

# Oracle Payment Interface Deployment 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.

ORACLE®

Oracle Payment Interface Deployment Guide, Release 19.1

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# Preface

## Purpose

This document describes how to organize environments for an installation of the Oracle Payment Interface (OPI) across OPERA PMS Single Property, OPERA PMS Multi-Property, OPERA V5 SAAS (Oracle Hosted) and OPERA Cloud. Using this guide, you can determine the number of machines and OPI instances needed to process both financial and token transactions.

## Audience

This document is intended for customers who needs to deploy OPI with OPERA across OPERA PMS Single Property, OPERA PMS Multi-Property, OPERA V5 SAAS (Oracle Hosted) and OPERA Cloud.

## 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 and any associated log files
- Screenshots of each step you take

## Documentation

Product documentation is available on the Oracle Help Center at

<http://docs.oracle.com/en/industries/hospitality/>

## Revision History

Date	Description of Change
June 2019	Initial publication
January 2020	Updated Customer Deployment diagrams in Section 4.
March 2020	Removed Windows 7 from the minimum specification for OPI as the installer no longer supports.
October 2023	Removed the MySQL 5.6 version across the document as the OPI installer no longer supports

# 1

## OPI Overview

Oracle Payment Interface (OPI) is a payment card-processing interface that integrates with the Oracle Hospitality Point-of-Sale (POS), OPERA PMS Single Property, OPERA PMS Multi-Property, OPERA V5 SAAS (Oracle Hosted) and OPERA Cloud, Suite 8 (PMS), SPMS (Cruise) and Retail (POS) systems. It defines a standard interface that partner payment service providers can implement to provide credit card processing functionality to Oracle Hospitality OPERA, POS and also Oracle Retail Point of Sale (POS) Systems.

# 2

## OPI Deployment

For hotel deployment, OPI can be installed on existing machine which has sufficient resources to accommodate OPI.

The following lists the minimum specification for OPI:

- **Processor:** Dual core
- **OS support:** Win 8.1 Pro/ Win 10 Pro / Server(s) 2008 R2, 2012 R2, 2016
- **Available Disk space:** 6 GB free minimum
- **Available memory:** 4 GB RAM minimum

## Installing All-In-One

With an all-in-one installation, you can install the OPI service, OPI utility service, OPI configuration tool and database on one server.

### OPI Config Service

Deals with connections from applications used to configure OPI, such as OPI configuration Tool and Wizard.

### OPI Service

- It is the main OPI Application service, listening for connections to OPI from POS/PMS and making connections to PSP.
- Always restart the OPI Service after creating or changing any configuration.

### OPI Utility Service

The OPI Utility Service handles any configuration values that are encrypted, such as passwords and passphrases.

### Database

The Oracle Payment Interface Installer release 19.1 supports the following database connections:

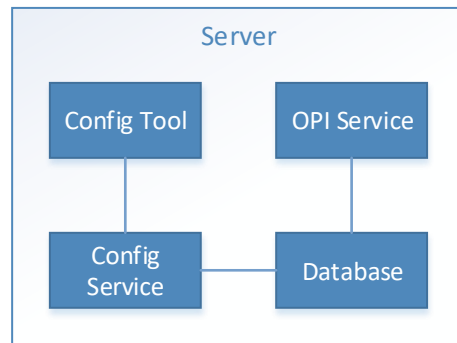
- MySQL Database 5.7
- Microsoft SQL Express Database 2008/2012
- Oracle Database 11g/12c
- Microsoft SQL Database 2008/2012

### OPI Config Tool

The Configuration Tool includes a configuration wizard and full configuration tool.

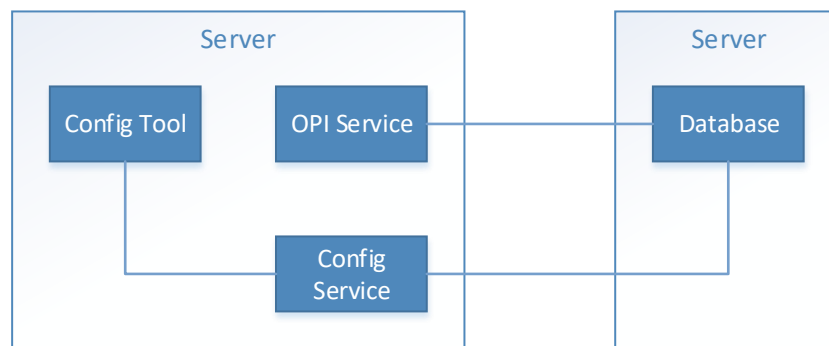
- **LaunchWizard.bat** – contains the most used settings that should be sufficient to allow configuration of a basic working merchant configuration.

