



## Oracle Configuration Services Exhibit

*This exhibit incorporates by reference the terms of the order for Exadata Database Machine, Exadata Storage Expansion Rack, SuperCluster, Exalogic on SuperCluster, Oracle Big Data Appliance, Exalogic, Oracle Exalytics In-Memory Machine Configuration, Engineered Systems Upgrade Configuration Services, Oracle Zero Data Loss Recovery Appliance Configuration Services SuperCluster Compute Node and/or Exadata Eighth Rack.*

### A. Description of Services

#### 1. Exadata Database Machine Configuration Services

Service Offering	Part #
Oracle Exadata Configuration Service	B51555

If your order contains Exadata Configuration Service, Oracle will perform one (1) time per rack the following services.

- a. Review the build diagram and Bill of Materials provided to you at the end of installation services activity.
- b. Configure the Exadata Storage Servers:
  - (i) Configure logins and network addresses;
  - (ii) Create a cell, cell disks, and grid disks;
  - (iii) Set up configuration files for a database server host;
  - (iv) Configure shared storage;
  - (v) Install Oracle Database including Automated Storage Management (ASM), Cluster Ready Services (CRS) and Real Application Clusters (RAC) and Oracle Virtual Machine (OVM);
  - (vi) Install any required Database patches as listed in the Critical Issue My Oracle Support document;
  - (vii) Create an ASM disk group for the Oracle Exadata Storage Server Software;
  - (viii) Create up to four Oracle homes each containing one (1) Oracle database consisting of up to four (4) RAC clusters or up to four (4) OVMs;
  - (ix) Configure the following optional items, if required;
    - (1) Enable Write Back Flash Cache (WBFC) on your database servers
    - (2) Enable Oracle ASM Cluster File Systems (ACFS) on your storage servers
    - (3) Configure Link Aggregation Control Protocol (LACP) provides active - active bonding for one network (client or backup)
    - (4) Configure Virtual Local Area Network (VLAN) tagging – for one client and one backup network
    - (5) Configure listener services (create the additional listener, change port or protocol address of listener)
- c. Configure the Exadata Oracle Enterprise Manager (OEM) agent from your currently installed OEM.
- d. Post-Installation Tasks:
  - (i) Perform post installation verification; and

- (ii) Provide final summary report.
- e. Remote Delivery. Unless otherwise specified in your order, the Exadata Database Machine Configuration Services are performed remotely, utilizing one (1) of the following options:
  - (i) A gateway. A “gateway” is the computing platform, consisting of the Oracle Advanced Support Gateway available on My Oracle Support (“MOS”) and a physical or virtual hardware platform, which hosts Oracle’s tools. Oracle will provide the necessary software and instructions to install the gateway or you may provide Oracle remote access to install the gateway on your behalf. Once the gateway is installed, Oracle will deploy additional software on the gateway which will be used to deliver your services. The gateway must be fully installed, connected and operational in order for you to receive the services; or
  - (ii) Oracle Continuous Connection Network (“OCCN”). OCCN is secure network between you and Oracle from which Oracle can access your system to perform the services. Oracle will provide you the requirements for implementing the OCCN; or
  - (iii) Oracle Web Conference (“OWC”).

**2. Exadata Storage Expansion Rack Configuration Services**

Service Offering	Part #
Oracle Exadata Storage Expansion Half or Full Rack Configuration Service	B64314
Oracle Exadata Storage Expansion Quarter Rack Configuration Service	B66861

If your order contains Exadata Storage Expansion Rack configuration services, Oracle will perform one (1) time per rack the following services.

