



Server Rework and Reconfiguration Specifications

Document Number and Revision: 923-3671 Rev 06

Overview

This document describes the activities that must be performed by External Manufacturers (EMs) upon receipt of systems that completed Ongoing Reliability Testing (ORT) or other lengthy non-standard tests that must be reworked or reconfigured for Oracle. There may be rare cases of opened and unopened boxed systems previously shipped from the EM manufacturing facility, requiring same processing.

Audience

This document is for the original EMs or other parties, such as original equipment manufacturer (OEM), original design manufacturer (ODM), or Oracle manufacturing facilities, who are required to process systems returned to them by Oracle or that completed ORT or other lengthy non-standard tests.

NOTE 1: Note: Open box returns are returns in which the system packaging box was opened after leaving the original EM while closed box returns are returns in which the system packaging box was not opened after leaving the original EM.

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Introduction

This specification must be used by the original EMs or Oracle facilities who are required to rework or reconfigure systems returned from RQT/ORT and similar testing. The generic term 'supplier' is used throughout this document to describe EMs and Oracle manufacturing facilities.

Key Requirements

It is strongly recommended that the reconfiguration and rework are performed in a dedicated area outside the main production process to ensure material segregation. Before any rework or reconfiguration commences, the supplier must verify with their shop floor system that the serial number of the system, the FRU serial numbers, and quantities match the system as it was originally shipped. A server must PASS a cycle of designated SFT testing prior to any further actions. Any SFT failure must be run through standard debug process, repaired, and pass an SFT test before further disposition. Any FRU failures for disposition from SFT debug must follow standard process within the supplier's material rejection board (MRB) process.

Any differences between the original system shipped and the system returned must be noted and communicated to Oracle.

Objective

The objective of this specification is to ensure material is re-entered to stock in a controlled manner and only known good material is released onto the production floor.

Rework or Scrap Decision

If the system is to be reworked (reconfigured) or scraped, Oracle and the EM must discuss if it is cost-effective to process the system and the EM must also evaluate the returned unit upon receipt before commencing rework to quantify the cost of rework required to bring the system to the current build standard. Oracle planner or buyer decides based on these costs whether to proceed with rework. Rework must only proceed once costs were agreed with the EM.

Engineering Change Orders (ECOs), Purges, or Stop-Ships

EM checks against stop-ships, purges, and non-functional quality issues that occurred since the system was originally manufactured and screened accordingly. Components must be verified against serial number blacklists, refer to *Stop Ship and Purge (SSP) Process*, [923-1826-xx](#). Purge records are updated as applicable.

Any FRUs or parts that are removed from the system, because they are impacted by ECO's, must follow the disposition directions within the original ECO that initiated the revision change. Down-revision and changed part number material is not acceptable to use if all BOMs now call for a higher revision level or different part number, and no approved deviations are in affect. Refer to *Corp: Part Number, Revision, and Interchangeability Conventions for Orderable and Manufacturing Items*, [990-1241-xx](#).

Cosmetic Requirements

1. Inspect the system against *WWOPS Manufacturing: Global Cosmetics Quality and Workmanship Standards*, [923-2001-xx](#).
2. Ensure, by using an ESD vacuum, that the system is free of dust both internally and externally.

NOTE 2: Air filters and other degradable parts must be replaced with new ones unless they can be satisfactorily cleaned.

1. Remove all Power Supply Units (PSUs) and, using an ESD sensitive vacuum, remove all dust from the PSU.
2. Ensure that all gaskets are correctly formed and secured.
3. Inspect all connectors, by using a flashlight, to ensure that they are free of damage.
4. Ensure that the internal cable routing and condition conforms to the specification.
5. Inspect any screw holes used for mounting hardware, PCI brackets, rail guide holes, and so on, for obvious signs of damage.
6. Inspect shipkits, accessory kits, and railkits to verify that all parts are present and undamaged.

Customer Information Sheets (CISs) and Packaging

1. The original CISs must be destroyed and new CIS generated if required by ship type.
2. Non-reusable packaging must also be rejected to recycle and replaced with new.

Self-Monitoring, Analysis, and Reporting Technology (SMART) Logs

HDD performance must be verified for SMART Log content of the HDD devices in the system, using the 'hdd_audit.plx' utility. TDMS testing use of SFT, DEKIT, and SOLT automatically perform this requirement.

The utility determines pass or fail, based on the pre-defined limits for each of the following parameters:

- Power on hours (POH), Maximum temperature, Grown defect count(s), Pending (read hard errors) sector count(s), and Uncorrected sector count(s)

Special attention must be paid to the reported POH of the HDDs during the SMART log verification. If there are insufficient POHs left in the drive to complete a full test cycle, the drive may be considered to have exceeded the functional POHs and be scrapped.

