

# Overview of Oracle Federal On Demand Cloud Services

## Hosting and Infrastructure Support Services for Agencies of the U.S. Government



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## Table of Contents

<b>EXECUTIVE SUMMARY .....</b>	<b>3</b>
1.1 ON DEMAND CORE SERVICES .....	7
1.2 ON DEMAND STRENGTHS .....	8
<b>2. INFRASTRUCTURE MANAGEMENT .....</b>	<b>8</b>
2.1 THE ORACLE AUSTIN DATA CENTER .....	8
2.2 HARDWARE.....	11
2.3 INFRASTRUCTURE SERVICE @ORACLE .....	10
2.4 INFRASTRUCTURE SERVICE @CUSTOMER OR @PARTNER.....	11
<b>3. SOFTWARE MANAGEMENT .....</b>	<b>11</b>
3.1 APPLICATIONS MANAGEMENT .....	11
3.2 PERIODIC MAINTENANCE PROGRAM .....	13
3.3 UPGRADES.....	14
3.4 STANDARDIZATION OF CONFIGURATIONS, EXTENSIONS, MODIFICATIONS, LOCALIZATIONS, AND INTEGRATIONS.....	14
3.5 THIRD-PARTY APPLICATION HOSTING.....	14
3.6 BACKUP AND DISASTER RECOVERY PROCEDURES .....	14
3.6.1 Oracle On Demand Core Back-up Services .....	15
3.6.2 On Demand Disaster Recovery Options.....	15
<b>4. SECURITY MANAGEMENT .....</b>	<b>16</b>
4.1 SSAE 16 AND ISAE 3402 .....	16
4.2 FEDERAL SECURITY CONSIDERATIONS .....	17
4.3 CERTIFICATION AND ACCREDITATION.....	18
<b>5. SERVICE LEVEL MANAGEMENT.....</b>	<b>18</b>
<b>6. IT GOVERNANCE SERVICES .....</b>	<b>19</b>
<b>7. MIGRATION SERVICES .....</b>	<b>19</b>
<b>8. ORACLE FEDERAL ON DEMAND CLOUD SERVICES CUSTOMERS.....</b>	<b>20</b>
<b>9. SUMMARY .....</b>	<b>21</b>
<b>10. WHERE TO GO FOR MORE INFORMATION .....</b>	<b>22</b>

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## EXECUTIVE SUMMARY

At **Oracle On Demand**, we deliver the “Power of Oracle in the Cloud.” The mission of Oracle On Demand is to provide government and commercial organizations services, such as IT migration, hosting, applications management, infrastructure support, and operation and maintenance (O&M), to support their entire technology life cycle. Oracle On Demand Cloud Services are an evolution of the same services we have been delivering for more than ten years, providing operational excellence built on the Oracle Technology Platform.

We combine the power of the Oracle product stack which, of course, is optimized for performance and reliability, with the flexibility and cost advantages of running a world class Cloud.

### Oracle On Demand Cloud Services

Software. Hardware. Complete.



#### The Power of Oracle in the Cloud

- Continuously optimized for performance and reliability
- Built for flexibility and lower cost
- Built on the proven Oracle technology stack

**Achieve the  
benefits of cloud  
and  
reduce your risks**

**Oracle Federal On Demand Cloud Services** focuses on delivering high-quality hosting, applications management, and infrastructure support services to the U.S. Department of Defense (DOD) and U.S. Federal civilian agencies.

Oracle Federal On Demand Cloud Services can result in lower total cost of ownership for a Federal agency and increase operational performance - availability, security, and scalability. For a predictable, recurring fee, Oracle offers an agency a comprehensive set of managed application services based on a Service Level Agreement (SLA) for administering, managing, and maintaining Oracle applications, e.g.: Oracle E-Business Suite On Demand (EBSO); Oracle Technology On Demand (OTO); Oracle Fusion Middleware; and Oracle Database Enterprise Edition. Oracle offers customers a broad choice of deployment options that can change options when customer requirements dictate.

Oracle On Demand Cloud Services are much more than traditional hosting and applications management. We transform customers' environments by using industry best practices as applied to architecture, configurations, processes and tools that we have developed and hardened over the past 12+ years.

Oracle On Demand Cloud Services offers a complete end-to-end service: hardware, facilities, setup/configuration, application management, testing, monitoring, patching, incident management,

problem resolution, technical and functional service desk, point upgrades, security, disaster recover – all included in a fixed monthly cost.

The business value for a Federal agency can arise from various differentiators and innovations of Oracle Federal On Demand Cloud Services, including:

<b>The Power of Oracle in the Cloud</b>	<b>End-to-end Cloud Services</b>	<b>Single Point of Accountability</b>
<p><b>Customers achieve operational excellence and business performance</b></p> <p>World-class Oracle technology stack combined with Oracle’s enterprise Cloud delivery</p>	<p><b>Customer success before, during, and after implementation</b></p> <p>A complete set of services, from transition through run-and-maintain</p>	<p><b>A single point of accountability</b></p> <p>Seamless access to over 20,000 Oracle resources</p>
<p><b>Customers are leveraging the full power of Oracle all the time</b></p> <p>Proactive, incremental change management, patching and point releases included in core service</p>	<p><b>All security and regulatory requirements are met</b></p> <p>ISO 27000 certified security processes, automation, and a world-class organization provide protection over systems and sensitive data</p>	<p><b>Customers innovate and get to market faster</b></p> <p>Oracle expertise and scale reduces risk and helps</p>
<p><b>Oracle supports end-to-end business processes—no matter where customers run their IT</b></p> <p>Flexible deployment model provides seamless integration of all cloud and on-premise software and systems</p>	<p><b>Oracle achieves world-class service levels</b></p> <p>Oracle leverages ITIL based, audited processes and operational intelligence</p>	<p><b>Strong financial foundation and performance</b> drives leading industry position and long term relationships</p>

Standardized best-practice processes allow a Federal agency to capitalize on the value of having Oracle run and maintain its software. Standardized deployments give an agency quicker access to new functionality, and standardized problem management translates into quicker problem resolutions, less downtime, and higher productivity. As a result, an agency can garner tangible value for its IT investment, run its business more smoothly, and focus instead on delivering superior service to internal users and citizen customers alike.

# 1. Oracle Federal On Demand Cloud Services

**Oracle On Demand** provides government and commercial organizations IT hosting and operations and maintenance (O&M) services to support the entire technology life cycle.

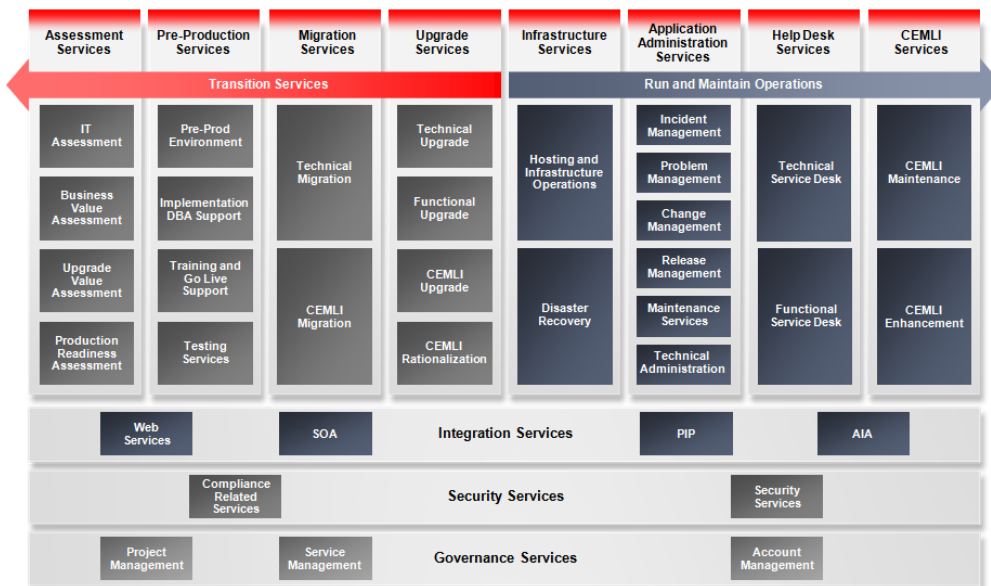
**Oracle Federal On Demand Cloud Services** focuses on delivering high-quality hosting, applications management, and infrastructure support services to the U.S. Department of Defense and U.S. Federal civilian agencies.

