

Oracle® Hospitality Self-Hosted Token Proxy Service

Sizing Guide

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Preface

This document is designed to offer guidance for sizing a deployment of Oracle Self-hosted Token Proxy Service (TPS), as well as provide minimum specifications for hardware purchases. The sizing recommendations published in this document are based on analysis of data collected in test labs and designed to provide guidance on the transaction volume that can be supported on specific hardware.

Due to the fact that many environments have nuances specific to them, these guidelines should be used as a starting point when selecting server hardware. Once a system has gone live in the production environment, it may be necessary to modify the server configuration to account for customer specific requirements and conditions.

For customers with higher transaction volume requirements than what listed in this document, a more powerful hardware configuration shall be considered.

Audience

This document is intended for customers and consultants that require guidance for estimating the server needs of TPS users.

Revision History

Date	Description of Change
January 2019	Initial publication.

1 Sizing Methodology Overview

Token Proxy Service is designed to provide token exchange proxy service for hosted OPERA. It is a proxy interface hosted by Oracle or at a customer's data center and relies upon partner payment service providers (PSP) to provide the actual token functionality. It connects to partner payment service providers via internet or virtual private network.

Token Proxy Service has the following three main components:

- Token Proxy Service
- Database
- Token Proxy Web Portal

This benchmark is conducted using standard hardware with focus on the following Deployment types that fall in the critical path for application:

1. Self-hosted on Single Machine/VM
2. Self-hosted on Multiple Machine/VM

Server Sizing Methodology

There are three main components to servers:

- Central Processing Unit (CPU)
- Random Access Memory (RAM)
- Storage

Each component has factors that determine proper sizing. At a high level, CPU and memory are driven by the number of threads and the type of processing. Storage requirements are driven by data retention length, system configuration resiliency, and necessity for speed of access.

Note on Virtualization

All recommendations regarding the resource requirements for hardware are applicable to virtual environments as well as physical ones when current virtualization technologies, such as Oracle Virtual box, are used. Current technologies incur no real overhead cost, and therefore do not require separate consideration when choosing resource requirements.

Disk Capacity Sizing

The amount of disk space necessary for a TPS deployment is driven by the amount of historical data, backups, and database log files and application log files retained on the drives.

There are two areas that account for the majority of the database growth:

- TPS configuration data
- Audit data

The TPS application log accounts for the majority of logging growth. TPS provides log purging in the web portal. It is best practice to monitor the disk size and manually purge when necessary.

2 Assumptions

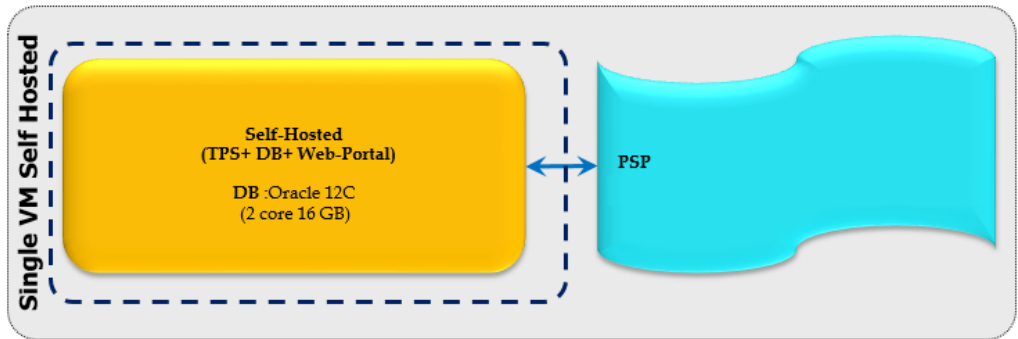
The specification assumes the following:

1. Unless otherwise noted, the server, PC, or the workstation only installs the standard software that is listed in the software configuration column of each table, and no other irrelevant workload shall be introduced.
2. Best practices are followed for database maintenance.
3. Data purging is implemented to purge transaction data at a pre-defined interval based upon solution requirements.
4. Proper procedures are established for maintaining the servers where TPS runs to ensure that the data that TPS manages is properly protected.

3 Self-hosted on Single Machine/VM

Deployment Architecture

Below is the recommend deployment architecture for Self-hosted token proxy service on single machine or VM.



