Project Name: Accounting Management and Performance Management

Project Overview: to measure and display the performance of the network, and to manage customer accounts

- **Purpose:** Create the scaffolding for the Accounting Management and Performance Metrics use cases in an open-source multi-tenant portal.
- **Target Audience:** Anyone who uses the open-source framework.
- **Scope:** Only the Accounting Management and Performance Metrics use cases of the software are included in the scope, the other use cases are not included.

Functional Requirements:

- Distribute resources among network users optimally.
- Make sure users are billed correctly.
- Determine permissions and access rights for each user.
- Track performance metrics, such as latency, round-trip time, etc.

Non-Functional Requirements:

- **Performance:** The system should be able to handle large volumes of data efficiently so as to not increase computing costs.
- **Security:** Ensure no user data gets leaked.
- **Usability:** Metrics should be easily readable, accessible and understandable.
- **Reliability:** The system should have high fault tolerance so as to not lose data or prematurely stop analysis before its completed.
- **Maintainability:** The system should be easily maintainable to avoid tech debt.

Assumptions and Dependencies:

- Because these use cases are part of a larger project, they depend on some of the other use cases, such as Data Generation.
- We are going to assume that the data from the generation and cleaning team is accurate and will allow us to provide correct metrics.
- Depending on the scale the distribution of network resources could vary wildly.

Acceptance Criteria:

Accounting Management Acceptance Criteria

1. **Data Collection Accuracy**
    - The system must precisely record and measure resource usage, such as bandwidth and storage, to ensure accurate accounting and billing.
2. **Data Integrity**
    - The system must protect accounting data from unauthorized alterations or corruption to maintain the trustworthiness and reliability of financial information.
3. **Timeliness**
    - The system should process and provide accounting data promptly to support real-time monitoring, timely billing, and effective management decisions.

4. **Reporting Capabilities**
    - The system must generate detailed and summary reports on resource usage and billing to aid in analyzing trends and making informed management decisions.
5. **Scalability**
    - The system should handle increasing volumes of data and users efficiently to ensure continued effectiveness as the network grows.

Performance Management Acceptance Criteria

1. **Monitoring Capabilities**
    - The system must continuously monitor key performance parameters, such as bandwidth usage, latency, and packet loss, to ensure optimal network operation.
2. **Performance Metrics**
    - The system should provide relevant performance metrics and KPIs that reflect the network's health and efficiency, helping administrators assess and manage network quality.
3. **Alerting and Notification**
    - The system must generate alerts and notifications for performance anomalies or breaches of predefined thresholds to enable quick responses to potential issues.
4. **Analysis and Reporting**
    - The system should offer detailed analysis and reporting features, including trend analysis and historical performance data, to diagnose issues and plan improvements.
5. **Optimization**
    - The system should provide recommendations or automated actions to enhance network performance based on the collected data and analysis.
6. **Scalability and Flexibility**
    - The system must be able to scale with network growth and adapt to various performance monitoring needs to remain effective in dynamic environments.

Additional Considerations:

- Will our performance metrics be used by other teams such as the anomaly detection team or fault management?
- Is the account and billing going to be used by management reporting?