Since 2001, Oracle On Demand has had over 5.5 million users, thousands of Oracle Instances under management, global coverage with Oracle experts around the world, and a strong commitment to world class service levels.

For a predictable, recurring fee, Oracle offers a comprehensive set of managed application services for administering, managing, and maintaining many of Oracle applications, middleware, and database products, including:

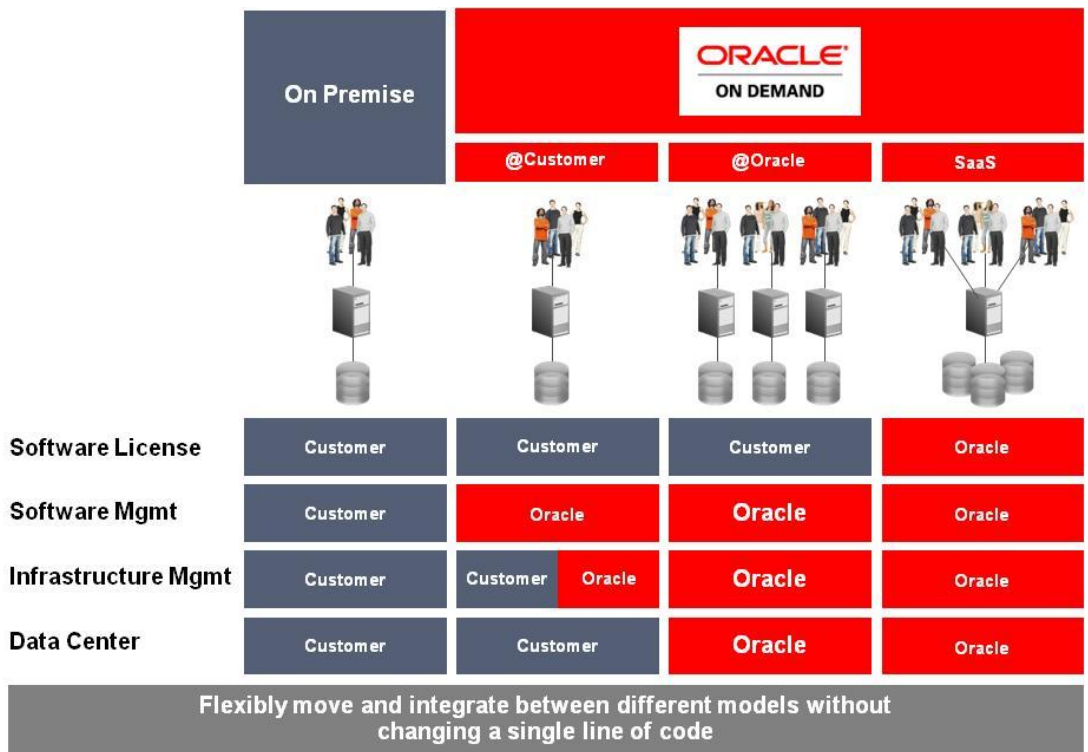
- Oracle E-Business Suite
- PeopleSoft
- Siebel
- Hyperion
- Collaboration Suite
- Oracle Fusion Middleware
- Oracle Database Enterprise Edition
- Certain third-party software applications.

## Oracle On Demand Cloud Services Portfolio



The Federal On Demand Cloud Services protects a Federal agency's investment in Oracle software. Rather than providing the software license as part of the recurring On Demand fee, the service relies on the Oracle software and support licenses that an agency already owns. There are no additional Oracle software license fees associated with the On Demand service.

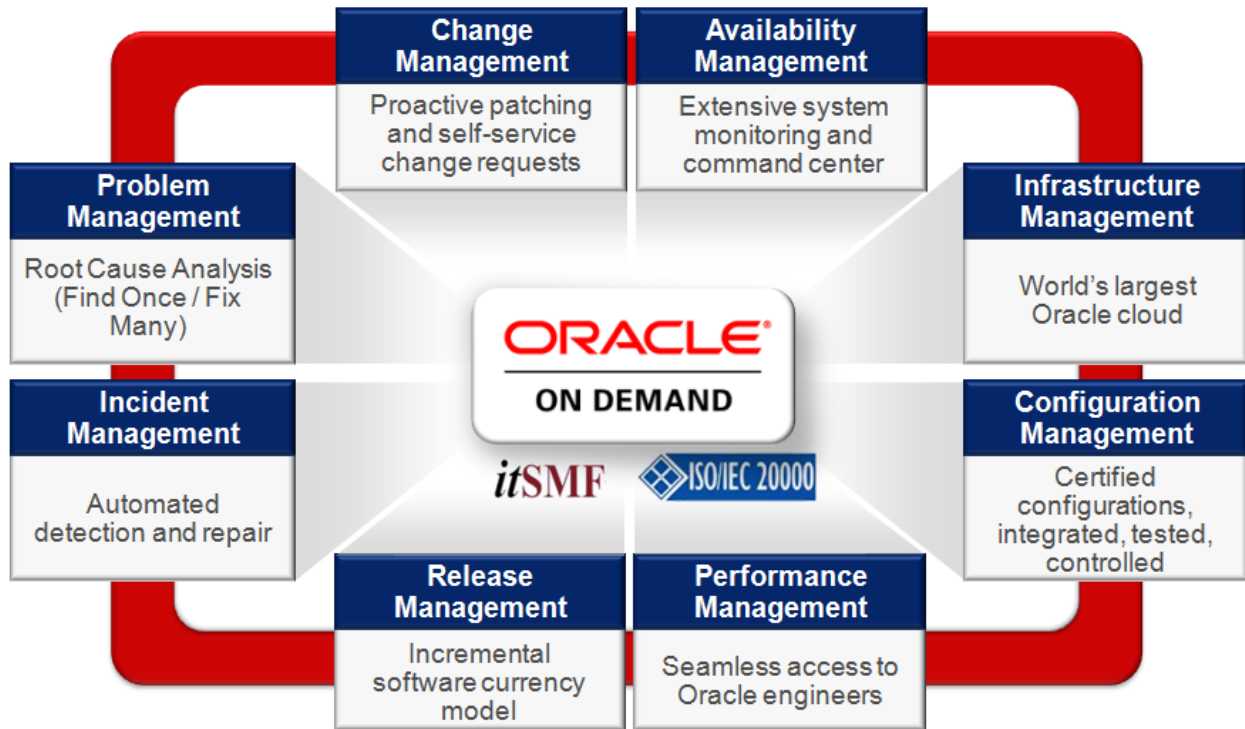
With regard to system deployment, Oracle Federal On Demand Cloud Services gives customers a wide spectrum of service offerings, from the choice of deploying applications on the premises of a Federal agency (@Customer) or its service provider (@Partner), or in Oracle's Austin Data Center (ADC) (@Oracle) where the applications are managed by Oracle 24x7x365 within the ADC's secure, segregated Federal Zone or the secure Standard Zone. Below is a high level view of the various deployment options:



In addition to Oracle Federal On Demand Cloud Services' base services for hosting, running, and maintaining Oracle applications and database, Oracle offers a number of additional services, such as disaster recovery (1-Day and 5-Day Options, along with Maximum Availability Disaster Recovery); functional service desk; advanced implementation; and advanced testing.