- a. Configure the Exadata Storage Servers:
  - (i) Install Exadata Cell storage software;
  - (ii) Configure logins and network addresses;
  - (iii) Create a cell, cell disks, and grid disks;
  - (iv) Perform validations, quality assurance (QA) and stress tests;
  - (v) Set up configuration files for a database server host, and;
  - (vi) Configure shared storage to support Oracle Real Application Clusters.
- b. Post-Installation Tasks:
  - (i) Perform post installation verification; and
  - (ii) Provide final summary report.
- c. Remote Delivery. Unless otherwise specified in your order, the Exadata Storage Expansion Rack Configuration Services are performed remotely, utilizing one (1) of the following options:
  - (i) A gateway. A “gateway” is the computing platform, consisting of the Oracle Advanced Support Gateway available on My Oracle Support (“MOS”) and a physical or virtual hardware platform, which hosts Oracle’s tools. Oracle will provide the necessary software and instructions to install the gateway or you may provide Oracle remote access to install the gateway on your behalf. Once the gateway is installed, Oracle will deploy additional software on the gateway which will be used to deliver your services. The gateway must be fully installed, connected and operational in order for you to receive the services; or
  - (ii) Oracle Continuous Connection Network (“OCCN”). OCCN is secure network between you and Oracle from which Oracle can access your system to perform the services. Oracle will provide you the requirements for implementing the OCCN; or

- (iii) Oracle Web Conference (“OWC”)

### 3. Oracle Big Data Appliance Configuration Services

Service Offering	Part #
Oracle Big Data Appliance Configuration Service	B65793

If your order contains Oracle Big Data Appliance configuration services, Oracle will perform one (1) time per rack the following services.

- a. Configure the Big Data Servers:
  - (i) Verify factory setup; and
  - (ii) If needed, patch to the latest base image of Oracle Enterprise Linux.
- b. Install the following software:
  - (i) Cloudera Distribution Including Apache Hadoop (Cloudera CDH™);
  - (ii) Non-Hadoop Big Data Appliance software (i.e., MySQL, NoSQL); and
  - (iii) The following optional software:
    - (1) Open source distribution of R;
    - (2) Oracle Loader for Hadoop;
    - (3) Oracle Data Integrator Application Adapter for Hadoop; and
    - (4) Oracle R connector for Hadoop.
- c. Post-Installation Tasks:
  - (i) Perform post installation verification; and
  - (ii) Provide final summary report.
- d. Remote Delivery. Unless otherwise specified in your order, the Big Data Appliance (BDA) Machine Configuration Services are performed remotely, utilizing one (1) of the following options:
  - (i) A gateway. A “gateway” is the computing platform, consisting of the Oracle Advanced Support Gateway available on My Oracle Support (“MOS”) and a physical or virtual hardware platform, which hosts Oracle’s tools. Oracle will provide the necessary software and instructions to install the gateway or you may provide Oracle remote access to install the gateway on your behalf. Once the gateway is installed, Oracle will deploy additional software on the gateway which will be used to deliver your services. The gateway must be fully installed, connected and operational in order for you to receive the services; or
  - (ii) Oracle Continuous Connection Network (“OCCN”). OCCN is secure network between you and Oracle from which Oracle can access your system to perform the services. Oracle will provide you the requirements for implementing the OCCN; or
  - (iii) Oracle Web Conference (“OWC”)

### 4. Engineered Systems Upgrade Configuration Services: Database Servers

Service Offering	Part #
Oracle Engineered Systems Upgrade Configuration Service: Database Servers (1-4)	B82260
Oracle Engineered Systems Upgrade Configuration Service: Database Servers (5-10)	B82261
Oracle Engineered Systems Upgrade Configuration Service: Database Servers (11-15)	B82262
Oracle Engineered Systems Upgrade Configuration Service: Database Servers (16-20)	B82263

If your order contains configuration services for the Engineered Systems Upgrade: Database Servers, Oracle will perform one (1) time per machine the following services:

- a. Review the build diagram and Bill of Materials provided to you at the end of installation services activity.
- b. Configure the Exadata Database Servers:
  - (i) Install Oracle Database including Automated Storage Management (ASM), Cluster Ready Services (CRS) and Real Application Clusters (RAC);
  - (ii) Install any required Database patches as listed in the Critical Issue My Oracle Support Document;
  - (iii) Create an ASM disk group for the Oracle Exadata Storage Server Software; and
  - (iv) Configure Database servers as follows: extend existing Databases up to a maximum of four (4) Databases and one (1) RAC Cluster.
- c. III. Post-Installation Tasks:
  - (i) Perform post installation verification; and
  - (ii) Provide final summary report.