HDD SMART Log Report

The supplier must provide reports to the HDD Supplier Engineering, showing the quantity of the HDDs tested through open box rework, with the following information:

- Number and percentage that fail because of exceed read hard error threshold - return to supplier
- Number and percentage that fail because of exceed maximum temperature threshold - coordinate scrap with Oracle buyer or planner
- Number and percentage that fail because of exceed maximum power on hour threshold - coordinate transfer to Service with Oracle buyer or planner

HDD Scrubbing

For disks processed or used by external end-user customers, the HDD content must be erased according to *WWOPS Engineering: Best Practice for Disk Scrubbing on Solaris*, [923-3692-xx](#).

Testing

Returned systems must pass back through the full SFT test and inspection process prior to dekit logop(s) and returning material to stock, as LIFO (Last-In-First-Out) material. This will insure only known good

material is released onto the floor which meets the same build level as the systems currently being manufactured and used prior to potentially newer material to prevent further aging. LIFO material must never be reused to build systems destined for ORT/RQT or non-standard shipment.

- Reconfigured systems must be allocated a new serial number. FRUs do not need to be re-serialized. Re-serialization only applies to new Part Number reconfiguration of units that were previously shipped from the EM manufacturing facility; for example, units completing ORT do not need to be re-serialized.
- If reserialization, the two original server EZ-Label and server PN/SN/MAC labels must be removed from unit and destroyed. This must be done to void reuse of original SN.
- All applicable programmables must be reprogrammed with the new system serial number, applicable to SFT testing.
- The supplier must maintain shop floor control (SFC) system records that record both the old and new serial numbers.
- Data from latest testing and packout record must be sent to ODW, similar to new product build reporting.
- Material that fails the full test process, must be moved to MRB and dispositioned by EM MRB process.

Packaging

All systems must be shipped in a new carton(s).

Surplus or Failed Material Following Processing

Returned components or options not used in the final configuration must be vendor sold by Oracle to the supplier for later reuse. If the components or parts cannot be used by the supplier because they are excess or fail test and cannot be repaired, they must be moved to a non-nettable, MRB location, and an agreement on the disposition must be made with Oracle. Contact Oracle buyer or planner for direction.

Record Retention

Results and evidence of rework and reconfiguration are considered quality records. The supplier must make arrangements to archive these for the time period, as indicated in the relevant section of the quality exhibit.

FRU MRB Disposition

FRUs, such as HDDs requiring disposition and returned to the HDD supplier require segregation from new build integration failures. This must be maintained by both physical marking and database-electronic traceability. If a FRU failed, and is aged prior to known corrective actions which were implemented, the aged drive does not require the same level of analysis as a newly integrated FRU which has all known corrective actions implemented.

Related Information

Reference Documents and Records

| Document Title ¹ | Number | ESO Controlled ² | | Quality Record ³ | |
|--|-----------------------------|-----------------------------|----|-----------------------------|----|
| | | Yes | No | Yes | No |
| WWOPS Product Lifecycle and Technology: Stop Ship and Purge (SSP) Process | 923-1826-xx | x | | | x |
| WWOPS Manufacturing: Global Cosmetics Quality and Workmanship Standards | 923-2001-xx | x | | | x |
| WWOPS Supply Engineering: Supplier Traceability Requirements | 923-3406-xx | x | | | x |
| WWOPS Supply Engineering: Supplier Traceability Technical Specifications for Supplier Data Feed (xml Format) | 923-3407-xx | x | | | x |
| WWOPS Supply Engineering: Supplier Traceability Technical Specification for Supplier Data Feed | 923-3409-xx | x | | | x |
| WWOPS Engineering: Best Practice for Disk Scrubbing on Solaris | 923-3692-xx | x | | | x |
| Corp: Part Number, Revision, and Interchangeability Conventions for Orderable and Manufacturing Items | 990-1241-xx | x | | | x |

Document History and Approvals

| Dash | Rev | Date | Description of Change | Originator |
|--|-----|--------------|---|------------|
| 01 | A | 04 Dec 2008 | Initial release. | N/A |
| 02 | A | 14 Oct 2009 | Removed explicit need for separate reconfiguration area and 100% PPA. Implemented minor editorial updates. | N/A |
| 03 | A | 09 Dec 2009 | Modified Section 7. | N/A |
| 04 | A | 01 Nov 2011 | Updated document to reflect 100% ATO model, to clarify test requirements of RMA systems prior to dekitting at EM and returning material to stock. | N/A |
| 05 | A | 66 June 2022 | Change attachment category to Misc to supplier visibility – no content changes | N/A |
| 06 | A | 28 Oct 2022 | Updates to Overview, Key requirements testing, Objective, HDD Reporting, and Testing. | N/A |
| Glossary & Doc Conventions online at http://hops-webdocs.us.oracle.com/glossary/ | | | | |

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