## 1.1 On Demand Core Services

Oracle experts use **Information Technology Infrastructure Library (ITIL)**-based processes and automation to manage customer software on proven configurations across the entire Oracle technology stack.



Oracle On Demand Cloud Services delivers the following core services:

Core services	Overview
Infrastructure management	Provides, manages, and maintains hardware, network connections, and facilities for customers.
Software management	Uses a closed-loop process with Oracle experts to solve customer problems quickly, along with root-cause analysis to avoid problems altogether.
Security management	Manages the security tools, processes, and precautions that protect the privacy and security of customer data and solutions.
Service level management	Provides a service-desk escalation process, meets service levels, and then measures and reports results directly through customer portals.
IT governance	Provides a service delivery manager to work closely with customers, resolve problems, plan and execute changes, and keep customer IT solutions aligned with the business.

Oracle understands that the needs of certain civilian or defense agency customers may extend beyond this core offering. Oracle Federal On Demand Cloud Services has the capability and capacity to deliver **additional services** tailored to integrate with the core On Demand offering.

## 1.2 On Demand Strengths

As the developer, Oracle Federal On Demand Cloud Services is well qualified to host, manage, operate, and maintain the Oracle application, database, and middleware stack utilized by Federal government customers.

As a single vendor providing the full software stack, Oracle can serve as a single and reliable point of contact for IT support and services. Oracle On Demand customers realize the most value from their investment as their new applications are put to use faster and at lower cost, and their software is kept current and operating at peak efficiency. Using On Demand resources, a civilian or defense agency can accrue many immediate and longer-term benefits, such as:

On Demand Strengths			
Lower predictable cost	Reduced risk	Accelerated to value	Flexibility & choice
<p><b>Global scale:</b> currently managing 3,200 environments for hundreds of customers</p> <p><b>Technology innovation:</b> virtualization and change management automation to increase hardware and labor productivity by 25-75 percent</p>	<p><b>Certified configurations</b></p> <p><b>Audited ITIL processes</b> (including SSAE 16 and ISO 27000)</p> <p><b>Oracle's financial strength</b> and long-term viability</p> <p><b>Investments in advanced system monitoring and diagnosis:</b> ability to identify 70 percent of incidents one hour before system is impacted</p>	<p><b>Unparalleled Oracle expertise:</b> access to 14,000 experts around the world</p> <p><b>Oracle's world-class data center</b></p> <p><b>Proactive patch and upgrade assessments and execution:</b> 89 percent of our customers are on the current release</p>	<p><b>Multiple deployment models:</b> @Oracle, @Customer, @Partner</p> <p><b>Oracle accommodates customizations:</b> full assessment and remediation of 20,000+ customizations</p>

## 2. INFRASTRUCTURE MANAGEMENT

Oracle Federal On Demand Cloud Services provides a robust Infrastructure service for its @Oracle customers. The Infrastructure includes: servers, operating systems, local area network equipment, firewalls, routers, load balancers, and related equipment or software provided by Oracle for both Production and non-Production environments.

On Demand Infrastructure services include design, acquisition, provisioning, and monitoring of the hardware and system software as well as capacity, configuration, availability, release, and service continuity managements. In general, the @Oracle hosting option means that On Demand will manage the back-end components of the agencies environment (e.g. firewalls, load balancers, etc.). The details of the service are described in Oracle's "Infrastructure Services for @Oracle Schedule to the On Demand Services Ordering Document".

### 2.1 The Oracle Austin Data Center

Oracle's high-availability **Austin Data Center (ADC)** is an important facility able to securely host and manage a Federal agency's applications (e.g., Oracle software applications and certain third-party software). The ADC is Oracle's primary data center. Here Oracle hosts outsourcing


government and commercial customers, as well as Oracle's internal production and new development systems.

Oracle also maintains a disaster recovery environment at Oracle's **Rocky Mountain Data Center RMDC**). The RMDC is a secondary data center designed to provide continuity of critical business processes in the event of crises/disasters for customers who have purchased a DR option.

Oracle architected and designed the ADC/Federal Zone infrastructure and delivery model specifically for Federal civilian and defense customers to comply with the relevant regulations, directives, and guidelines dispensed by the U.S. government. Oracle's Federal On Demand Cloud Services offering is based on the National Institute of Standards and Technology (NIST) Special Publication 800-53 Moderate Control baseline for unclassified data, plus the DoD 8500.2 controls for Mission Assurance Category (MAC) II unclassified systems.

The ADC's Federal Zone is a dedicated environment that enforces physical and logical access control for support personnel. All Federal Zone support personnel hold a valid U.S. citizenship status—and Oracle limits direct administrative access to the customer's Federal Zone environment to U.S. citizens only. The processes and tools used within the ADC were also developed with security and reliability in mind.

Based on the extent of security measures that Oracle takes for our customers, as well as Oracle's commitment to complying with the additional Federal government security standards, a Federal agency can be confident that Oracle Federal On Demand Cloud Services has the up-to-date and compliant facilities to deliver the levels of hosting and infrastructure support services, performance, security, and compliance required over the lifecycle of a Federal agency's software applications.

Summary attributes of Oracle's Austin Data Center	
<ul style="list-style-type: none"><li>• Oracle On Demand customers</li><li>• Internal Production</li><li>• New Development systems</li><li>• Every customer is on dedicated HW</li><li>• State-of-the-art data center</li><li>• Resilient Infrastructure</li><li>• Redundant architecture</li><li>• Highly secure (physical &amp; logical security)</li><li>• More than 12,000 operational servers</li><li>• 82,000 square feet of raised floor space</li><li>• 8 petabytes of managed disk storage</li><li>• 355 servers on average installed every month</li><li>• Hundreds of mission critical customer applications on the premises</li></ul>	

## Detail attributes of Oracle's Austin Data Center

### Site design:

- The Austin Data Center is a state-of-the-art facility that has multiple areas of resiliency and redundancy to support Oracle's technology.
- Custom-designed to house a state-of-the-art corporate computing center
- 82,000 square feet (SF) of raised floor
- 2280 19-inch racks
- Fully redundant infrastructure: UPS, generators, and telecommunications network.

### Electrical system:

- The ADC is certified by the EPA as a Green Power Partner, with 25 percent of the energy used coming from renewable sources such as wind, landfill, and solar.
- Two active utility feeds to dual-utility switchgear with failover capability
- 5 pairs of unit sub-stations with motorized tie breakers for automatic failover between utility source power
- Seven 2-Megawatts (MW) diesel backup generators (14 MW)
- 80,000 gallons of fuel storage, enough for 72 hours at full load
- 6 multi-module, fully parallel redundant (2N) UPS
- Twenty four 750 kVA UPS modules: 9 MVA fully redundant UPS power
- Dual transformer/dual feed static switch PDUs
- Diverse A & B UPS power to every rack 104 Watts
- UPS to entire raised floor 170 Watts/SF to 17,500 SF high density/enhanced cooling raised floor.

### Mechanical system:

- Six 600-ton chillers
- Fifty two 30 ton and thirty four 40 ton CRAC units
- Two 25,000-gallon make-up water storage tanks onsite--enough for 72 hours runtime at full load.