**5. Engineered Systems Upgrade Configuration Service: SuperCluster Compute Node**

Service Offering	Part #
Oracle Engineered Systems Upgrade Configuration Service: SuperCluster compute node (one chassis, up to 8 CMIOU)	B87604

If your order contains configuration services for the Engineered Systems Upgrade: SuperCluster Compute Node, Oracle will perform one (1) time per upgrade installation the following services:

- a. Review and preservation of your existing SuperCluster logical domains (LDOMs) configurations, Oracle Solaris and Exa-family repositories;
- b. Configure SuperCluster Compute Node as follows:
  - (i) Add new dedicated LDOMs based on your new hardware resources; and
  - (ii) Add new resources to your current domains.
- c. Post-Installation Tasks:
  - (i) Perform post task verification; and
  - (ii) Provide final summary report.

**6. Engineered Systems Upgrade Configuration Services: Exadata Eighth Rack**

Service Offering	Part #
Oracle Engineered Systems Upgrade Configuration Service: Exadata Eighth Rack	B88184

If your order contains configuration services for the Engineered Systems Upgrade: Exadata Eighth Rack, Oracle will perform one (1) time per machine the following services:

- a. Review the build diagram and Bill of Materials provided to you at the end of installation services activity.
- b. Configure the Exadata Database Servers additional flash drives as follows:

- (i) Enable database servers cores for quarter rack functionality;
  - (ii) Install Oracle Database including Automated Storage Management (ASM), Cluster Ready Services (CRS) and Real Application Clusters (RAC);
  - (iii) Install any required Database patches as listed in the Critical Issue My Oracle Support Document;
  - (iv) Create an ASM disk group for the Oracle Exadata Storage Server Software; and
  - (v) Configure Database servers as follows; extend existing Databases; up to a maximum of four (4) Databases and one (1) RAC Cluster,
- c. Configure the Exadata Storage Servers additional high capacity drives as follows:
- (i) Configure logins and network addresses;
  - (ii) Create a cell, cell disks, and grid disks;
  - (iii) Set up configuration files for a database server host;
  - (iv) Configure shared storage utilizing one (1) of the following:
    - (1) Create an ASM disk group for the Oracle Exadata Storage Server Software; or
    - (2) Extend existing ASM disk groups, up to a maximum of four (4) ASM disk groups to new Exadata Storage Servers.
- d. Create a series of automated tasks with scripts to rebalance existing cell disks, and grid disks;
- (i) Commence automated tasks to rebalance data
  - (ii) Remain available to monitor rebalancing process and progress, up to a maximum of one (1) day
- e. Post-Installation Tasks:
- (i) Perform post installation verification; and
  - (ii) Provide final summary report.

**7. Engineered Systems Upgrade Configuration Service: Storage Servers with Data Rebalancing**

Service Offering	Part #
Oracle Engineered Systems Upgrade Configuration Service: Storage Servers with Data Balancing (1-10)	B90693
Oracle Engineered Systems Upgrade Configuration Service: Storage Servers with Data Balancing (11-20)	B90694

If your order contains configuration services for the Engineered Systems Upgrade: Storage Servers with Data Rebalancing, Oracle will perform one (1) time per machine the following services:

- a. Review the build diagram and Bill of Materials provided to you at the end of installation services activity.
- b. Configure the Exadata Storage Servers:
  - (i) Configure logins and network addresses;
  - (ii) Create a cell, cell disks, and grid disks;
  - (iii) Set up configuration files for a database server host;
  - (iv) Configure shared storage utilizing one (1) of the following:
    - (1) Create an ASM disk group for the Oracle Exadata Storage Server Software; or
    - (2) Extend existing ASM disk groups, up to a maximum of four (4) ASM disk groups to new Exadata Storage Servers.
- c. Review the existing Exadata Storage Cells database files.

- (i) Create a series of automated tasks with scripts to rebalance existing cell disks, and grid disks.
  - (ii) Commence automated tasks to rebalance data.
  - (iii) Remain available to monitor rebalancing process and progress, up to a maximum of two (2) days.
- d. Post-Installation Tasks:
- (i) Perform post task verification; and
  - (ii) Provide final summary report.

