

Oracle® Hospitality Self-Hosted Token Proxy Service Sizing Guide



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The Oracle logo, consisting of a solid red square with the word "ORACLE" in white, uppercase, sans-serif font centered within it.

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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.

Customer Support

To contact Oracle Customer Support, access My Oracle Support at the following URL:

<https://support.oracle.com>

When contacting Customer Support, please provide the following:

- Product version and program/module name
- Functional and technical description of the problem (include business impact)
- Detailed step-by-step instructions to re-create
- Exact error message received
- Screen shots of each step you take

Documentation

Oracle Hospitality product documentation is available on the Oracle Help Center at <http://docs.oracle.com/en/industries/hospitality/>.

Revision History

Table 1 Revision History

Date	Description of Change
July 2019	Initial Publication

Table 1 (Cont.) Revision History

Date	Description of Change
July 2020	Revised content across the entire document

1

Sizing Methodology Overview

The Token Proxy Service is designed to provide a token exchange proxy service for hosted applications. A proxy interface works with your application to communicate with the payment service providers (PSP), on whom it relies to provide the actual token functionality. It connects to PSPs via the internet or virtual private network (VPN). The firewall should be configured to allow a connection from OPERA to TPS and from TPS to PSP for token exchange.

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](#)
 - [Note on Virtualization](#)
 - [Disk Capacity Sizing](#)

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, the 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 disk space is generally not a concern for the TPS machine as TPS logs will be automatically rotated and only a max of log files is maintained.

- TPS service log file – By default, 20 MB per debug log file and max 10 files retained, 10 MB per system.log with max of 10 files retained. If required, customer can change these settings through the configuration file.

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Assumptions

The specification assumes the following:

- Best practices are followed for database maintenance.
- Follow the TPS security implementation guide to ensure the environment and data is protected. Refer to the **Oracle® Hospitality Self-Hosted Token Proxy Service Security Guide** on the Oracle Help Center for information.

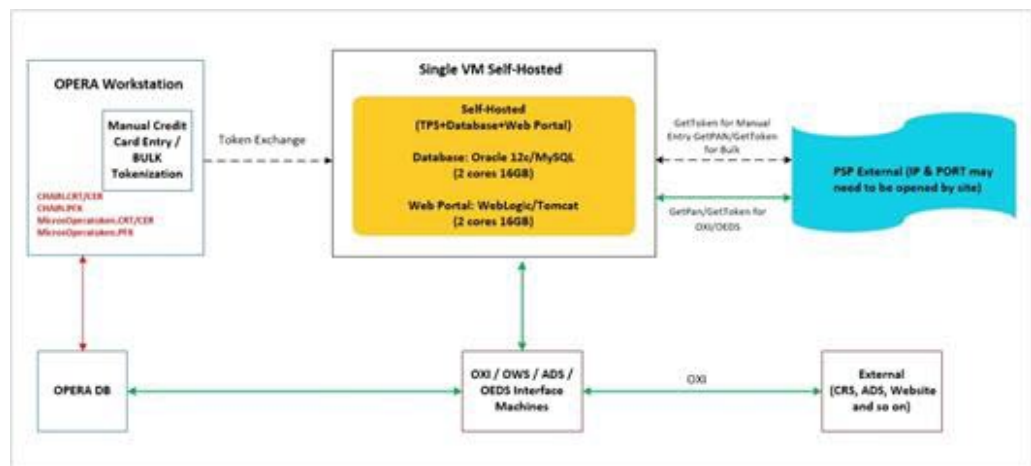
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Self-Hosted on Single Machine/VM

- Deployment Architecture
- Server Hardware Recommendation
- Number of Core for Self-hosted Single VM Recommendation

Deployment Architecture

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



- For the self-hosted TPS, use the connection through internet between TPS and PSP. If required, customers can use proxy in their network between TPS and PSP, but this is not mandatory their network team can decide how they want to handle the outgoing traffic.
- We recommend using port 443 or ports specified by the PSP for connection going to PSP.
- The Database stores only configuration data for TPS. That means it reads or writes configuration data to or from the database, and it does not store any transaction data. Payment Card Industry (PCI) data is not stored or persisted anywhere in the system.

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 a 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 a Self-hosted (multiple Machine/VM) deployment for this use case.