### Security:

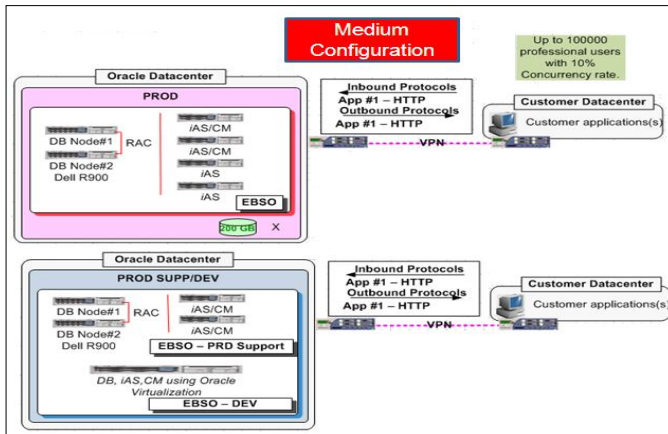
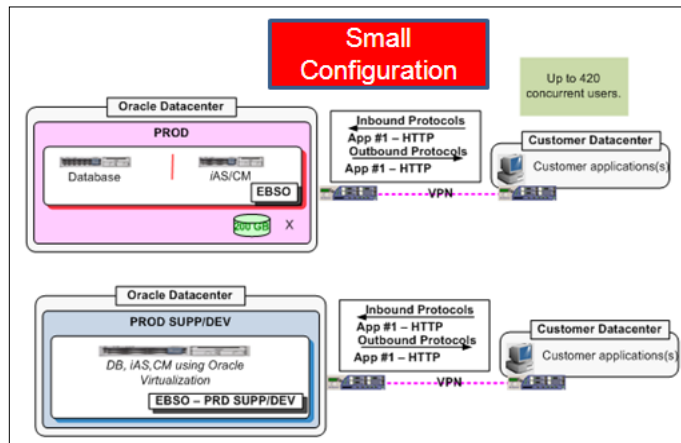
- The ADC uses state-of-the-art security technology to physically protect systems and staff. The building perimeter is protected by vehicle proof perimeter fencing, Electronic Intrusion Detection Systems, vehicle verification gate and bollard system, and 24x7x365 armed security protection unit.
- Biometrics & retina scanner
- CCTV system for automatic camera call up (interior and exterior)
- Digital Video Recording systems
- Global anti-passback (in/out) card readers
- Single point of access via mantrap - weight and dual biometric verification system
- Glass protected by "BlastGard" window film
- Employee background checks
- Package and mail bomb X-ray detection equipment
- Metal detectors.

### Data network:

- Oracle has a solid, high-speed resilient network with bandwidth to provide continuous connectivity. Oracle's network has increased network resilience through carrier and route diversity, hardware redundancy, and dual links for network hubs.
- Diverse cable entrance paths serving the Austin Data Center
- Major fiber carrier cable infrastructure in close proximity to site
- 2,592 miles CAT5 Copper cable
- 1,445 miles Fiber cable
- >50K Fiber ports
- >26K Copper ports.

## 2.2 Hardware

Oracle Federal On Demand Cloud Services standardizes hardware in the primary and secondary Data Centers. Oracle's technical platform architectures are designed with the underlying principles of scalability and manageability. Oracle works with a Federal agency to create a principal system architecture based on scalable On Demand standards—and that will also meet the agency's system needs. At the ADC, Oracle's server grid consists primarily of x86 rack-mounted blade servers running Oracle Enterprise Linux and Oracle VM. Oracle assigns servers to an agency in dedicated groups and does not permit sharing between agencies or other customers.

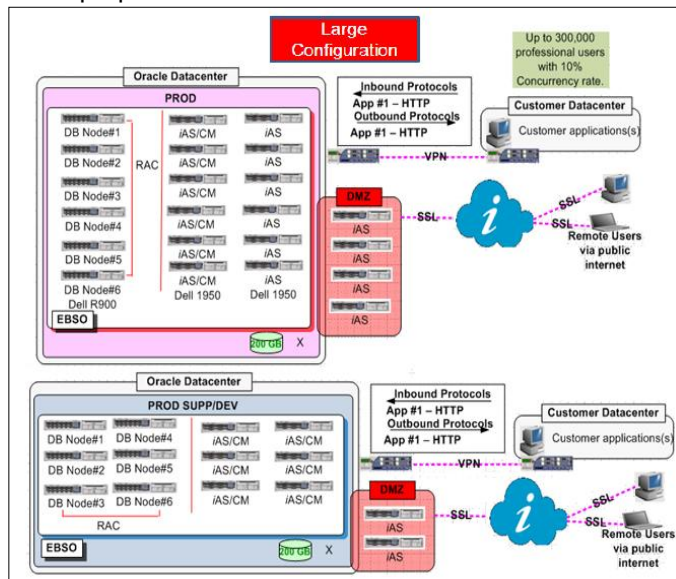


Oracle On Demand uses storage that can accommodate SAN architectures for large-scale customer requirements. Every computing resource is cabled, labeled, stacked, configured, and deployed in exactly the same way, over and over again.

This standardization allows Oracle systems administrators to quickly isolate and troubleshoot problems, eliminating downtime. Oracle, therefore, provides its Federal customers with the most reliable computing services available. If a server fails, the first task is service restoration—since “fixing the

box” is secondary. Oracle always has excess capacity provisioned, with at least 30 systems and several terabytes worth of storage just for this purpose. The affected instance is moved to a free server and the corresponding systems are back up and running with minimal downtime to the customer.

Oracle currently uses multiple network providers for On Demand hosting and O&M services. Each carrier has dedicated routing equipment. From the carriers to the servers, the network path is deployed with redundant equipment and redundant paths. Router, switches, firewalls, and load balancers are backed up with redundant hardware, and network traffic is configured to fail over automatically in the event of hardware failure. This redundancy includes the access layer switches and the network



interface cards on the servers. Oracle has a solid, high-speed resilient network with adequate bandwidth and diverse carriers to ensure unbreakable connectivity.

## 2.3 Infrastructure Service @Oracle

There are various important tasks related to Oracle's infrastructure service, with clear allocation of responsibilities between Oracle and the customer:

Infrastructure Services @Oracle	Oracle	Customer
<b>Design Of Infrastructure</b>		
Prepare architecture design document	P,S,NP	
Prepare provisioning release plan	P,S,NP	
Provide network capacity recommendations	P,S,NP	
Complete the Infrastructure requirements document		P,S,NP
<b>Acquire and Provision Infrastructure</b>		
Procure, install, and configure the required hardware	P,S,NP	
Install Oracle's Certified Configuration	P,S,NP	
If applicable, install selected Oracle-approved 3 <sup>rd</sup> -party software	P,S,NP	
Ensure that all software to be deployed on the infrastructure is properly licensed		P,S,NP
<b>Capacity Management</b>		
Collect performance and capacity metrics	P	
Conduct analysis of capacity related to alerts and incidents	P	
Periodically conduct capacity management as part of PMP	P	
Periodically review storage requirements	P	
Recommend configuration and architecture changes to address capacity issues	P	
Establish workload management practices to best utilize existing capacity		P
<b>Configuration Management</b>		
Maintain an architecture document to represent the configuration of the customer's environment	P,S,NP	
Account for all the IT assets and configurations within the customer's environment	P,S,NP	
Maintain configuration records of changes to 3 <sup>rd</sup> -party software		P, S, NP
<b>Availability Management</b>		
Utilize monitoring tools to identify actual or potential problems	P,S,NP	
Provide recommendations to enhance service quality	P,S,NP	
Maintain availability for software products not provided by Oracle		P, S, NP
Manage ISP/network connectivity between customer site and Oracle's data center		P, S, NP
Manage desktops and end user availability		P, S, NP
<b>Service Continuity Management</b>		
Conduct regular system backups	P,S,NP	
In the event of a disaster, within 7 days from the time when Oracle declares, deliver a backup tape	P	
<b>Infrastructure Release Management</b>		
Make changes as necessary to the infrastructure components	P,S,NP	
<b>Monitoring</b>		
Install an Oracle tool set that will enable monitoring	P,S,NP	
Identify event threshold violations for proactive response	P,S,NP	
Facilitate configuration of monitoring events	P,S,NP	
Report outages or service interruptions when identified	P,S,NP	
Perform monitoring of customer's equipment		P,S,NP
<b>Legend:</b>		
P: Production environment		
S: Production support environment		
NP: Non-Production environment		

## 2.4 Infrastructure Service @Customer or @Partner

Oracle Federal On Demand Cloud Services customers that choose the @Customer or @Partner service are responsible for designing, acquiring, and provisioning the infrastructure. Oracle will provide customers with documents that define the Oracle On Demand standards and will respond to customer questions regarding the standards document.