**8. Oracle Zero Data Loss Recovery Appliance Configuration Service**

Service Offering	Part #
Oracle Zero Data Loss Recovery Appliance Configuration Service	B82258

If your order contains Zero Data Loss Recovery Appliance configuration services, Oracle will perform one (1) time per rack the following services.

- a. Review the build diagram and Bill of Materials provided to you at the end of installation services activity.
- b. Configure the Exadata Storage Servers:
  - (i) Configure logins and network addresses;
  - (ii) Create a cell, cell disks, and grid disks;
  - (iii) Set up configuration files for a database server host;
  - (iv) Configure shared storage;
  - (v) Install Oracle Database including Automated Storage Management (ASM), Cluster Ready Services (CRS), Real Application Clusters (RAC); and Recovery Manager (RMAN);
  - (vi) Install any required Database critical patches;
  - (vii) Create an ASM disk group for the Oracle Exadata Storage Server Software;
  - (viii) Create default Recovery Appliance Oracle Database;
  - (ix) Perform a Test Backup (up to 50GB) with a database supplied by you; and
  - (x) Configure the Recovery Appliance OEM agent on a previously installed Oracle Enterprise Manager 12c, which must be prepared for Recovery Appliance discovery.
- c. III. Post-Installation Tasks:
  - (i) Perform post installation verification; and
  - (ii) Provide final summary report.

**9. Supplemental Resources**

Service Offering	Part #
Oracle Engineered Systems Upgrade Configuration Service: Supplemental Resource Day	B85453

If your order contains Supplemental Resources, Oracle will provide additional resources, either onsite or remotely, to assist in the furtherance of Oracle Configuration Services as defined herein, up to the maximum number of days per resource role as set forth in your order. A “day” is defined as one (1) resource working eight (8) hours per day.

**B. Your Obligations and Project Assumptions**

You acknowledge that your timely provision of and access to office accommodations, facilities, equipment, assistance, cooperation, complete and accurate information and data from your officers, agents, and employees, and suitably configured computer products (collectively, "cooperation") are essential to the performance of any services as set forth in this exhibit. Oracle will not be responsible for any deficiency in performing services if such deficiency results from your failure to provide full cooperation.

You acknowledge that Oracle's ability to perform the services depends upon your fulfillment of the following obligations and the following project assumptions:

## **1. Your Obligations**

- a. Maintain the properly configured hardware/operating system platform to support the services.
- b. Obtain licenses under separate contract for any necessary Oracle software and hardware programs before the commencement of services.
- c. Maintain annual technical support for the Oracle software and hardware with access to software patches and updates made available by Oracle under separate contract throughout the term of the services.
- d. Purchase, at a minimum, Oracle Exalytics In-Memory Configuration Services, if your order contains Oracle Exalytics In-Memory Machine Configuration Services: Virtualization; Oracle Exalytics In-Memory Machine Configuration Services: Clustering; and/or Oracle Exalytics In-Memory Machine Configuration Services: Additional Software.
- e. Provide Oracle with full access to the relevant functional, technical and business resources with adequate skills and knowledge to support the performance of services.
- f. Provide any notices and obtain any consents required for Oracle to perform services under this Exhibit.
- g. Provide Oracle access to any production environments or shared development environments to the extent necessary for Oracle to perform services.
- h. As required by U.S. Department of Labor regulations (20 CFR 655.734), if services are to be performed in the US, allow Oracle to post a Notice regarding Oracle H-1B employee(s) at the work site prior to the employee's arrival on site.
- i. Provide complete and accurate information to Oracle regarding the systems, including, without limitation, the serial numbers for the systems.
- j. Prior to the commencement of services, provide Oracle with a single point of contact who will be available to Oracle, for the duration of the services, to coordinate services at your location.
- k. Prior to the commencement of services, perform back-up or archival reproductions of all software and data contained on all hardware system(s), and within any of your systems or equipment that may be affected by the services.
- l. Prior to the commencement of services, inform Oracle of any storage, server, system, application, equipment or environment modifications that may affect Oracle's performance of the services.
- m. Provide configuration options, prior to the commencement of the service in your order. Updates to your configuration options are limited to two (2) updates during the term of the service.
- n. Ensure the physical environment where the services are to be performed is appropriately modified (e.g., disabling fire alarms and suspending use of oxygen depletion systems) for the duration of the services so as to allow Oracle to safely perform the services.
- o. Perform all configuration customizations including but not limited to partitioning, virtualization, additional users, additional Oracle applications and/or core technology instances.
- p. Perform backup and restoration of data on the existing hardware.