- **LaunchConfiguration.bat** – contains some additional advanced settings that may be required in certain installations.



## Installing Application Components and Database on Separate Servers

You can install OPI service, OPI utility service, and OPI configuration tool on one physical server and install the database on a separate server.



# 3

## TPS Deployment

### Installing All-In-One

With an all-in-one installation, you can install the TPS service, web service, configuration web portal and database on one server.

#### The Database

- Supports Oracle 12c database.
- The database stores the configuration and audit log from the Web Portal.
- The Token Proxy Service requires read-only access to the database. If required, you can configure a different Token Proxy Service database user with a lower-level of privileges.
- The Web Portal requires a database user with privileges to make changes within the Database.

#### The Web Portal

- The Web Portal is used to configure the settings used by the Token Proxy Service.
- The Web Portal is a web application supplied in a WAR file suitable for hosting in WebLogic. It relies on WebLogic to store some of its configuration, such as the database connection string (datasource), and to provide a trusted SSL certificate for connections from users accessing the configuration web portal.

#### Token Proxy Service

The Token Proxy standalone application runs automatically as a service.

#### Connections from Listeners

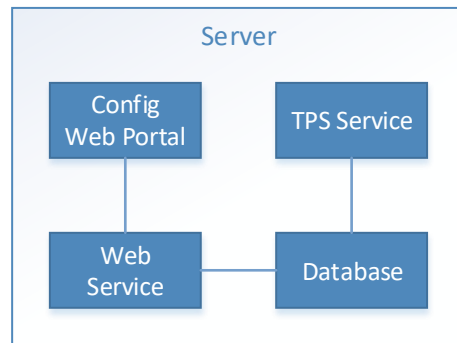
- The application creates a Listener to monitor a TCP port for XML messages posted over HTTPS. The default Listener port is 443, but it can be set to a custom port number in the database. This Listener must be exposed to the client.
- The Listener manages its own use of the certificates (TLS1.2) provided by the data center team, so a firewall or load balancer (if present) must not offer any form of HTTPS-to-HTTP bridging functionality. Instead, the connection must be passed directly to the Token Proxy Service.
- The certificates provided must be installed on all servers running the Token Proxy Service in the event the service is installed on multiple machines for load balance or failover.

#### Connections to PSPs (Payment Service Providers)

- The service also makes outgoing connections to PSPs.
- The outgoing connection is to a URL specified by the PSP and the host/port (and optionally a path) is specified by the PSP.



- The outgoing connection can be over the internet or over VPN, but it must use HTTPS with TLS1.2 or greater.



## Installing Application Components and Database on Separate Servers

You can install TPS service, web service and configuration web portal and database on separate servers.

