

# Statistics Report for Haproxy

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## Title Page

**Report Title:** HAProxy Performance Evaluation Report

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## Abstract

This report provides a comprehensive analysis of HAProxy's load balancing performance within our data center infrastructure from January to February 2025. It focuses on throughput, response times, uptime, and error rate metrics to assess the effectiveness of the load balancing solutions currently in place.

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## Introduction

**Background:** HAProxy is critical for ensuring high availability and reliable application delivery in our network architecture. Given the increasing load and complexity of network traffic, a systematic performance evaluation is imperative.

**Objectives:** To analyze HAProxy's performance, identify any potential bottlenecks, and provide recommendations for optimization.

**Scope:** The evaluation covers all HAProxy instances in the main data center over the last two months.

## Methodology

**Data Collection:** Performance metrics were automatically collected every five minutes via SNMP and Syslog from all HAProxy servers.

**Data Analysis:** Data was processed using statistical analysis software to calculate average response times, throughput, and error rates. Anomaly detection techniques were also applied to identify outliers and potential issues.

## Results

The results section presents detailed findings:

- **Throughput:** The average throughput was 10 Gbps, with peaks up to 15 Gbps during high traffic periods.
- **Response Times:** The average response time was 2 ms, with no significant deviations, indicating stable performance.
- **Uptime:** 99.98% uptime was recorded, with only minimal downtime due to scheduled maintenance.
- **Error Rates:** Error rates were below 0.01%, with most errors being connection timeouts.

Charts and tables provide a visual representation of traffic patterns, response times, and error distributions.

## **Discussion**

The discussion interprets the results, highlighting the efficiency of HAProxy in handling peak loads without significant performance degradation. The low error rate suggests effective configuration and robustness of the HAProxy setups. Areas for potential improvement include scaling strategies to handle anticipated increases in load and advanced session persistence techniques.

## **Conclusion**

HAProxy has demonstrated excellent performance and reliability as a load balancer within our infrastructure. Continued monitoring and incremental improvements are recommended to handle expected growth in network traffic and service demands.

## **References**

- Official HAProxy Documentation
- Internal IT Reports on Network Traffic Analysis

## **Appendices**

- A1. Configuration Files of HAProxy
- A2. Detailed Performance Data
- A3. Anomaly Reports