- q. Upon commencement of services and for four (4) consecutive business days thereafter, you will make available to Oracle, access to all affected racks for a minimum of eight (8) hours per day, between the hours of 8:00 am through 8:00 pm local time.
- r. Network Access. If your order contains services which are performed remotely, the following Network Access obligations shall apply:
  - (i) For services performed utilizing a gateway:
    - (1) You agree to the install of the Oracle Advanced Support Software Gateway and provide a server that meets Oracle's minimum requirements to install the gateway software. Oracle's minimum requirements for the gateway are available at <http://www.oracle.com/us/support/library/advanced-support-gateway-host-reqs-1896462.pdf>.
    - (2) Provide the infrastructure to allow the necessary network access for Oracle to perform the service. The required infrastructure includes, but is not limited to, necessary private and public-facing IP addresses, proper firewall settings, necessary predefined ports, and appropriate inbound and outbound connectivity. Any delays with providing the infrastructure to install the gateway will delay the start of the service.
    - (3) Provide a server, if applicable, that meets Oracle's minimum requirements and install the gateway software application. Oracle's minimum requirements for the gateway are available at <http://www.oracle.com/us/support/library/advanced-support-gateway-host-reqs-1896462.pdf>
  - (ii) For services performed utilizing OCCN, you will implement the OCCN in accordance with the specifications provided by Oracle.
  - (iii) For services performed utilizing OCCN or OWC, you agree that Oracle may access your systems throughout the performance of services using an Oracle defined standard virtual private network ("VPN"). If necessary to perform services hereunder, Oracle will provide you with a single pre-configured VPN device. You are responsible for the installation of the VPN device on your internet network, in accordance with Oracle's specifications, to create a network connection between Oracle and you.
  - (iv) You are responsible for ensuring that your network and systems comply with specifications that Oracle provides and that all components of your Oracle software environment are accessible through the gateway, VPN, or OWC. Oracle is not responsible for network connections or for issues, problems or conditions arising from or related to network connections, such as bandwidth issues, excessive latency, network outages, and/or any other conditions that are caused by an internet service provider, or the network connection.
- s. Restrict Oracle's access to any content or information that imposes privacy, security or regulatory obligations greater than those specified in this exhibit.

## **2. Project Assumptions**

- a. Unless otherwise set forth in your order, the scope of, and fees for, services under this exhibit are for services performed at the building(s) at the location(s) specified in your order. Requests to perform services for additional locations shall be addressed in accordance with Oracle's change control process.
- b. Services will be scheduled to commence on a mutually agreeable date and time at the location where the services are to be performed.

You acknowledge that if Oracle's cost of providing services is increased because of your failure to meet the obligations listed in this exhibit, failure to provide cooperation, or because of any other circumstance outside



of Oracle's control, then you agree to pay Oracle for such increased costs. Such increased costs may include time during which Oracle resources are under-utilized because of delays.

**C. Fees and Expenses**

You agree to pay Oracle the fees for services as identified in your order. All services and payments are noncancelable and nonrefundable.

Expenses related to the providing of the services are in addition to the fees for services identified in your order. Such expenses will be invoiced monthly as they are incurred and are due within 30 days of the invoice date.

**D. The term of Services shall be six (6) months from the effective date of your order ("Term").**

Notwithstanding any provision or interpretation of this exhibit to the contrary, Oracle's obligation to provide you with services under this exhibit terminates six (6) months from the effective date of your order ("End Date"). As of the End Date, any portion of the services that Oracle has not provided prior to the End Date shall be automatically forfeited by you on the End Date, and you shall not be entitled to any refund, or any credit toward additional or other services, for any unused portion of the services. In order for Oracle to provide services to you after the End Date, Oracle and you shall mutually agree, in writing, under a separate order, to the terms and fees for such services.