

DARKRA White Paper
FEBRUARY 2016

Oracle Database Services

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Background on this White Paper

Database services are logical abstractions for managing workloads in Oracle Database. Services divide workloads into mutually disjoint groupings. Each service represents a workload with common attributes, service-level thresholds, and priorities. The grouping is based on attributes of work that might include the application function to be used, the priority of execution for the application function, the job class to be managed, or the data range used in the application function or job class. For example, the Oracle E-Business suite defines a service for each responsibility, such as general ledger, accounts receivable, order entry, and so on. Each database service has a unique name.

Connection requests can include a database service name. If no service name is included and the Net Services file listener.ora designates a default service, the connection uses the default service.

Services are built into the Oracle Database, providing a single system image for workloads, prioritization for workloads, performance measures for real transactions, and alerts and actions when performance goals are violated. Services enable you to configure a workload, administer it, enable and disable it, and measure the workload as a single entity. You can do this using standard tools such as the Database Configuration Assistant (DBCA), Net Configuration Assistant (NetCA), and Enterprise Manager (EM). Enterprise Manager supports viewing and operating services as a whole, with drill down to the instance-level when needed.

In Real Application Clusters (RAC), a service can span one or more instances and facilitate real workload balancing based on real transaction performance. This provides end-to-end unattended recovery, rolling changes by workload, and full location transparency. RAC also enables you to manage a number of service features with Enterprise Manager, the DBCA, and the Server Control utility (SRVCTL).

Services also offer an extra dimension in performance tuning. Tuning by "service and SQL" can replace tuning by "session and SQL" in the majority of systems where all sessions are anonymous and shared. With services, workloads are visible and measurable. Resource consumption and waits are attributable by application. Additionally, resources assigned to services can be augmented when loads increase or decrease. This dynamic resource allocation enables a cost-effective solution for meeting demands as they occur. For example, services are measured automatically and the performance is compared to service-level thresholds. Performance violations are reported to Enterprise Manager, enabling the execution of automatic or scheduled solutions.

The **purpose of this white paper** is to offer a broad overview of DARKRA success stories on implementing Oracle Database Services across served industries. Moreover, provide set of business challenges faced by our clients and how DARKRA data solutions team overcome those with hands-on expertise on Database Services with best results beyond client expectations.

Summary

DARKRA is the leading independent Oracle Consulting & Oracle Solution provider.

Our services are customized to the best possible level ensuring absolutely no compromise with regard to deployment of skilled personnel, following of standards and implementation of industry best practices. Our services encompass all the aspects of Oracle Applications / Database software that includes Implementation, Development, Upkeep, Maintenance and Administration.

We help clients to rapidly reengineer themselves and be flexible enough to change with the current volatile environment. We guide our customers in the transition phases and present them with diverse growth opportunities for expanding into unique and uncharted territories.

Having established a sizeable offshore development center, with clients across Globe. It is our intention to broaden our horizon serving our clients.

Our dedicated and committed team of qualified techno-functional consultants is well versed with emerging technologies and enable us to harness the latest technologies for boosting business capabilities. Our talented pool of project management personnel have helped us thus so far overcome every challenge as we strive to reach greater heights.

Highlighters

- **Offshore Development Center (ODC) in INDIA** and a registered office in UAE
- Presence in Australia via local partners
- Oracle Gold Partner, Red Hat Partner and Amazon Cloud Consulting partner

Key Achievement

- 20+ certifications for Oracle Database and Oracle E-Business Suite
- 10+ Oracle Identity and Access Management Consultants
- 50+ Oracle consultants
- Carried out multiple Oracle Identity & access management projects in UAE & Australia
- 20+ Oracle customers
- A team of engineers fully certified on Oracle systems such as Database, E-Business Suite, Red Hat Linux, Identity Management.

OVERVIEW

In today's world, database and application infrastructure are critical components of enterprise IT. Against this backdrop, enterprises face continuing challenges in managing increasingly complex and growing data portfolios while meeting business expectations for peak performance and accessibility.

DARKRA manages more than 10,000 databases and 500 ERP environments from our offshore delivery centers. DARKRA's team of database administrators is proficient in Oracle, Microsoft SQL Server, MySQL, Sybase, and DB2 database technologies. We leverage Lean Six Sigma and other IT optimization methods to deliver world-class database administration services.

DARKRA is one of the leading Oracle consulting company that provides highest Oracle Database Managed Services that can reduce your risk and help you meet your service-level objectives without blowing your budget.

It is this diversity of backgrounds and skills that makes us ideally placed to provide our varied range of Oracle database services all of which have been designed from the ground up with the sole aim of streamlining costs and maximizing return on investment

We provide best-of-the breed database management services for Oracle, Oracle E-Business Suite, SQL Server, MySQL and Postgres SQL database environments owing to deep insights, proven experience and industrialized delivery capabilities and highly experienced Oracle professionals around the globe.