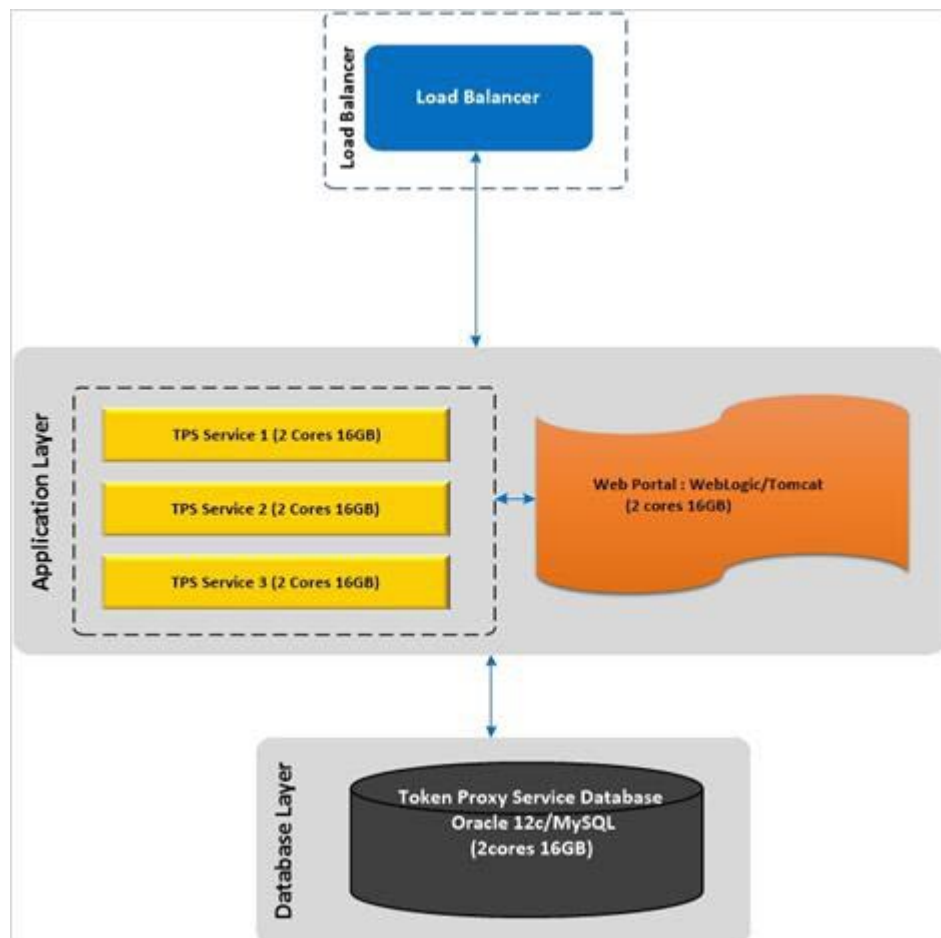
4

Self-hosted on Multiple Machines/VM

- [Deployment Architecture](#)
- [Server Hardware Recommendation](#)
- [Number of TPS servers Recommendation](#)

Deployment Architecture

Below is the recommended deployment architecture for the Self-hosted token proxy service on multiple machines/VM. TPS allows each component to install on separate servers, which means that the customer can have one server for DB - Oracle or MySQL, one server for web portal - WebLogic or Tomcat and multiple TPS servers for self-hosted TPS. The Database stores only configuration data for TPS. That means it reads or writes configuration data to or from the database, and it does not store any transaction data. Payment Card Industry (PCI) data is not stored or persisted anywhere in the system.



Server Hardware Recommendation

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

Table 4-1 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))
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 a max rate of 220,000/hour. In order to handle a more heavy volume of service calls, the addition of the TPS Service Server is necessary (with the addition of a load balancer). The number of TPS servers needed depends on the max volume of the service calls. The general rule is to add one more server for each 220,000/hour service call increase.

Table 4-2 Self-hosted TPS – Number of required TPS Servers (2 core/server)

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

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Token Exchange

TPS is needed for OPERA configured with multiple properties where users can install TPS in a customer environment to process a token transaction. TPS is not required if it is a single on-premise OPERA site with all OPERA software components installed in a hotel network and a high volume of token exchange traffic is not anticipated.

- [GetToken \(Bulk\)](#)
- [GetPAN \(Bulk\)](#)

GetToken (Bulk)

GetToken (Bulk) is used to exchange up to 50 cards per message or swap the entire OPERA Database of Primary Account Number data (PAN) for a Token from the Partners Host Token server.

- GetToken Bulk one way exchange of the Primary Account Number data (PAN) to Token Data with a new Payment Provider.
- Hotel PMS would be sending a related "GetID" command via CCWEB Interface to token proxy server (not via IFC8). It tokenizes any transaction coming in through external channels (OXI, OEDS, OWS, ADS, HTNG and ORS).

 **Note:**

To increase the speed of the exchange, Oracle recommends setting the exchange to a maximum of 50 cards per batch. This must be configured in the OPERA configuration and TPS configuration.

GetPAN (Bulk)

The GetPAN (Bulk) element is used to request a batch of PANs. This can be used to exchange up to 50 records per message in the OPERA Database for PAN data, this would be used once as a change of Payment Provider.

- PMS sending related "GetCC" command via CCWEB Interface to token proxy server (not via IFC8). It tokenizes any transaction coming in through external channels (OXI, OEDS, OWS, ADS, HTNG, and ORS).

 **Note:**

It is recommended that a batch of Max 50 cards be sent per batch. This must be configured in the OPERA configuration and TPS configuration.