TM Forum Open APIs

Conformance Certification

Company Name: Vodafone Group (Reference Implementation)

TM Forum Open API Name:
TMF635 - Usage Management

TM Forum Open API Release Version: 4.0.0

Report Date: 31/01/2024
1. **What Product or Solution does your API support?**

Vodafone's TMF635 Usage Management API is highly used for processing and analyzing usage data from all customer services, enabling accurate and transparent billing processes. The Usage Management API plays a crucial role in this ecosystem:

Sample Use Case:
Imagine a Vodafone customer using their mobile phone to make calls, send messages, and browse the internet.
The Usage Management API comes into action:
- Each call, message, and data session triggers a usage event, captured by the API in real-time.
- The API enriches the usage data by adding details like call duration, data volume, and location information.
- Based on pre-defined rating rules, the API calculates the charges associated with each usage event.
- This comprehensive usage data is then seamlessly integrates for accurate billing and customer invoices.
2. **Overview of Certified API**

Vodafone's TMF635 Usage Management API adheres to the latest TMF Open API specifications, guaranteeing interoperability and flexibility:
- Standardized data models: Defines clear and consistent data structures for capturing and exchanging usage information across different systems.
- Flexible and scalable architecture: Supports integration with various network and billing systems, adapting to different service offerings and customer bases.
- Real-time processing capabilities: Enables timely processing and analysis of usage data, leading to faster invoicing and improved customer experience.
- Comprehensive authorization and security: Provides secure access control and data encryption mechanisms to protect sensitive usage information.
- Support for complex usage scenarios: Can handle diverse usage types, including bundled offerings, roaming charges, and promotional discounts.

Conformance level: Full conformance
Implementation Technology: Java Spring Boot
Deployment Environment: Vodafone's cloud infrastructure
3. **Architectural View**

The frontend channels/application that invokes TMF API exposed via an API Management layer. Request traverses the TMF microservice layer towards the secure backend system.
4. Test Results

Comprehensive functional and non-functional testing techniques were employed during the evaluation of the API. This rigorous testing process encompassed various aspects, including authentication, authorization, and the overall API functionality.

The API underwent thorough functional testing to ensure that all interface operations performed as expected. Test cases were designed to validate the accuracy and completeness of the retrieved data.

Non-functional aspects were validated ensuring encompassed performance testing, which assessed the API's response time, scalability, and overall system load handling capacity. Additionally, security testing was conducted to identify and mitigate vulnerabilities that could potentially compromise the API's security posture.

The conformance verification process for the REST API successfully validated its functionality, security, and alignment with the Business Process Framework. The rigorous testing procedures, including authentication, authorization, functional, and non-functional testing, ensure that the API is robust, secure, and capable of providing reliable customer management.

In conclusion, this TMF API serves as a vital component to ensure the reliable customer management as a service. Its adherence to conformance standards and rigorous testing procedures underscores its reliability and utility.

For any inquiries or further details about this conformance verification report, please contact the Digital Engineering team of Vodafone Group.

Click here to view the test results: [VODAFONE-TMF635RW-HTMLResults.html](VODAFONE-TMF635RW-HTMLResults.html)