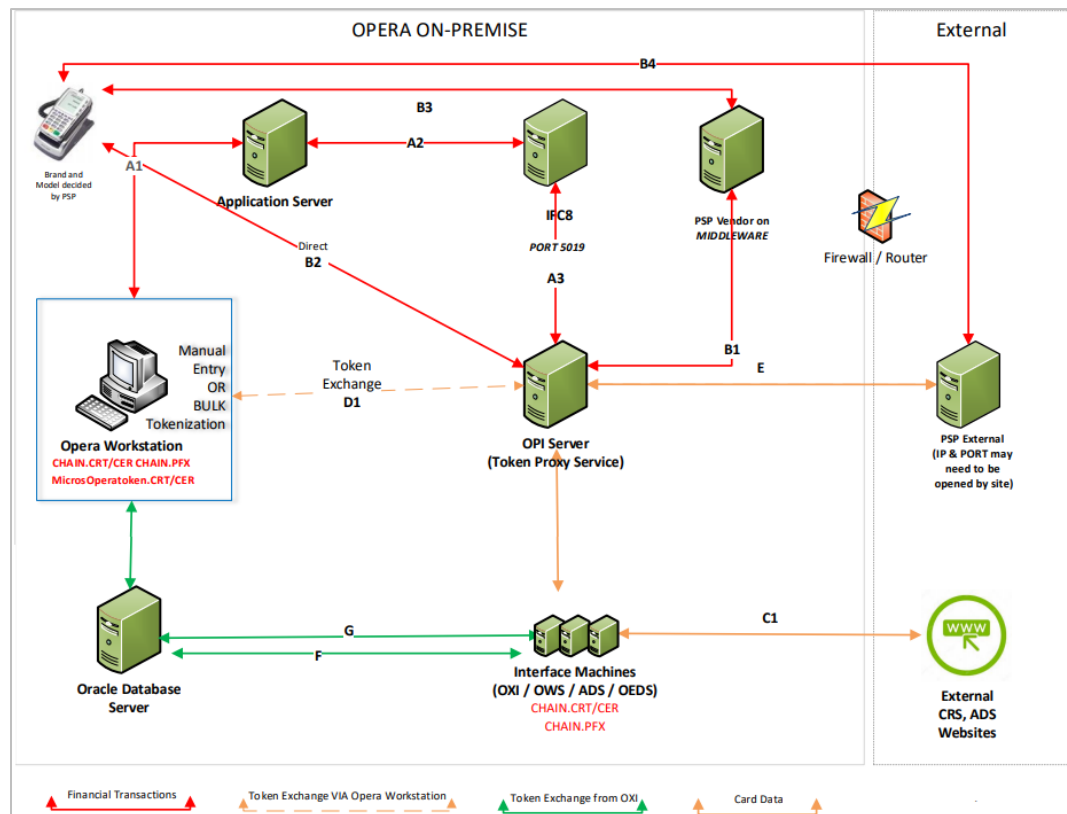


# 4

## Customer Deployment Scenarios

### OPERA On-Premise Single Property

- OPERA application components and database installed in hotel network, OPI will be installed in the same network.
- Install one OPI instance to process both financial transaction and token transaction.
- OXI will communicate with OPI.
- IFC8 will be used for communication between OPERA and OPI.



**Transactional flow:**

**A. Financial Transaction (e.g. Pre-Auth, top up auth, settlements etc) or (GetToken requests that requires the collection of card data from payment terminal.**

1. Opera workstation originates the request to OPERA PMS environment; the response follows the same path in reverse direction.
2. Financial Transaction request or GetToken request routed from Hosted Opera to IFC8 via OperalFCController port 5001 on IFC PC
3. Financial Transaction requests & GetToken requests routed from IFC8 to OPI via Port 5019 on IFC Server (if available. If not available a different port can be assigned)

**B. EMV Card present Transaction**

1. OPI can either send the request to PSP Middleware via IP & Port Provided by PSP
2. Or OPI can send the request to PSP payment terminal directly. Payment terminal will light up to collect card data.
3. Transaction between PSP Middleware server and Payment Terminal
4. Transaction is sent from Payment terminal to PSP Host

**C. Reservation initiated from Central Reservation System (CRS) e.g. TripAdvisor, ORS, Expedia**

1. Card data sent to OXI/OWS/ADS/OEDS with for Token exchange
2. OXI Servers sends Card data to Token Exchange Service (Token URL & Port extracted from Opera configuration)  
Token Exchange response from PSP Host.

**D. Card Data or Token sent from Opera Client Workstation to OPI for GetToken/GetPAN ONLY request. Includes bulk tokenization.  
Response follows the same path in reverse direction**

