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Distributed Development Using Oracle Secure Global Desktop

Introduction

One of the biggest challenges software development organizations face today is how to provide software developers access to their specific developer environments from any location, reliably and with no performance degradation. In addition, administrators need to centrally administer access to individual developer environments across multiple locations worldwide. Oracle's Product Development IT group has addressed these problems for thousands of employees developing Oracle software with Oracle Secure Global Desktop.

The Global Enterprise

In a fast-moving, worldwide enterprise such as Oracle, it is critical to make the most of business systems and data to remain competitive. For IT organizations, this means creating an infrastructure that is highly reliable and secure, but is also flexible and powerful enough to keep a global workforce at peak productivity. This is not always easy. Employees might be in one location while the IT resources they require are in another. How can you consolidate and optimize your IT infrastructure to minimize costs while still ensuring users can always access anything they need from anywhere in the world, even at a moment's notice?

Development Infrastructure Services, a division within Oracle's Product Development IT group (Oracle PDIT) serves thousands of developers worldwide every day. It manages and supports the infrastructure required for product development teams within Oracle.

Like many global enterprises, Oracle PDIT had a number of challenges to solve:

- How to provide a centrally managed infrastructure for the work environments of thousands of individual developers.
- A need to improve productivity by allowing software developers access to development environments from remote locations.
- A requirement to scale the deployment across multiple data centers and thousands of developers worldwide.
- The desire to eliminate software dependencies on the client devices that access development environments.

After a detailed evaluation of alternatives, Oracle's Product Development IT group was able to solve all these problems using one solution: Oracle Secure Global Desktop.

Oracle Secure Global Desktop in Use

Oracle PDIT uses Oracle Secure Global Desktop as a gateway to development environments used by Oracle's software development teams working on Oracle Fusion, Oracle E-Business Suite, and various other Oracle applications. The software developers use Oracle Secure Global Desktop to access X Windows applications (xterm, fvwm, gnome) running on Solaris OS or Linux servers in the data center, giving them access to various graphical development tools such as Oracle JDeveloper, as well as systems running Microsoft Windows. Oracle has thousands of concurrent users spread across multiple Oracle Secure Global Desktop arrays.

Some of the features that make Oracle Secure Global Desktop a good solution for Oracle PDIT and the development community are:

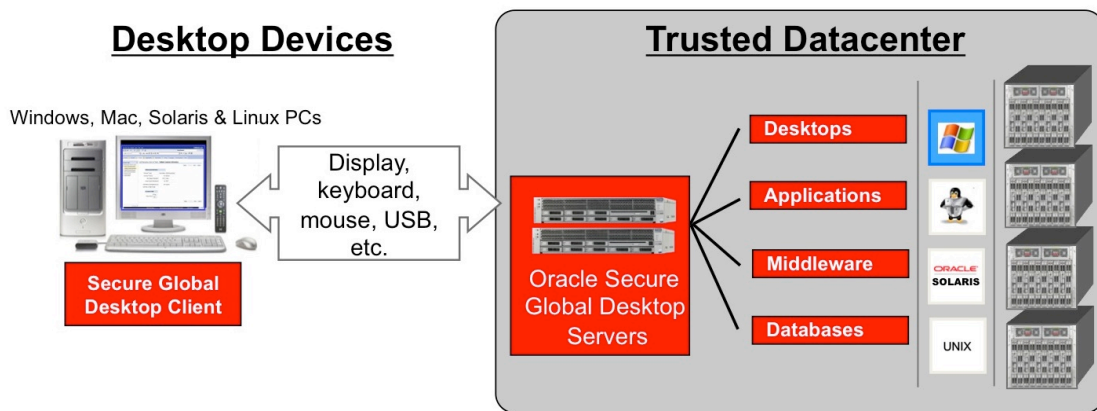
- **Consistent interface.** An Oracle developer can login to Oracle Secure Global Desktop from nearly any desktop computer in the world simply by going to a URL from a web browser, and have access to all of their applications and data.
- **No client software.** Oracle PDIT does not need to maintain software on the developer's desktop, since the developer can access Oracle Secure Global Desktop with any supported web browser. No client software on the desktop device means application updates can be accomplished entirely on the server side, dramatically reducing the time required to roll-out infrastructure updates to users.
- **Session mobility.** Oracle developers can pause, resume or terminate their sessions from the dynamic browser-based Oracle Secure Global Desktop webtop. This includes the ability to suspend a session and then resume it from a different desktop machine in another location (e.g., suspending a session from the office and then resuming it from home). This, combined with eliminating maintenance of client software on thousands of desktop machines spread across multiple time zones, saves Oracle PDIT significant administrative overhead. It even allows developers to access multiple testing and development environments on a single machine all from a simple, easy to use interface.
- **Simplicity and content control.** Centralized management of the applications and environments a developer has access to is simple using functionality built-in to Oracle Secure Global Desktop. Load-balanced pools of application servers allow the addition, removal or modification of servers to be completely transparent to Oracle developers.
- **Performance.** The Adaptive Internet Protocol (AIP) used Oracle Secure Global Desktop, combined with Intelligent Array Routing (IAR) and various other performance features, allows for excellent performance, even over high-latency WAN links. This is crucial since Oracle PDIT has large numbers of developers distributed around the world accessing multiple development environments for their daily work.
- **Monitoring.** By creating user defined Oracle Secure Global Desktop metrics in Oracle Enterprise Manager Grid Control, Oracle PDIT can continually monitor several deployment metrics such as 1) daily peak resource usage, 2) number of users, and 3) performance, via a simple dashboard that can be shared with executive management and operations teams.

Deployment Configuration

Oracle's Product Development IT has configured multiple Oracle Secure Global Desktop arrays to provide access to development environments in multiple office locations, across several Oracle application groups.

Each Oracle Secure Global Desktop server is configured with a large number of applications distributed across multiple application servers that run both on Oracle Linux and Oracle Solaris OS.

Oracle developers authenticate to Oracle Secure Global Desktop using their NIS accounts, and to the application servers using either NIS or Microsoft Windows domain accounts. The Oracle PDIT deployment architecture is similar to the deployment architecture described in the generic diagram below.



Example Oracle Secure Global Desktop High Level Architecture

Conclusion

Oracle Secure Global Desktop is a flexible solution that allows a small number of IT administrators to provide reliable, centrally administered access to development environments in multiple data centers around the world. Thousands of Oracle developers enjoy the benefits of this flexible, highly performant environment to accomplish their daily tasks.



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