The customer is expected to provision and configure all hardware in their data center and all software not managed by Oracle On Demand. The specific roles and responsibilities for the @Customer and @Partner offering related to infrastructure services are described in Oracle's "Infrastructure Services Schedule" which can be found on the "My Oracle Support" web site.

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## 3. SOFTWARE MANAGEMENT

Oracle Federal On Demand Cloud Services handles the installation and set up of a customer's entire technology stack based upon Oracle's Certified Configuration (CC) methodology, thus minimizing set-up/install issues and providing a standard baseline across all Oracle On Demand customers. With the best practices that Oracle has put in place, a Federal agency customer can trust that Oracle will be able to continually provide consistent service and support in its environment. The CC is a modular architectural design the building blocks of which are based on standardized hardware and software components coupled with best practices for integration, configuration, and validation of hardware systems, operating system, and Oracle technology software.

The Oracle On Demand CC consists of specifications for the database, application server, operating system, server and storage hardware, and network protocols and hardware. Oracle maintains CCs with the latest patches, base code changes, and other enhancements or fixes. CCs are crucial to On Demand's success as they allow On Demand to reduce deployment time, automate support, increase reliability of customer's systems, and scale operations. On Demand engineers also improve the performance and reliability of systems by making configuration changes to the CCs that will benefit all customers.

Upon discovering an issue in one customer's environment, On Demand proactively approaches customers with the same footprint to discuss proactively applying that fix into their systems so that the problem is avoided in advance. On Demand calls this "find one, fix many".

With unrivaled expertise in managing and maintaining Oracle software, and access to the product strategy and development teams, Oracle Federal On Demand Cloud Services can advise a Federal customer on current and future functionality, reducing customizations, integrations, and modifications. This approach not only speeds delivery times for new capabilities, but reduces the IT operational cost of building and maintaining software customizations.

### 3.1 Applications Management

Oracle Federal On Demand Cloud Services provides application management services for the management of a Federal agency's environment for Oracle applications, as well as certain approved third-party software. The application management services to be performed by Oracle are for the Oracle software within a Federal agency's Production environment, Production support environment(s), and non-Production environment(s).

The details of application management services are described in Oracle's "Application Management Services Schedule". The details of our application management services specific to a particular Oracle application, e.g., E-Business Suite, PeopleSoft Enterprise, or Siebel CRM, are detailed further in Oracle's applicable service schedule. (In the event of a conflict between the statements contained in this overview and the provisions of a schedule, the schedule shall prevail.)

Below are the principal tasks related to the applications management service, with the allocation of responsibility for the tasks defined between Oracle and the customer:

Applications Management	Oracle	Customer
<b>License and Support</b>		
Obtain and maintain licenses for the Oracle programs and 3 <sup>rd</sup> -party software		P,S,NP
Obtain and maintain Oracle product support		P,S,NP
<b>Software Management</b>		
<b>Change Management</b>		
Apply changes to the hosted environments	P,S	NP
Assist customer with change bundling analysis	P,S	
Provide Oracle with step-by-step instructions for Oracle to apply change to 3 <sup>rd</sup> -party software in Production and Production support		P,S
<b>Release Management</b>		
Work with the customer to develop a Periodic Maintenance Plan (PMP)	P,S,NP	
Create a release plan for Critical Patch Updates (CPU)	P,S,NP	
Perform periodic refreshes from the Production environment to the Production support environment and non-Production Environments	S,NP	
Provide a Release Plan for Oracle-initiated releases	P,S,NP	
For Oracle-hosted environments, perform Emergency Release Management to resolve critical availability, performance or security issues	P,S,NP	
Create a Release Plan for customer-proposed releases		P,S,NP
<b>Access Management</b>		
Manage Oracle program code tree including applications, database, Internet Application Server, and key configuration files	P,S,NP	
Manage Administrative User access to the Oracle environments	P,S,NP	
Manage access of all end-users at the operating system and database level	P,S,NP	
Control and monitor end-User access		P,S,NP
<b>Performance Management</b>		
Analyze performance-related incidents	P	
Manage configuration of the Oracle programs to address performance-related incidents and maximize performance of the Production environment	P	
Define, schedule, and monitor batch jobs in accordance with business requirements and in a manner that uses resources efficiently		P
<b>On Demand Service Desk</b>		
<b>Incident Management</b>		
Process service requests (SRs) that involve requests for assistance or error reports	P,S,NP	
Perform initial incident classification and assign the SR to the appropriate Oracle resource	P,S,NP	
Determine potential resolution options and obtain input from the customer's help desk and/or super users as needed	P,S,NP	
Responsible for customer's help desk services and end-user Training		P,S,NP
Assign super users to address functional issues involving Oracle programs raised by customer's end-users		P,S,NP
Use Oracle Tools to submit, track, and manage SRs		P,S,NP
For Severity Level 1 and Priority 1 SRs, provide an operational contact that will be available to Oracle on a 24x7 basis while Oracle works to close the SR		P
<b>Problem Management</b>		
Analyze and classify as problems or recurring incidents, including those that result in outages or service interruptions within the customer's environment.	P,S,NP	
Establish resolution or work-around for problems	P,S,NP	
Implement the resolutions or work-around	P,S,NP	
User commercially reasonable efforts to provide customers with a written root cause analysis for all problems resulting in Level 1 Production environment outages	P	
Assist Oracle with identification of recurring incidents		P,S,NP
<b>Other Operation Functions</b>		
<b>Monitoring</b>		
Collect, compile, and provide information about the operational state, performance and configuration of the Oracle programs running in the customer's environment	P,S,NP	
Install and configure tools that enable monitoring, administration, and management capabilities	P,S,NP	
Initiate an incident for monitored events that violate an established threshold.	P,S,NP	

Report outages and service interruptions promptly when identified		P,S,NP
Responsible for monitoring all customer-owned infrastructure		P,S,NP
<b>Continuity Management</b>		
Configure the Oracle programs to create backup copies of the database (per applicable entitlement schedules)		P,S,NP
Assist customer in the recovery of database and application functionality from backup media as required; additional fees may apply		P,S,NP
Configure database and/or application files to restore normal service following recovery from backup data		P,S,NP
<b>Configuration Management</b>		
Perform initial and ongoing Oracle program configuration discovery		P,S,NP
Maintain version information for all in-scope configuration items		P,S,NP
Maintain an architecture document to represent the current configuration of customer's environment		P,S,NP
Maintain configuration records for 3 <sup>rd</sup> -party software		P,S,NP
<b>Legend:</b>		
P: Production environment S: Production support environment NP: Non-Production environment		

### 3.2 Periodic Maintenance Program

On Demand's PMP is a periodic and proactive approach for performing maintenance on all hosted customer environments. The PMP's primary purpose is to maximize the stability and supportability of customer systems and is a necessary component in the successful completion of the Production lifecycle phase and for the ongoing operation and upgrade of the Production environment.

