**High-Level Technical Requirement Document**

**Project Name: HubSpot Company to Customer DB Sync API Version: 1.0 Date: 2025-09-01**

**1. Architecture Overview**

**A MuleSoft System API will be developed and deployed to CloudHub. This API will expose an HTTP endpoint to act as a webhook listener. HubSpot will be configured to send a POST request to this endpoint upon new Company creation. The Mule API will then validate the request, transform the payload, and insert it into a PostgreSQL database.**

**2. Technology Stack & Components**

* **Integration Platform: MuleSoft Anypoint Platform (Runtime v4.4 or higher)**
* **Deployment Environment: CloudHub (0.1 vCores)**
* **API Specification: RAML 1.0**
* **Primary Connectors:**
  + **HTTP Connector: The "Listener" component will serve as the webhook endpoint.**
  + **Database Connector: To connect and perform INSERT operations on the target database.**
  + **Email Connector: To send failure notifications.**
* **Source System: HubSpot CRM (Free Tier)**
* **Target Database: PostgreSQL (can be a free-tier instance)**

**3. Technical Specifications**

* **Trigger Mechanism: The Mule flow will be triggered by an HTTP Listener component that receives webhook calls from HubSpot for the company.creation event.**
* **Webhook Security: The Mule flow must include logic to validate the X-HubSpot-Signature header to ensure the request is authentic. The HubSpot Client Secret will be stored in secure properties.**
* **Authentication:**
  + **Database: Connect using standard JDBC connection details (username/password). Credentials will be stored in secure properties.**
* **Data Transformation: All data mapping logic defined in FR-002 will be implemented using DataWeave 2.0 within a Transform Message component.**
* **Error Handling:**
  + **A global error handler will be implemented in the Mule application.**
  + **Processing errors will log the full error stack trace and payload to Anypoint Monitoring and trigger an email notification.**
* **Logging: The application must generate logs for key events:**
  + **Start and end of each webhook transaction.**
  + **Payload received from HubSpot (with sensitive data masked).**
  + **Success or failure of the database insertion.**