DARKRA is well equipped to provide strategy for Oracle database solution.

DARKRA helps organizations achieve high performance meeting its business objectives with Oracle database solutions through and unmatched combination of industry and functional expertise and oracle implementation knowhow that brings depth, completeness and value to our solutions. We are happy to go the extra mile to accommodate client's specific requirements.

The Oracle Database is designed to help businesses, large and small, adapt more quickly to change and provide a solid platform for business growth. The innovative, industry-leading Oracle Database delivers powerful Database provides the highest levels of performance, scalability, security and reliability in the market today.

Why DARKRA Data Solutions?

- Best in Industry Managed Services Customers • Almost a decade of experience • Unique dedicated Team based approach of Senior DBAs • Best in class SLAs • Global Operation staffed with the Senior Technical Employees • Professional Services Organization to Complement our Application Support Services

DARKRA Expertise on Database Managed Services

Full Maintenance Lifecycle Support for Your Oracle Database

As virtual extensions of your organization, our Database Managed Services team provides high quality service in a prompt and responsive manner. DARKRA's Database Administrators support full Oracle Database Lifecycle Consulting Services and have the operational expertise to perform the day-to-day tasks needed to ensure our client's business systems are ready and available.

Our team of experts provides 24x7x365 support for all of your DBA business needs. No job is too small or too large. From database, "housekeeping" tasks to designing high availability architecture models; our team provides our clients with a customized solution that fits their business needs.

Our DBA's are assigned directly to client account, ensuring that client always receive assistance with someone who has intimate knowledge of their environment.

At DARKRA, we specialize in Oracle Database Administration, whether it is E-Business Suite or client custom product.

DARKRA's Oracle Database Administrators are recognized as senior level experts, holding many industry certifications and awards. They draw upon years of experience and training from various industries such as manufacturing, defense, transportation, education, and consulting services; always delivering a customized solution that best fits our client's business needs and budget.

Our highly talented pool of DBA's have architected, configured, and managed complex ERP integrations, rollouts, database migrations, and upgrades for some of the largest companies in the world.

DARKRA's Managed Services delivers full lifecycle maintenance and support of our client's database products to keep their business operating smoothly and efficiently. Some of the key services we provide are:

Core Oracle Database Services:

- System Design & Architecture
- High Availability Configuration (e.g., RAC, Data Guard)
- Virtual/Cloud Services Configuration
- Software Installation & Patching
- Database Creation & Maintenance
- Network Configuration (e.g., Load Balancing)
- Backup & Recovery Planning and Configuration
- Performance Tuning (e.g., Database)
- Remote Monitoring and Troubleshooting
- Platform Migration (e.g., Windows to Linux)

Application-Specific Oracle Database Services:

- E-Business Suite Upgrades (e.g., Database, EBS Technology stacks)
- Fusion Middleware Configuration
- Application System Administration
- Performance Tuning (e.g., E-Business Suite)



DARKRA's process-based approach, built on a heritage of Lean Six Sigma and experience in the world's most complex environments, simplifies database maintenance and eliminates recurring issues. Our experience and documented practices enable consistent and automated database operations. As a result, we spend less time troubleshooting and more time focusing on initiatives that provide positive business impact. Our framework enables faster database operational maturity and stability.

- Self-Healing Enterprise Framework
- Key performance indicators
- Event correlation
- Database Health Index
- Database Reliability Scorecard

To meet the varying needs of each organization, DARKRA optimizes implementations by offering three models of Database support:

- Remote Database Monitoring as a service – Database Incident monitoring and basic change management with customizable coverage hours
- Managed Services – Fully managed database services, ITIL based service delivery
- Build and Design Services – Design, build and architecture services for project needs

Just to elaborate further on some of our key services as Database Experts, below is an extract on what we provide:

24x7x365 Production and Non-Production Support

DARKRA Data Solutions provides customers 24x7xx365 support for production all events. A Database and Functional Application Administrator will provide the Customer with 24xx7x365 support. All Employees are required to have immediate access to your systems for monitoring, troubleshooting and change management purposes.

DARKRA adheres to a 24x7x 365 escalation and response plan SOP as defined by and with our Customers. Non-critical support requiring any downtime will be scheduled and approved by our customers.