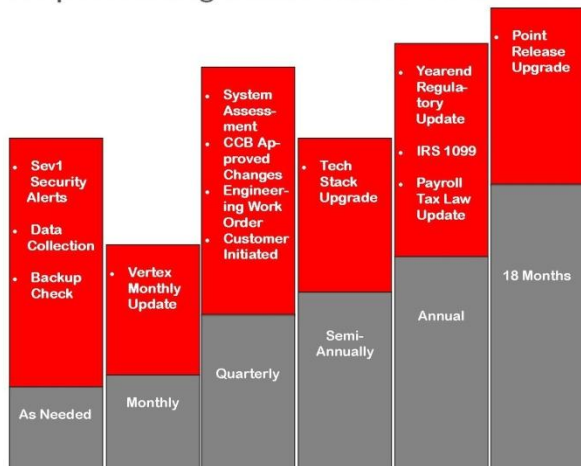
As part of software management, Oracle Federal On Demand Cloud Services proactively applies patches. Oracle will identify and analyze individual patches or patch sets and apply them to the Oracle Production software environment and operating system, as necessary. Our objective is to schedule the patches in line with our PMP.

The Periodic Maintenance Plan has monthly, quarterly, bi-annually, and 18-month schedules where a series of activities take place to evaluate, assess, and upgrade the On Demand environment. These serve to stabilize and secure the environment, optimize performance, and standardize the tech stack for increased supportability:

#### Periodic Maintenance Plan (PMP)

Proactive approach for performing maintenance on all hosted environments

- **System Assessments**
- **Diagnostics Tools Update**
  - To speed up Problem resolution by Global Product Support
- **Configuration Control Board Approved Configuration Changes**
  - Includes Root Cause and Corrective Action Recommendations
- **Password Changes**
- **Tech Stack Standardization**



Varied PMP's are conducted at frequent and fixed time periods throughout the year – monthly, quarterly, ½ yearly, annual, 18 months

Oracle has found that the PMP process significantly improves system stability. With rapid access to support, software management, and product experts, Oracle can resolve problems faster than our customers could on their own. Customers can achieve lower total cost of ownership, benefit

from a predictable cost model, and mitigate risk by leaving the management of Oracle software to the company that created it.

### **3.3 Upgrades**

Oracle Federal On Demand Cloud Services has assisted many Federal customers upgrading their applications and has developed repeatable processes to verify that the activity is successful with minimal impact on end users. In addition, we have helped customers upgrade their tech stack from Oracle 10g to 11g with consistent results. Oracle works closely with the development and support organizations to verify that Customer Configurations are properly patched and upgrade-ready. Procuring the On Demand service mitigates the risk of upgrading and verifies that the upgrade is smooth and painless for both the agency and its end-users.

### **3.4 Standardization of Configurations, Extensions, Modifications, Localizations, and Integrations**

While most government organizations strive to use base application functionality, Oracle understands that a Federal agency has unique requirements and may need to customize Oracle applications to meet unique needs. Oracle views customization as a critical part of system management and has engineered assessments and processes to control them.

To minimize issues and risks regarding Configurations, Extensions, Modifications, Localizations, and Integrations (CEMLIs), as well as ease the management of CEMLI, Oracle Federal On Demand Cloud Services has developed and employs a set of CEMLI coding standards and a customization framework. Given Oracle's deep expertise and systematic CEMLI management framework, Oracle manages to resolve CEMLI related issues and service requests in 15-30% of the time it typically takes customers.

### **3.5 Third-Party Application Hosting**

It is common for Federal customers to use applications from other software vendors along with their Oracle software. Oracle On Demand has a list of approved 3<sup>rd</sup> party applications that are commonly hosted and new applications are continually being added to the list. This provides a complete hosted solution to the customer. Oracle On Demand will work with Federal customers to gather information on 3<sup>rd</sup> party tools, review these applications in detail, and provide a recommendation on how best to integrate these applications with the hosted Oracle applications.

### **3.6 Backup and Disaster Recovery Procedures**

Oracle Federal On Demand Cloud Services maintains extensive contingency planning and Disaster Recovery policies and procedures in case of an event that renders primary equipment (at the Austin Data Center) unavailable for any reason. Oracle's service allows for the customer Disaster Recovery Plan (DRP) to employ technology in place and simultaneously minimize loss of data or availability.

Oracle operates two data centers—the ADC and RMDC—to deliver hosting and management services to On Demand customers. In addition to housing internal Production and new development systems, the Austin Data Center, contains two isolated environments used to host nearly all @Oracle On Demand customer Production and non-Production environments. The Rocky Mountain Data Center is a secondary data center that delivers additional business continuity services for customers who have purchased a disaster recovery option over and above the standard @Oracle On Demand core backup services.

### 3.6.1 Oracle On Demand Core Back-up Services

Oracle Federal On Demand Cloud Services utilizes a combination of disk and tape backups to protect customer data. Procedures are in place for regular backup protection with a defined timeline and schedule. Backups of customer data takes place using dedicated backup servers and tape libraries. Oracle performs full online backups of the database, the code tree, and archive logs on a nightly basis, 365 days per year.

For @Oracle customers, Oracle On Demand performs online backups of the database, code tree, archive logs, and operating system as listed below. Oracle does not require that the system be unavailable to perform the backup.

Oracle will run the following Production environment backups:

Back up of:	Overview
<b>Database and code tree</b>	Full backups are written to disk daily and copied to tape twice a week; database and code tree backup tapes are retained at an offsite facility for five weeks.
<b>Archive Logs</b>	Full backups are performed daily and each daily backup is copied to tape; archive log tapes are retained at an offsite facility for five weeks.
<b>Operating system</b>	Full backups are performed daily to an alternate online local disk; operating system online backups are retained for one day.
<b>Non-Production and Production</b>	Oracle will run the following non-Production environment backups during implementation and pre-Production phases, and, upon request, during Production.

The backup tapes are cut, labeled, and sealed with a locking mechanism. Then the tapes are padded and collected by Oracle's secure delivery vendor, who picks them up using their own secured transportation and takes them to their secured storage. This vendor is an approved Oracle Federal vendor, and their couriers are U.S. citizens. Tapes belonging to Federal customers are placed in separate locked boxes. One tape holds only a single customer's data at any given time. The data is destroyed on the tape by degaussing and shredding before disposal. On Demand uses NDMP protocol to write backups on tape.

Oracle On Demand uses FIPS 140-2 compliant storage security appliances and provides a unified platform for encrypting data, so the Customer's data is well protected while physically transported to an offsite storage location. Wire-speed encryption is made possible by a high-throughput, low-impact configuration and data compression, which reduce storage costs and require less management overhead. Protection and accountability are assured through AES-256 encryption, access controls, and tamper-proof auditing.

### 3.6.2 On Demand Disaster Recovery Options

As part of the standard Oracle E-Business Suite @Oracle services, all customers are provided data protection in the form of a back up. In the event of a disaster at the Austin Data Center, Oracle will use reasonable efforts to facilitate the restoration of access to and use of customer's Production environment(s). However, restoration of service to a secondary site is not included in the standard Oracle EBSO service.

To address this, Oracle On Demand offers several disaster recovery service offerings. Our offerings meet varying **Recovery Time Objective (RTO)** and **Recovery Point Objective (RPO)** requirements using various Oracle and industry-standard technologies. On Demand continues to enhance the available DR service offerings, providing high availability and flexible mid-range service offerings. A customer can select one of three different levels of Enhanced Recovery

Services that are available: Max DR, the 1-Day option, and the 5-Day option. The levels vary based on the potential maximum period of data loss as measured from the declaration of the disaster (Recovery Point Objective) and the objective for the time to restore Production as measured from the declaration of a disaster (Recovery Time Objective). The RPO and RTO for each Enhanced Recovery Service level are as follows.