Server Hardware Recommendation

The hardware recommendation for the Self-hosted – One Server is: CPU 2.6GHz with 2 cores; 16GB RAM;

(HW Spec used in the lab: Intel(R)Xeon(R) CPU E5-2690 v4 @2.60GHz 2.59GHz with 2 cores and 16 GB RAM and total Specint per node-48 (as per SPECint_rate2006))

Number of Core for Self-hosted Single VM Recommendation

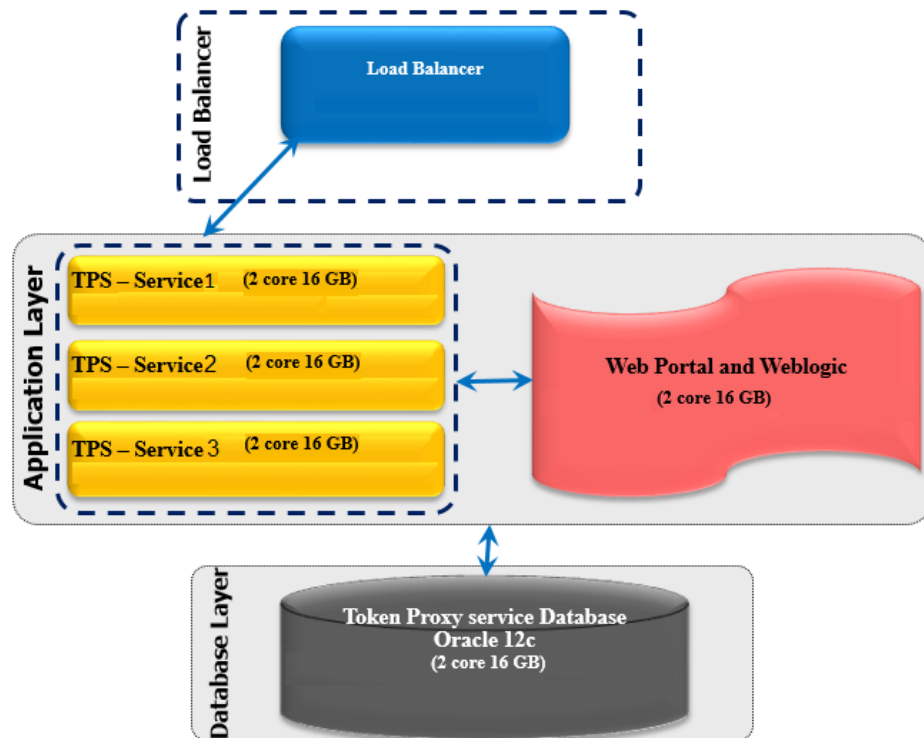
With the above recommended hardware, the self-hosted TPS can handle service calls at max rate of 230,000/hour.

In order to handle a heavier volume of service calls, the addition of a server CPU core may be beneficial. However, it is recommend to use Self-hosted (multiple Machine/VM) deployment for this use case.

4 Self-hosted on Multiple Machine/VM

Deployment Architecture

Below is the recommend deployment architecture for Self-hosted token proxy service on multiple machine/VM.



Server Hardware Recommendation

The following table represents the recommended hardware details of Token proxy service and other related components for Self-Hosted Token Proxy services.

Table 1 - Token Proxy Service Hardware Recommendations

Hardware	Recommendation
TPS Service Server	CPU 2.6GHz with 2 cores; 16GB RAM; (HW Spec used in the lab: Intel(R) Xeon(R) CPU E5-2690 v4 @ 2.60GHz with 2 cores and 16 GB RAM and total Specint per node-48 (as per SPECint_rate2006))
Web Portal Server	CPU 2.6GHz with 2 cores; 16GB RAM; (HW Spec used in the lab: Intel(R) Xeon(R) CPU E5-2690 v4 @ 2.60GHz with 2 cores and 16 GB RAM and total Specint per node-48 (as per SPECint_rate2006))

Hardware	Recommendation
Database Server	CPU 2.6GHz with 2 cores; 16GB RAM; (HW Spec used in the lab: Intel(R)Xeon(R) CPU E5-2690 v4 @2.60GHz 2.59GHz with 2 cores and 16 GB RAM and total Specint per node-48 (as per SPECint_rate2006))

Number of TPS servers Recommendation

With the above recommended hardware, the self-hosted TPS can handle service calls at max rate of 220,000/hour.

In order to handle more heavy volume of service calls, addition of TPS Service Server is necessary (with the addition of a load balancer). The number of TPS servers needed majorly depends on the max volume of the service calls. The general rule is add one more server for each 220,000/hour service call increase.

Table 2 - Self-hosted TPS – Number of required TPS Servers (2 core/server)

	Service Calls per hour		
	< 220,000	< 440,000	< 660,000
# of TPS servers	1	2	3