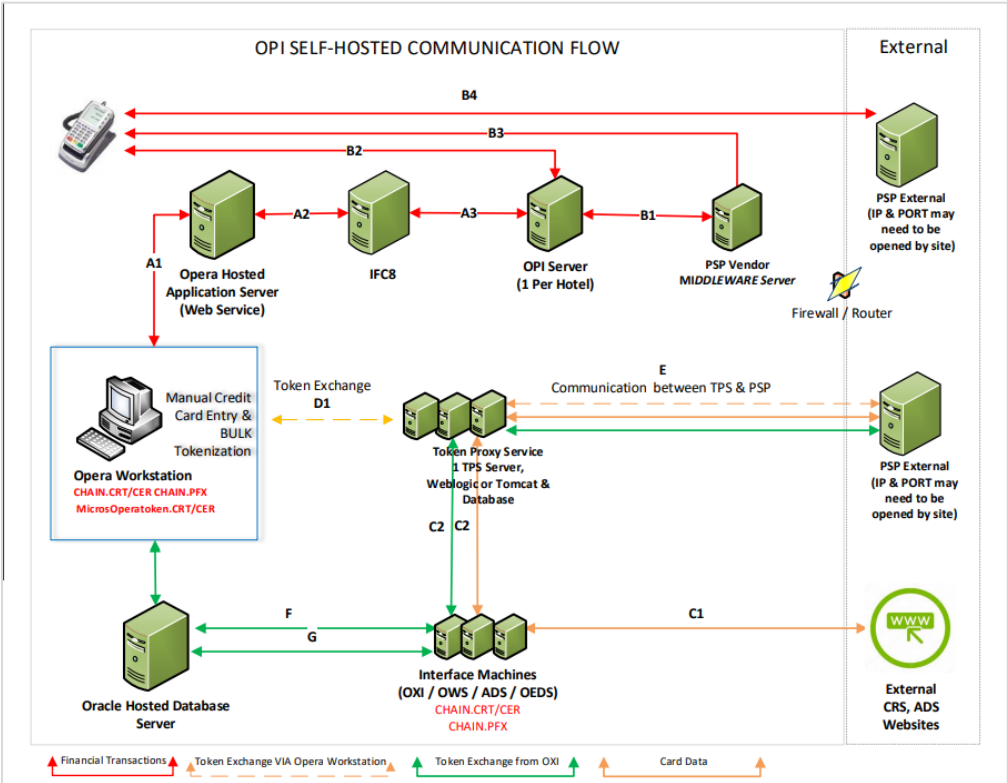
**E. Communication between OPI & PSP**

**F. Generated Token received from PSP/OPI Delivered to Opera Database from VIA OXI Machine(s).**

**G. Token information (GetPAN if CRS not tokenized) exchange during reservation update made in OPERA.**

# Self-Hosted Multi-Property

- OPERA application components and database installed in hotel network.
- Install one OPI instance per property.
- OXI will communicate with TPS.
- IFC8 will be used for communication between OPERA and OPI.



**Transactional flow:**

**A. Financial Transaction (e.g. Pre-Auth, top up auth, settlements etc) or (GetToken requests that requires the collection of card data from payment terminal.**

1. Opera workstation originates the request to Hosted Opera environment; the response follows the same path in reverse direction.
2. Financial Transaction request or GetToken request routed from Hosted Opera to IFC8 via OperalFController port 5001 on IFC PC
3. Financial Transaction requests & GetToken requests routed from IFC8 to OPI via Port 5019 on IFC Server (if available. If not available a different port can be assigned)

**B. EMV Card present Transaction**

1. OPI can either send the request to PSP Middleware via IP & Port Provided by PSP
2. Or OPI can send the request to PSP payment terminal directly. Payment terminal will light up to collect card data.
3. Transaction between PSP Middleware server and Payment Terminal
4. Transaction is sent from Payment terminal to PSP Host

**C. Reservation initiated from Central Reservation System (CRS) e.g. TripAdvisor, ORS, Expedia**

1. Card data sent to OXI/OWS/ADS/OEDS with for Token exchange
  2. OXI Servers send Card data to Token Exchange Service (Token URL & Port extracted from Opera configuration)
- Token Exchange response from PSP Host.

**D. Card Data or Token sent from Opera Client Workstation to TPS for GetToken/GetPAN ONLY request. Includes bulk tokenization. Response follows the same path in reverse direction**