		SERVICE RECOVERY OPTION			
		Customer's Recovery Arrangement	Low Cost Recovery – 5 day	Low Cost Recovery – 1 day	Maximum Availability
DATA PROTECTION OPTION	Tape Vaulting	✓ Free ✓ 7 day RPO ✓ Customer's own RTO	✓ 5 day RPO ✓ 5 day RTO		
	eVaulting – Standard	✓ 48 hours RPO ✓ Customer's own RTO	✓ 48 hours RPO ✓ 5 day RTO		
	eVaulting – Custom			✓ 24 hours RPO ✓ 24 hours RTO	
	Maximum Availability				✓ 1 hour RPO ✓ 4 hours RTO

**Note-** Oracle DR offerings are currently available for @Oracle customers only

## 4. SECURITY MANAGEMENT

### 4.1 SSAE 16 and ISAE 3402

The SAS 70 Auditing standard (the **Statement on Auditing Standards (SAS) No. 70, Service Organizations**) was retired officially in June 2011 in favor of ISO 27000 certification. We issued our last SAS 70 report in May 2011 for the period covering October 2010 through March 2011.

ISO 27000 Certification applies to the way in which we manage security and operations at Austin Data Center (ADC), where Oracle perform 112 ISO 27001 Certification controls and 132 ISO 2700 Certificate of Conformity controls annually. We have transitioned to the newest auditing standards – ISAE 3402 (**International Standards for Assurance Engagements (ISAE) No. 3402**) and SSAE 16 (**US Statement on Standards for Attestation Engagements (SSAE) No. 16**). Our first “SOC 1” report will be issued in November for the period covering April 2011 through September 2011.

SSAE 16, ISAE 3402 and their predecessor SAS 70 have helped Oracle’s outsourcing customers to demonstrate, in part, the compliance of their internal controls with requirements of the Sarbanes-Oxley Act of 2002. Because the compliance timetables under the Act may vary from customer to customer, Oracle will continue to perform ISO 27000 audit updates to enable customers to comply with the requirements of Sarbanes-Oxley.

## 4.2 Federal Security Considerations

Oracle hosts its Federal government customers at the ADC within a secure, segregated Federal Zone (cage), supported by U.S. Citizens with a Federal security clearance. Oracle architected and designed this infrastructure and delivery model specifically for Federal customers in order to comply with the relevant regulations, directives, and guidelines issued by the U.S. government. Oracle's Federal On Demand Cloud Services offering is based on the NIST Special Publication 800-53 Moderate Control baseline for unclassified data.

The ADC's Federal Zone is a dedicated environment that enforces physical and logical access control for support personnel. All Federal On Demand Cloud Services support personnel hold a valid U.S. citizenship status.

The processes and tools used within the ADC were developed with security and reliability in mind. Based on the extent of security measures that Oracle takes for commercial customers, as well as Oracle's commitment to complying with the additional Federal government security standards, a Federal agency can be confident Oracle Federal On Demand Cloud Services will deliver the levels of security and compliance required over the lifecycle of an E-Business Suite project.

For US Federal customers, we offer a service that processes SBU (Sensitive but Unclassified) MAC II (Mission Assurance Category) data in a model that is physically and logically isolated from our commercial On Demand customers. It is supported by US Citizens with Federal security clearance. This is designed to enable our customers to be compliant with federal legislative and executive mandates and directives, and to run business operations more effectively at lower costs.

	<b>ISO 27002</b>	<b>SAS 7 SSAE 16 ISAE 3402 (Public Firms)</b>	<b>HIPAA HITECH2 (Health Care)</b>	<b>PCI DSS (FSI, Retail)</b>	<b>NIST (Federal Agencies)</b>	<b>21 CFR 11 (Life Sciences)</b>
<b>Policy Development &amp; Maintenance</b>	✓	n/a	✓	✓	✓	✓
<b>Asset Management</b>	✓	n/a	n/a	✓	✓	n/a
<b>Access Control &amp; Management</b>	✓	✓	✓	✓	✓	✓
<b>HR Security Controls</b>	✓	✓	✓	✓	✓	✓
<b>Change Control Procedures</b>	✓	✓	n/a	✓	✓	✓
<b>Segregation of Duties</b>	✓	✓	✓	✓	✓	✓

<b>Cryptographic Controls</b>	✓	n/a	✓	✓	✓	✓
<b>Backup and Recovery</b>	✓	✓	✓	✓	✓	✓
<b>Media Handling</b>	✓	n/a	✓	✓	✓	n/a
<b>Monitoring, Auditing, &amp; Logging</b>	✓	✓	✓	✓	✓	✓

An additional Enhanced Security Service is available that allows customers to further tailor their security controls. Added controls can be selected “cafeteria style” by the customer and may include:

- Database Auditing and Monitoring (Oracle Audit Vault)
- Oracle Data Masking (Oracle EM Data Masking Pack)
- Oracle Database Encryption (Oracle TDE)
- File Integrity Monitoring (Oracle CCC)
- Web Application Firewall
- Oracle Single Sign On (Oracle OAM)
- Oracle Strong Authentication (Oracle OAAM)
- Oracle Identity Management (Oracle OIM)
- Oracle Identity Federation (Oracle OIF)

No other Cloud provider has the breadth of product, knowledge, and experience in this area.

### 4.3 Certification and Accreditation

In the area of Certification and Accreditation (C&A), Oracle Federal On Demand Cloud Services follows the NIST 800-37 Certification and Accreditation methodology.

The Oracle Federal On Demand Cloud Services accreditation boundary includes the infrastructure and shared services components (General Support Systems, or GSS) that reside in the Federal caged environment at the Austin Data Center.

Certification and Accreditation of individual customer applications is a customer responsibility. Oracle will provide information and assistance to the customer concerning the Oracle federal infrastructure necessary for the customer to complete the C&A as part of the standard service.

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## 5. SERVICE LEVEL MANAGEMENT

Oracle is committed to providing customers a top-quality hosting service, backed by solid service levels. Oracle's base service levels reflect the industry-standard metrics by which Oracle's service to Federal government agencies can be measured.

Oracle's service level commitments feature application availability, that is, the percentage of time when the Oracle application is available for use by government employees. The application is intended to be available on a 24x7 basis with certain exclusions, such as periodic maintenance.

Oracle's service level commitments also feature a resolution close time defined as the length of time it takes to resolve and close Service Requests that involve a down production system, or to create a work-around that allows the Service Request to be downgraded to a lower level of impact. Oracle believes these service levels will deliver exceptionally reliable service to the government.

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## 6. IT GOVERNANCE SERVICES

Oracle Federal On Demand Cloud Services recognizes the importance of IT governance and will adapt its governance service model to support each customer's unique structure. Whether a Federal agency has chosen a centralized or decentralized governance framework, the On Demand representatives will integrate that approach into our team.

The objectives of the On Demand governance services are to: provide a formal management framework and structure; enable both Oracle and customers to manage their relationship, expectations, and dependencies with respect to the On Demand services; and verify that On Demand understands the customer's expectations and priorities and performs accordingly.

The On Demand governance solution provides Federal customers with a program management model that is designed to provide a single point of accountability for all aspects of business with Oracle On Demand. Oracle's intent is to support customer's enterprise-wide needs across the solutions lifecycle from strategy to operations.

The single point of contact is the Federal Service Delivery Manager (SDM). All SDMs that support Federal customers are U.S. citizens and ITIL certified. The Service Delivery Manager aligns Oracle's people, processes, and technology with the Customer's business requirements. Oracle's aim is to verify effective knowledge sharing with customer management through regular briefings, education, informal advice, and guidance.

