**Introduction**

The Vodafone Global IoT Service SOAP API allows customers to send outbound SMS messages in a secure, reliable, and cost-effective manner. The API is designed to be easy to use and provides complete control over the delivery of outbound messages.

Functional Specification

The Vodafone Global IoT Service SOAP API allows customers to send messages using the following methods:

1. SubmitSMS – This method allows customers to submit a single outbound SMS message to a single recipient. The content of the message is specified in the request.

2. SendGroupSMS – This method allows customers to send a single outbound SMS message to a group of recipients. The content of the message is specified in the request.

3. ScheduleSMS – This method allows customers to submit a single outbound SMS message to a single recipient at a specified time. The content of the message is specified in the request.

4. SendGroupSMS – This method allows customers to send a single outbound SMS message to a group of recipients at a specified time. The content of the message is specified in the request.

**Purpose:**

The purpose of this specification document is to outline the technical requirements for implementing a SMS API for Vodafone IoT service using SOAP API.

**Scope:**

The scope of this project is to implement the SubmitSMS API in Vodafone Global IoT Service for SOAP API. This API will enable customers to send text messages from their devices connected to Vodafone’s Global IoT Service.

**Objective:**

The objective of this project is to provide customers with a secure, reliable and easy to use API for sending text messages from their devices connected to Vodafone’s Global IoT Service. This API will enable customers to quickly and easily send messages from their devices to other users, allowing them to keep in touch with their partners, customers, family and friends.

**Design criteria:**

1. Ensure that the API is secure and follows all relevant industry standards.

2. Create a user-friendly API documentation that is easy to access and understand.

3. Establish a reliable and robust API backend infrastructure.

4. Ensure the API can be easily integrated with existing systems and processes.

5. Ensure the API is highly available and fault tolerant.

6. Ensure the API can handle a large number of concurrent requests.

7. Provide comprehensive monitoring, logging and alerting capabilities.

8. Establish a common API gateway to securely expose the API.

9. Establish appropriate authentication and authorization mechanisms to ensure only authorized users can access the API.

10. Provide clear guidelines for API versioning and deprecation.

**Features:**

• Easy and fast integration with Vodafone Global IoT Service

• Ability to send and receive SMS messages from any device

• Support for multiple formats including plain text, HTML and binary data

• Ability to send messages to multiple recipients in a single operation

• Ability to send messages using multiple protocols such as sms, mms, and xmpp

• Ability to schedule messages for later delivery

• Ability to set delivery status for each message

• Ability to customize message content and delivery options

• Ability to view message delivery status

• Comprehensive API documentation

• Ability to integrate with existing applications and systems.

**Functionality:**

• Send and receive messages from any device

• Send messages to multiple recipients in a single operation

• Send messages using multiple protocols

• Schedule messages for later delivery

• Set delivery status for each message

• Customize message content and delivery options

• View message delivery status

**Performance:**

• Fast message delivery

• Reliable message delivery

• Low latency

**Inputs:**

-A valid customer account with Vodafone Global IoT

-An API key to access Vodafone Global IoT

-A valid telephone number

-The message to send

-The customer's sender ID

**Outputs:**

-A response indicating whether the message was successfully sent or not.

**User Interface:**

-A web interface with a form to fill out the required information

-A mobile interface with a form to fill out the required information

**Hardware Requirements:**

-An internet-connected device

-A web browser or a mobile device

Other Related Information:

-The customer must agree to the terms and conditions of using the API.

-The API endpoints must be configured correctly to ensure proper functioning.

-The customer must have valid payment information on file to use the API.

**Software requirements:**

The programming language and version used for implementing Submitsms API in Vodafone Global IoT Service for SOAP API endpoint is Java. It can also be implemented using other languages such as C#, Python, PHP, etc.

1. SOAP API endpoint: The endpoint should be exposed to the public and securely hosted on a server with the necessary access control and authentication measures in place.

2. Data Validation: Data validation should be implemented to ensure only valid messages are accepted and sent.

3. Error Handling: Error handling should be implemented to ensure any errors are logged and handled appropriately.

4. Security: Security measures should be implemented to ensure only authorized users can access the endpoint and that no malicious requests can be sent.

5. Logging: Logging should be implemented to track all requests and responses.

6. Rate Limiting: Rate limiting should be implemented to ensure requests are handled in a timely manner and to prevent any potential abuse.

7. Documentation: Documentation should be provided to allow users to understand how to use the API.

**Technical Requirements:**

The SMS API will be able to send and receive text messages to and from devices connected to the Vodafone IoT network.

1. The API will use SOAP protocol for communication and will be accessible via a secure HTTPS endpoint.
2. The API will support sending messages to a single device or multiple devices in a single request.
3. The API will support sending messages with a predefined sender ID or a custom sender ID.
4. The API will support scheduling messages to be sent at a specific date and time.
5. The API will provide a delivery receipt upon the successful delivery of a message.
6. The API will support receiving incoming messages and forwarding them to a specified URL or email address.

**Security:**

* The API will require authentication using a unique API key for each user.
* The API will use HTTPS for secure communication.
* The API will support OAuth 2.0 for user authentication and authorization.

**Implementation:**

* The SMS API will be developed using Java and will be hosted on Vodafone's servers.
* The API will be tested and deployed on the Vodafone IoT network.
* The API will be documented and made available to developers through a developer portal.

**Maintenance:**

* The SMS API will be regularly monitored and maintained to ensure optimal performance and security.
* The API documentation will be updated as needed to reflect any changes or updates to the API.

**Approval:**

The above requirements and details need to be reviewed and approved by Vodafone's IoT team, Product team and Infrastructure team.

**Monitoring and Updating:**

* The API will be monitored for performance and security and updated as necessary to ensure optimal operation.
* The API documentation will be updated to reflect any changes or updates to the API.