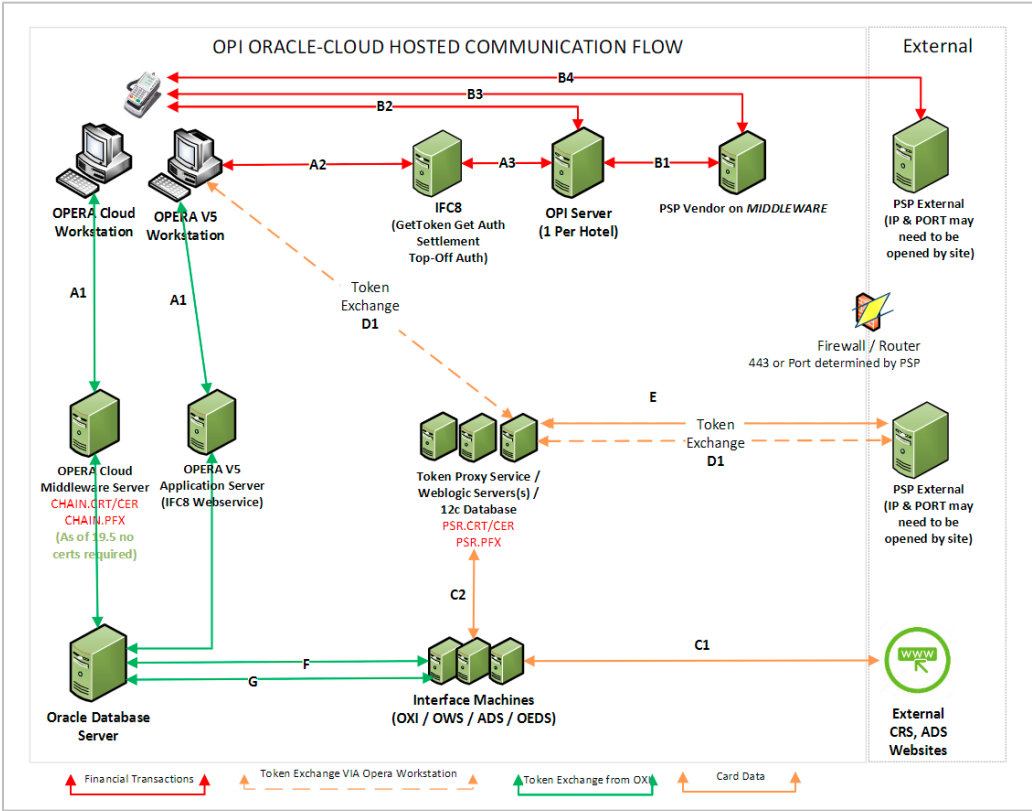
**E. Communication between TPS & PSP**

**F. Generated Token received from PSP/OPI Delivered to Opera Database from VIA OXI Machine(s).**

**G. Token information (GetPAN if CRS not tokenized) exchange during reservation update made in opera.**

# Oracle-Cloud Hosted Multi-Property

- OPERA application components and database installed in Oracle Datacenter.
- Install one OPI instance per property.
- OXI will communicate with TPS.
- IFC8 will be used for communication between OPERA and OPI.



**Transactional flow:**

**A. Financial Transaction (e.g. Pre-Auth, top up auth, settlements etc) or (GetToken requests that requires the collection of card data from payment terminal.**

1. Opera workstation originates the request to Hosted Opera environment; the response follows the same path in reverse direction.
2. Financial Transaction request or GetToken request routed from Hosted Opera to IFC8 via OperalFCController port 5001 on IFC PC
3. Financial Transaction requests & GetToken requests routed from IFC8 to OPI via Port 5019 on IFC Server (if available. If not available a different port can be assigned)

**B. EMV Card present Transaction**

1. OPI can either send the request to PSP Middleware via IP & Port Provided by PSP
2. Or OPI can send the request to PSP payment terminal directly. Payment terminal will light up to collect card data.
3. Transaction between PSP Middleware server and Payment Terminal
4. Transaction is sent from Payment terminal to PSP Host

**C. Reservation initiated from Central Reservation System (CRS) e.g. TripAdvisor, ORS, Expedia**

1. Card data sent to OXI/OWS/ADS/OEDS with for Token exchange
  2. OXI Servers sends Card data to Token Exchange Service (Token URL & Port extracted from Opera configuration)
- Token Exchange response from PSP Host.

**D. Card Data or Token sent from Opera Client Workstation to TPS for GetToken/GetPAN ONLY request. Includes bulk tokenization. Response follows the same path in reverse direction**

**E. Communication between TPS & PSP**

**F. Generated Token received from PSP/OPI Delivered to Opera Database from VIA OXI Machine(s).**

**G. Token information (GetPAN if CRS not tokenized) exchange during reservation update made in opera.**