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## 7. MIGRATION SERVICES

Oracle provides "Migration Services" to migrate a customer's existing environment to the Oracle's Austin Data Center hosting facility. The operability of an Oracle Application environment within the parameters of the Oracle Certified Configuration (CC) and compliance with Oracle standards is a prerequisite for delivery of Oracle's hosting and applications management services.

We provide Migration Services for purposes of bringing a non-CC compliant Oracle Application Production environment managed by the customer (the "Source Environment") into compliance with the CC and Oracle standards. For example, the services would include:

- **Assessment, analysis, and planning:** Oracle, with the assistance of the customer, completes an assessment of customer's source environment for compliance with certified configuration standards.
- **Migration to a CC-compliant environment:** Oracle assists the customer with migration of its existing source environment to an Oracle CC-compliant Production environment. This Production environment then becomes one of the environments provided with On Demand services.
- **Production readiness and post Go-Live support:** Oracle provides assistance in completing the Production Assessment (PA) tasks required for the customer's migrated CC-compliant environment to meet Oracle's minimum standards. Once the migrated environment achieves Production Go-Live status, it becomes the Oracle On Demand

Production environment. Oracle provides 30 days post Go-Live support to ensure proper functioning of the migrated environment.

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## 8. ORACLE FEDERAL ON DEMAND CLOUD SERVICES CUSTOMERS

Oracle On Demand serves more than 500 managed application customers in the public and private sectors worldwide, including large national, regional, and local governmental and non-governmental organizations and multinational companies.

In the United States, examples of 13 recent and current contracts for **U.S. Federal civilian agencies and multilateral organizations** (including two OMB-designated Shared Service Providers [SSPs] that have a total of 32 government agencies under their management) are:

- Three agencies @Oracle (Standard Zone) that are EBSO or PSFT
- Five agencies @Oracle (Federal Zone) that are EBSO, OTO or Storage
- Three agencies @Customer that are EBSO, OTO or PSFT
- Two agencies @Partner that are EBSO or PSFT.

Similarly, examples of seven recent and current **Federal defense agencies** served by Oracle Federal On Demand (including one OMB-designated SSP that has 4 agencies under its management) are:

- Three agencies @Oracle (Standard Zone) that are EBSO or CSO
- One agency @Oracle (Federal Zone) that is EBSO and OTO
- One agency @Customer that is EBSO and PSFT
- Two agencies @Partner that are EBSO.

Below is a summary matrix of our current civilian and defense agencies cutover, hosting, application management, and O&M deployments, 20 customers in total. Confidentiality dictates that we do not name our agency customers. Oracle is very sensitive to the time and effort our existing and prospective Federal customers expend in handling past-performance citations and reference calls. Further, Oracle maintains contractual confidentiality and/or “no publicity” standards with our customers that may prohibit our disclosing customer information.

Federal Gov. & Multilateral Gov. Dept. / Agency	@Oracle (ADC)		@Customer	@Partner	Period of Performance
	Com mercial	Fed Zone			
Civilian Agency 1		✓			Aug 2002 – Sep 2011
Civilian Agency 2	✓				Jun 2004 – Sep 2011
Civilian Agency 3		✓			Nov 2007 – Nov 2011
Civilian Agency 4			✓		Nov 2007 – Dec 2012
Civilian Agency 5		✓			May 2008 – May 2011
Civilian Agency 6		✓			Sep 2008 – Aug 2011
Civilian Agency 7	✓				Jul 2008 – Jul 2011
Civilian Agency 8				✓	May 2010 – May 2011
Civilian Agency 9		✓			May 2010 - Sep 2011
Civilian Agency 10		✓			Aug-2010 - Nov2011
Civilian Agency 12		✓			Feb-2011 – Feb 2012
<b>Civilian Subtotal = 11</b>	<b>2</b>	<b>7</b>	<b>1</b>	<b>1</b>	<b>-</b>
DoD Agency 1				✓	Nov 2004 – Sep 2011
DoD Agency 2	✓				Nov 2007 – Nov 2011
DoD Agency 3				✓	Dec 2007 – Dec 2011
DoD Agency 4		✓			May 2010 – Sep 2011
DoD Agency 5		✓			Nov 2009 – Nov 2011
DoD Agency 6		✓			Sep 2010 - Sep 2011
DoD Agency 7		✓			Dec 2010 – Dec 2011
<b>DoD Subtotal=7</b>	<b>1</b>	<b>4</b>	<b>0</b>	<b>2</b>	<b>-</b>
<b>Total = 18</b>	<b>3</b>	<b>11</b>	<b>1</b>	<b>3</b>	<b>-</b>

An example of an ongoing On Demand hosting and infrastructure services project is for a large Federal organization that is involved in many aspects of healthcare.

One Oracle project involved the migration of their HR system to Oracle On Demand. This HR system is a mission-critical system that standardizes and captures management of HR costs and tracks information to support manpower, personnel readiness, labor cost assignment, education and training. The project requirements were to: (1) increase system availability, (2) introduce a change control process, (3) scale across a large enterprise, and (4) meet federal security requirements for management of HR applications.

Our phased approach relied on Oracle software and a dedicated Federal On Demand Cloud Services team. First, we trained all On Demand personnel on the standards and then cleared the personnel to IT-Level II. Next, we upgraded the HR software at the Federal Partner's site to the latest release of Oracle software. The remainder of the implementation consisted of working closely with the Prime Contractor to verify that the migration followed Oracle On Demand's standard processes and procedures for migration between the Development, Test, and Production environments.

Upon completion of the project and Production use of the HR system, Oracle Federal On Demand Cloud Services received a reference letter from the customer citing almost 100% system availability, Oracle's disciplined change control process with detailed review and approval of all changes, and our ability to scale the enterprise to 170,000 users globally.

## 9. SUMMARY

Oracle has been serving organizations in both the government and commercial sectors for more than 30 years, including departments and agencies of the U.S. Federal government. The mission of Oracle On Demand is to deliver a comprehensive set of managed application support for hosting, administering, managing, and maintaining a customer's technology systems. Thus, Oracle Federal On Demand Cloud Services provides an targeted way for Federal agencies to engage with Oracle for hosting, application and infrastructure services.

In business since 2000, On Demand is the leading applications management provider that supports Oracle Applications, Oracle Fusion Middleware, and Oracle Database—over 360 solutions. At the Austin Data Center, we host more than 3,200 environments for government and commercial organizations—and provide U.S. citizen experts 24x7x365 to manage customer systems, e.g., applications, databases, operating systems, and hardware related to financials.

A Federal civilian or defense agency can expect to benefit from Oracle Federal On Demand Cloud Services' broad portfolio of solutions for the hosting, operations, maintenance, and governance of its large and complex IT systems. On Demand can bring business value with Oracle software managed by experts. Oracle provides standardized ITIL-based services for several Federal On Demand Cloud Services service offerings that reflect best practices, as well as automation and economies of scale. It is these factors that will enable a Federal agency to drive down total cost of ownership and measurably enhance security, availability, scalability, and performance.

With Oracle Federal On Demand Cloud Services, the agency can expect to repeat the success of the thousands of On Demand customers in accelerating upgrades and driving down costs. You can rely on Oracle to manage your applications, while you focus on your core competencies, comply with Congressional mandates, and meet the needs of American citizens.

Oracle is committed to the success of Federal government agencies, and we continue to invest in innovative On Demand services. By automating and improving software management processes and products, Oracle continues to generate solutions that government customers leverage, making the “business of government” more effective, efficient, and economical.

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## 10. WHERE TO GO FOR MORE INFORMATION

For more information regarding Oracle Federal On Demand Cloud Services, please visit:  
<http://www.oracle.com/us/products/ondemand/index.html>