### **MPMS API Gateway**

#### **External Connections:**

* **APIGW1** - IP: 216.119.217.240
* **APIGW2** - IP: 216.119.209.240

#### **How the API Gateway Works:**

1. **Request Reception:**
   * External clients send API requests to the MPMS API Gateway using the provided public IP addresses (APIGW1 or APIGW2).
   * The requests typically arrive over HTTPS, ensuring data security during transmission.
2. **Security and Authentication:**
   * The API Gateway authenticates incoming requests. It uses mechanisms like mTLS (mutual TLS) to verify the identity of the client and ensure that only authorized entities can access the services.
   * Certificates are used for mutual authentication, where both client and server validate each other’s identity before establishing a connection.
3. **Routing:**
   * Once authenticated, the API Gateway routes the requests to the appropriate internal MPMS service based on the API endpoint being accessed.
   * The routing rules are configured within the API Gateway to ensure that requests are directed to the correct internal servers or services.
4. **Load Balancing:**
   * The API Gateway balances the load across multiple instances of internal services to ensure high availability and reliability. This helps in managing traffic efficiently and prevents any single server from being overwhelmed.
5. **Data Processing:**
   * The internal MPMS services process the requests and perform the necessary business logic. This may involve accessing databases, performing transactions, or communicating with other internal systems.
6. **Response Handling:**
   * After processing the request, the internal services send the response back to the API Gateway.
   * The API Gateway then forwards the response back to the external client over the secure connection.
7. **Logging and Monitoring:**
   * The API Gateway logs all incoming and outgoing traffic. This helps in monitoring usage, detecting anomalies, and troubleshooting issues.
   * Metrics such as request rates, response times, and error rates are monitored to ensure the smooth functioning of the services.

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#### **Connectivity and Flow:**

* **External Clients:** Connect to the MPMS API Gateway using the public IPs (APIGW1 or APIGW2). These connections are secured using TLS.
* **API Gateway:** Acts as the intermediary, handling authentication, routing, and load balancing.
* **Internal MPMS Services:** Receive requests from the API Gateway, process them, and send back the responses. These services are hosted within a secured internal network and are not directly accessible from the outside.