# Oracle Cloud Infrastructure - Application Validation

**ISV:** None  
**Application:** None  
**Statement of Work**  
**Date:** None  
**Version:** None

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## Introduction

# 1. Document Header

**ISV:** TGW  
**Application:** WERX  
**Type:** Statement of Work  
**Date:** 2023-10-05  
**Version:** 0.1

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# 2. SoW Version History

|  |  |  |  |
| --- | --- | --- | --- |
| **Version #** | **Date** | **Revised By** | **Description of Change** |
| 0.1 | 2023-10-05 | John Doe | Initial draft |
| 0.2 | 2023-10-10 | Jane Smith | Added project milestones |
| 0.3 | 2023-10-15 | John Doe | Updated scope and deliverables |
| 0.4 | 2023-10-20 | Jane Smith | Incorporated client feedback |
| 0.5 | 2023-10-25 | John Doe | Finalized for sign-off |

# 3. Status and NEXT STEPS

**Current Project Status:** Planning

**Next Steps:**  
1. **Owner:** Oracle Cloud Architect  
**Description:** Finalize OCI architecture diagram and service mapping.  
2. **Owner:** TGW Technical Lead  
**Description:** Provide access to the dev/test environment and share architectural artifacts.  
3. **Owner:** Oracle Project Manager  
**Description:** Schedule kickoff meeting with all stakeholders.

# 4. Project Participants

**Oracle Team**  
| **Name** | **Role** | **Email** | |——————–|———————|——————————-| | John Doe | Cloud Architect | john.doe@oracle.com | | Jane Smith | Project Manager | jane.smith@oracle.com | | Alex Brown | DevOps Engineer | alex.brown@oracle.com |

**TGW Team**  
| **Name** | **Role** | **Email** | |——————–|———————|——————————-| | Emily Johnson | Technical Lead | emily.johnson@tgw.com | | Michael Williams | Solution Architect | michael.williams@tgw.com | | Sarah Green | Operations Manager | sarah.green@tgw.com |

# 5. Project Framework

The project will be executed in a collaborative mode between Oracle and TGW, with the following responsibilities:  
- **Oracle:** Provide OCI expertise, design target architecture, and deploy necessary resources.  
- **TGW:** Provide application-specific knowledge, access to the current environment, and validate functionality.

**Feedback Loops:** Weekly sync meetings will be held to review progress and address any blockers.  
**Expected Validation Duration:** 2-3 weeks.

# 6. Required Contribution From Client

* **Technical Resources:** Access to the current on-premise OpenShift environment and Oracle 19c database.
* **Architectural Artifacts:** Diagrams of the current setup, including network topology and application flow.
* **Environment Access:** Credentials for the dev/test environment for Oracle to replicate the setup in OCI.

# 7. Expected Deliverables From Oracle ISV Labs

* **Terraform Modules:** For provisioning OCI resources (OpenShift Cluster, GPU VM, Oracle 19c on IaaS).
* **Target Architecture:** Detailed diagram and documentation of the OCI environment.
* **Technical Documentation:** Setup guides, troubleshooting steps, and best practices.
* **CI/CD Integration Examples:** Sample pipelines for deploying WERX on OCI.

# 8. Cloud Environment Used

**PoC Tenancy:** A temporary Oracle-managed tenancy will be used for the validation.

# 9. TGW Company Profile

**Legal Name:** TGW Logistics Group  
**Country of Operations:** Global, headquartered in Austria  
**Company Overview:** TGW is a leading provider of automated warehouse solutions, specializing in intralogistics.  
**Website:** [www.tgw-logistics.com](https://www.tgw-logistics.com)

# 10. In-Scope Application: WERX

**Application Name:** WERX  
**General Description:** A warehouse execution system (WES) that orchestrates material flow and order fulfillment.  
**Key Technologies:** Java, Docker, Kubernetes, Oracle 19c, Kafka.  
**Current Hosting:** On-premise OpenShift environment with 6 nodes (3 masters, 3 workers).

# 11. Project Overview

**Validation Summary:** Successfully validate WERX in a replicated, containerized environment on OCI, ensuring functional compatibility, performance within latency requirements, and readiness for future automation or cloud-native enhancements.

**Desired Outcome:**  
- Seamless lift-and-shift migration path for WERX to OCI.  
- Validation of GPU-based PLC simulation for real-time processing.  
- Integration of Oracle 19c with Data Guard for high availability.

**Scope Boundaries:**  
- Focus on OCI services: OpenShift Cluster, GPU VM, Oracle 19c on IaaS.  
- Excludes production migration and licensing setup.

**Joint Goals:**  
- Optimize application performance in OCI.  
- Ensure security and compliance with TGW policies.  
- Provide a scalable architecture for future growth.

# 12. Scope

**In-Scope Items:**  
- OpenShift Cluster deployment with 6 nodes (3 masters, 3 workers).  
- GPU VM setup for PLC simulation.  
- Oracle 19c database deployment with Data Guard.  
- Integration of OpenUI service outside OpenShift.

**Out-of-Scope Items:**  
- Production migration.  
- Licensing setup for Oracle 19c.  
- SLA support post-validation.

**Validation Boundaries:**  
- Functional testing of WERX in OCI.  
- Performance testing within latency requirements.

# 13. Major Project Milestones

|  |  |  |  |
| --- | --- | --- | --- |
| **Milestone** | **Target Date** | **Completed** | **Comments** |
| Kickoff with Cloud Architect | 2023-10-10 |  |  |
| OCI Network Setup | 2023-10-15 |  |  |
| Terraform Code Finalization | 2023-10-20 |  |  |
| Application Deployment in OCI | 2023-10-23 |  |  |
| Final Validation & Review | 2023-10-27 |  |  |

# 14. Acceptance Criteria

|  |  |  |
| --- | --- | --- |
| **Capability/Metric** | **Acceptance Criteria** | **Status** |
| OpenShift Cluster Deployment | WERX runs successfully on OCI OpenShift Cluster | TBD |
| GPU VM Setup | PLC simulation processes data within latency requirements | TBD |
| Oracle 19c on IaaS | Database deployed, configured, and accessible with Data Guard enabled | TBD |
| OpenUI Integration | OpenUI service communicates seamlessly with OpenShift Cluster | TBD |
| Security | IAM policies, NSGs, and encryption applied as per TGW standards | TBD |

# 15. Current State Architecture

**Diagram Description:**  
- On-premise OpenShift environment with 6 nodes (3 masters, 3 workers).  
- Oracle 19c database with Data Guard for production.  
- OpenUI service running outside OpenShift.

**Tech Stack:**  
- Docker, Helm, Java, Kafka, Oracle 19c.

**Known Issues/Pain Points:**  
- Manual deployments leading to longer release cycles.  
- Limited scalability of the on-premise infrastructure.

# 16. Target OCI Architecture

**Service Mapping:**

|  |  |
| --- | --- |
| **Current Component** | **OCI Service** |
| OpenShift Cluster | OCI OpenShift Cluster |
| GPU for PLC Simulation | GPU VM |
| Oracle 19c Database | Oracle 19c on IaaS |
| OpenUI | Compute Instance |

**Component Interaction:**  
- OpenShift Cluster hosts WERX microservices.  
- GPU VM processes real-time data for PLC simulation.  
- Oracle 19c on I —