Monitoring

DARKRA proactively monitors all critical services necessary to keep your Oracle environments available and continuously tuned for performance for your end users. DARKRA's 24x7x365 Proactive Database and Application Monitoring includes:

- ✓ SOOP for all monitored events
- ✓ Oracle Database background processes
- ✓ Oracle Network Services
- ✓ Alert log errors
- ✓ Space allocation and management
- ✓ Application Transaction Monitoring

Database Maintenance

DARKRA performs all required tasks to keep your database up and running for end users and application access including all updates and changes to the database as per an agreed upon change control process. DARKRA's database maintenance includes:

- ✓ SOP for all monitored events
- ✓ Oracle Database background processes
- ✓ Oracle Network Services
- ✓ Alert log errors
- ✓ Space allocation and management
- ✓ Startup/shutdown of all databases
- ✓ Management of all database initialization and configuration parameters
- ✓ Troubleshooting of database issues

Patching

Upon client request, DARKRA applies Oracle Database patches along with their associated prerequisite patches. This includes point release upgrade patches in addition to "one-off" patches. DARKRA maintains a patch history file that is provided to the client upon request. DARKRA provides to customers either upon request or quarterly a listing of any missing critical patch updates (CPU)/patch set update (psu) along with a report showing their current patch set version compared to the latest available patchset.

Data Tuning

DARKRA continuously performs a tuning assessment of the Customer's production database and will provide tuning recommendations

Refreshes

DARKRA provides refresh Oracle Database instances upon customers' requests. Clones may include any or all of the various components of an environment. Oracle best-practice methodologies will be used for all refreshes.

Space Management

DARKRA manages utilization of storage resources within the database and at the file system level for all managed products.

Code Migration

DARKRA manages the migration of SQL/PL-SSQL code into the Customers' environment. DARKRA works with the Customer to develop a code migration SOP and DARKRA deploys code as defined in the SOP. Customer is responsible for providing detailed installation documents/instructions for code deployment.

Database Schema Management

DARKRA works with Customer to define and integrate database schema elements on "as needed" basis including:

- ✓ Creation and maintenance of new schema objects (tables, indexes, sequences, etc.)
- ✓ Creation and maintenance of database links, user privileges, roles, synonyms, grants, etc.
- ✓ Object storage clause definition for space management
- ✓ Database object reorganization

Database Backup Management

DARKRA works with the Customer to define and implement a database backup strategy that meets the business requirements for recovery

DARKRA Impact

DARKRA enabled a major global manufacturing and engineering company to reduce database incidents by 30%, and improved the availability of its critical databases to 99%. We delivered 35% savings through offshore operations and 7% year-over-year savings through continuous process improvements.

KEY RESULTS Achieved by DARKRA

Oracle's Engineered Systems leverage the latest technology to deliver maximum availability, high performance, scalability, and standardization.

Benefits to our clients include on deployment of Oracle EBS App and related Database services:

- ✓ Faster application responsiveness for end-users
- ✓ Faster batch processing
- ✓ Faster report generation
- ✓ Faster data loads
- ✓ Reduced need for application tuning
- ✓ Faster extraction transformation load to populate data into business intelligence data warehouses
- ✓ Scalable platform to support business growth
- ✓ Faster time to value and improved supportability

Clientele as per Key Service Offerings

Oracle EBS Application and Database Support



Results Achieved by DARKRA

- ✓ Efficient use of warehouse space resulting in cost savings for the client
- ✓ Shortened order fulfillment process resulting in increased customer satisfaction and customer retention by ensuring customer compliance.
- ✓ Sub second end user response times, despite intensive analysis data validations, thereby removing any bottlenecks in the supply value chain process
- ✓ Use of mobile warehouse applications resulting in savings on time and cost otherwise spent on frequent replacement of warehouse desktops and stationery devices. . Mobility and scanning devices also increased employee productivity by eliminating need for data entry that could slow the entire process and also is error prone.
- ✓ Speedier batch processing, which ensured the entire value chain process runs smoothly without delays.
- ✓ Improvement in ship confirmed process by 50% ensuring shipments occur within a short period of time at the end of the day. Also, invoicing process and intercompany invoice processing improved 100% on Engineered Systems.

CONCLUSION

- ✓ Maximum productivity from uninterrupted mission critical business processes
- ✓ Reduced business disruption
- ✓ Reduced risk of failures
- ✓ Increased regulatory compliance
- ✓ Increased competitiveness through quick, informed decisions based on real-time access to business insights
- ✓ Quick business problem solution and new opportunities development
- ✓ New end user applications deployment that was not possible before, to improve business processes and employee productivity
- ✓ Improved employee productivity by dramatically improving end user responsiveness
- ✓ Ability to manufacture more products, fulfill more orders, react to changes quickly by reducing or eliminating the batch processing times for critical applications
- ✓ Increased revenue opportunities by timely completion of orders or services
- ✓ Customer retention by increased customer satisfaction by delivering on time services or goods and complying with service level agreements
- ✓ Reduced total cost of ownership due to reduced need for developers or third party consultants required for tuning custom applications
- ✓ Instance consolidation
- ✓ Global expansions
- ✓ Efficient, rapid, low cost assimilation during Mergers and Acquisitions
- ✓ Increased business units, users or transactions without worrying about performance degradation
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