, time consuming and expensive to deal with downstream changes to APIs being aggregated over as well as to add new services to the pool and often requires code releases or similar release management processes to maintain a stable and working system.

[0006] The extensible single point orchestration system as disclosed can solve this problem by allowing a layered, stateless, configuration-based approach to the management of API services, which may enable aggregation, selection and proxy services with centralized key management capabilities that can be quickly and efficiently modified, extended and maintained via run-time modifiable stored configuration entities.

[0007] Other systems, methods, features and advantages will be, or will become, apparent to one with skill in the art upon examination of the following figures and detailed description. It is intended that all such additional systems, methods, features and advantages be included within this description, be within the scope of the invention, and the following claims.

BRIEF DESCRIPTION OF THE DRAWINGS

[0008] The embodiments may be better understood with reference to the following drawings and description. The components in the figures are not necessarily to scale.