Performance Testing Service

Overview

Product Documentation

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Performance Testing Service (PTS) is a distributed performance testing service designed to simulate the real business scenario of a large number of users, comprehensively verifying system availability and stability. It supports on-demand initiation of performance testing tasks and enables millions of concurrent requests across multiple regions. PTS offers features such as traffic recording, scenario orchestration, traffic customization, and advanced script customization, allowing users to define performance testing scenarios based on business models quickly. It accurately simulates large-scale business access scenarios, helping users identify application performance issues in advance.

Product Background

- From complex, large-scale monolithic services to simplified, modular microservices, the business logic of individual backend applications has become increasingly streamlined. However, the overall architecture of distributed backend systems has grown more complex. As a result, enterprises are placing greater emphasis on ensuring the availability of the entire system.
- During rapid business growth or sudden traffic surges (such as during promotions or major sales events), how can enterprises assess in advance whether their system is available, stable, and has adequate capacity?
- How can enterprises ensure reliable system operation during rapid development and iteration cycles?
- How can the performance and maximum traffic capacity of a new system be validated before it goes live?
- Is the cost of developing an in-house performance testing tool too high? Facing technical bottlenecks that cannot be resolved?

PTS simulates the system load of real-world application environments, including hardware, software, and user interactions. It subjects the application system to prolonged or extreme loads to validate its performance, reliability, and stability.

Product Features

High-Concurrency Performance Testing

Supports millions of concurrent requests initiated from multiple regions, allowing configuration of the number of requests per second from users in different regions.

Supports Customizing Performance Testing Scenarios Based on Business Models

To initiate a performance test, firstly, you need to create a testing scenario and orchestrate the business scenario. PTS supports creating various testing modes and orchestrating multi-protocol scenarios, allowing you to quickly customize performance testing scenarios based on your business model.

Professional Performance Testing Reports

- Provides multi-dimensional statistics, including concurrent users, RPS, throughput, response latency, and total requests, offering an objective reflection of user experience.
- Supports customizable visualization of performance testing metrics.
- Enables historical data comparison across multiple metrics to troubleshoot application performance issues.

Strengths

Flexible Configuration

Offers flexible configuration for performance testing scenarios, allowing you to set up test cases via the UI or create complex combined scenarios through script writing.

Massive Traffic Simulation

Powered by cloud computing capabilities, PTS allows dynamic traffic adjustment and supports up to millions of concurrent requests.

Multi-Protocol Support

Supports performance testing scenarios using protocols such as HTTP, WebSocket, and gRPC, enabling you to define testing scenarios based on business models.

Traffic Region Customization

Allows proportional traffic distribution and supports initiating load testing traffic simultaneously from specified Tencent Cloud global regions, providing a more realistic reflection of user experience across regions.

On-Demand Resource Allocation

There is no need to prepare testing resources in advance. The system automatically calculates resource usage based on the user’s load configuration mode, dynamically scales resources, and creates testing resources as needed. Resources are provisioned on demand, helping you reduce testing costs.

Professional Report Analysis

Provides professional performance testing reports with multi-dimensional statistics, including RPS throughput, response latency, and resource utilization. You can also set baselines based on historical reports for multi-dimensional comparison and analysis.

Monitoring and SLA Protection

Supports automated start and stop of performance tests based on SLA configurations, with message notifications. Integrated with cloud monitoring tools (such as Application Performance Monitoring), it enables real-time analysis of performance testing data and efficient troubleshooting of performance issues.