# Baseline Performance Acceptance Criteria

This document provides predefined metrics and thresholds that can be used to evaluate the performance of an Appian application. The criteria defined here will guide later performance testing tasks including test plan development, execution, analysis, and reporting. Adopting these criteria saves time and reduces IT complexity since all metrics rely on readily available test tools and standard Appian log files. Applications that require more specific performance criteria can extend this document to meet additional requirements.

## Assumptions/Limitations

* These acceptance criteria do not imply any contractual obligations between parties. Refer to the Statement of Work or other contractual documents.
* Acceptance criteria that cannot be evaluated due to test environment constraints will not be considered in the test design or included in reports.

## Response Time

Client response time is measured as the time between a user's action (e.g.: clicking a button) and the complete loading of the result (e.g.: viewing a task form). It is usually the best metric for predicting end-user perception of performance.

* All user actions will have an average response time of 4 seconds
* All user actions will have a 95th percentile response time of 6 seconds

Notes: Response time criteria apply to each user action independently. Projects should consider both average and 95th percentile response time. Both metrics can be collected using Apache JMeter output and analyzed using the JMeter Analysis Worksheet.

## Throughput

Throughput measures the number of business actions the application can process in a certain period of time (ranging from minutes to days). It is a good metric for determining whether the application can handle the intended number of users, processes, tasks, etc., especially during periods of peak usage.

* The application will handle logins per hour during peak load
* The application will handle instances of per hour during peak load
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Notes: Login throughput should be based on responses to the Performance Testing Questionnaire. Baseline criteria should be limited to hourly throughput at peak load. Scenarios should be limited to login and at most 4 top-level processes (additional activities will be part of the test design but not the acceptance criteria). Activity throughput metrics can be collected using Apache JMeter output and analyzed using the JMeter Analysis Worksheet.

## Resource Utilization

Resource utilization measures how much of each hardware resource is being used by the application at a specific instant or over a certain period of time. Common resources measured include CPU, memory, storage capacity, storage I/O, and network I/O. Utilization criteria ensure that the existing infrastructure is sufficient to support the expected load.

* Process execution engine CPU utilization will not exceed 80% for longer than 10 minutes
* Application server load average will not exceed 90% for longer than 5 minutes
* Application server JVM heap utilization will not exceed 80%
* Application server primary disk partition storage utilization will not exceed 90%

Notes: Process execution engine CPU utilization can be collected using Appian engine performance logs. Application server load average, JVM heap, and primary disk partition storage utilization can be collected using the Appian system metrics log. Application server metrics are available only on Appian 6.7+. All baseline criteria can be analyzed using the Log Performance Analysis Worksheet. Additional resource utilization criteria will require other monitoring/collection tools and should be based on Appian monitoring recommendations.