**TM Forum Open APIs**

**Conformance Certification**

*Company Name:* ***Whale Cloud Technology Co., Ltd.***

*TM Forum Open API Name:*

***TMF640 Service Activation Management API***

*TM Forum Open API Release Version:*

***R*** ***20.5.0 (v4.0.0)***

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1. **What Product or Solution does your API support?**

ZSmart Quick Run (QRun) is a fiber network management and operation solution for CSPs to enable end-to-end fiber network rollout and service assurance. It helps CSPs speed up time-to-market with pre-integrated product packages of network planning & design, IT support and operation.

ZSmart QRun provides several Open APIs, including:

* TMF638 Service Inventory Management API
* TMF640 Service Activation Management API
* TMF641 Service Ordering Management API

1. **Overview of Certified API**

The Service Inventory Management API

The Service Inventory Management API provides a consistent/standardized mechanism to query and manipulate the Service inventory, including creat, modify, delete and query service Inventory instance.

The Service Activation Management API

The Service Activation Management API allows users to retrieve, create, update, delete services and retrieve the monitor resource used to monitor the execution of asynchronous requests on a specific resource.

The Service Ordering Management API

The Service Order Management API provides a standardized mechanism for placing a service order with all of the necessary order parameters. It allows users to create, update & retrieve Service Orders and manages related notifications.

ZSmart QRun uses Open APIs in the OD (order delivery) decomposition process:

1. Decompose the service specification according to the product specification of the product order item. Request the TMF633 Service Catalog Management API of SCM to query for service specification information.
2. Request the SIM product to provide TMF 640 service activation Management API and generate a service version instance.
3. At the same time, request the TMF 641 Service Order Management API and generate the service order instance, and start the service order execution.
4. Execute the service order to complete resource decomposition, resource activation configuration and construction.
5. When the service order is completed, the SIM product is requested to provide TMF638 Service Inventory Management API and generate a service inventory instance.
6. The service order is completed and the product order is notified.
7. **Architectural View**

The following Diagram shows the technical architecture of QRun:

![Graphical user interface, application

Description automatically generated]()

QRun separates the FTTx life cycle into 4 domains, Network Planning, Operation Readiness, Service Fulfillment, and Operation Assurance. QRun deploys corresponding subsystems in each domain to support the operation and maintenance of FTTx full life cycle.

In Network Planning Domain it provides eDesign and eSurvey. eDesign is a network planning and design assistant tool based on the GIS platform; eSurvey is a Mobile App to help engineers perform field surveys, collect real information for the planning preparation.

Operation Readiness domain is a transition stage after network construction, to make preparation for network fulfillment and operation. We provide Inventory Management to manage all necessary network resource and services. Workforce Management manages teams, optimize and dispatch manpower for field construction and operation tasks.

Service Fulfillment realizes order to service. Order management manages all services fulfilling processes, from order acceptance to service design, order execution and completion. Provisioning manages automatic activation tasks to network elements.

QRun also provides tools to guarantee Network stability and reliability for Network Assurance. It includes Operation Flow Management that manages all trouble tickets handling processes, flows and impact analysis. .

Field Operation Assistant (FOA) is a Mobile APP to assist engineer for field operation and maintenance. It can support both Service Fulfillment & Network Assurance work orders.

1. **Test Results**

