

## How optimizing access, roles, and responsibilities translates directly to business value

It's not just about compliance...  
It's about managing risks and improving overall operational performance.

Companies are evolving, diversifying, acquiring, merging, divesting, outsourcing, offshoring, and restructuring to take advantage of a continually changing and dynamic marketplace. But the proliferation of regulatory compliance requirements is now hindering that growth.

Many organizations have responded by creating functions, and layering control processes and roles on top of existing functions. This increased level of complexity, with its inherent cost, is largely a result of management's response to each compliance failure, obligation, or regulatory expectation.

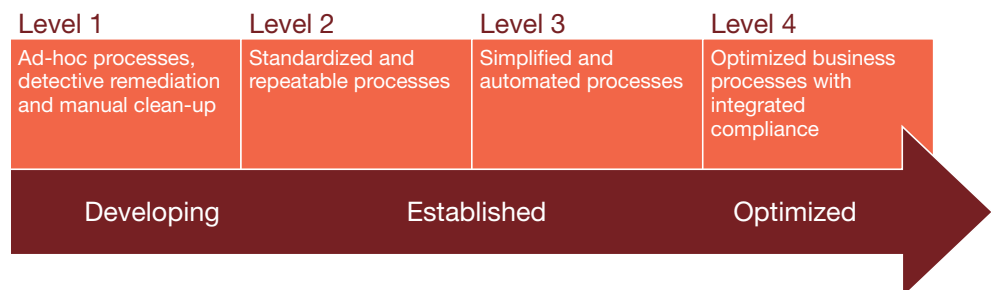
The accelerating rate of change means that companies have to enhance their flexibility to monitor the impact of existing and emerging risks and regulatory expectations. In the age of transparency, corporate governance and compliance are critical to an organization's reputation, brand and ongoing success.

This requires, first, knowing (often under constantly changing circumstances) precisely where within the enterprise the greatest risks lie and, second, concentrating on performance improvement in these areas. Integration of potentially dozens of oversight functions and committees duplicated across multiple departments and geographies can mean increased efficiency and the opportunity to drive improved performance.

Managing roles, responsibilities and user access is one of the core functions that cuts across almost every organization, regulatory compliance act, and business process. This is not only an underlying requirement across the realm of regulatory compliance acts—it is an essential control area for managing risk, protecting sensitive information assets, and improving business performance.

But the traditional model of defining roles and responsibilities, managing user access and authorizations is not working. User identities and privileges stored in multiple applications and repositories across the enterprise have resulted in control deficiencies.

Many companies have started down the path of building a control framework for identity and access management. Many have also implemented technology solutions to simplify and automate manual processes. But technology alone cannot address inherent deficiencies in business processes. If there are segregation of duty conflicts in the business process, technology will automate those conflicts.



Take small steps, demonstrate value, and then move on to the next step.

While more companies are tackling security strategically, many are still missing opportunities to turn these investments into business value.

Start by establishing a common risk and control framework that prioritizes risks related to access, roles, and responsibilities across your extended enterprise. And then let this be your guide. There are many ways that companies can go about implementing identity, access and role management solutions. By first prioritizing the areas that have the most inherent risk, you can then determine where to start and what technology to deploy. There's no "one-size-fits-all" road map.

PricewaterhouseCoopers, as a leader in governance, risk and compliance, and Oracle, the leader in enterprise software solutions, have teamed to help companies with a common-sense approach to integrating compliance with identity and access management controls. PwC's risk-based methodology in identity and access management provides the integration between security and business process controls across the enterprise by addressing the people, process, and technology requirements based on a cohesive risk management framework. Oracle's leading Identity and Access Management Suite provides a robust technology platform that can be easily adapted to fit your business needs.

Identity and access management is one of those opportunities. In the 2007 Global State of Information Security Survey, a world-wide study conducted by PricewaterhouseCoopers in collaboration with CIO and CSO magazines, identity management was identified as a key control area that will aid in simplifying and reducing costs from overlapping regulatory compliance requirements. However, the survey also reveals that only 36% of this year's respondents are actively working on a solution.

A comprehensive identity management solution includes three major components:

- Authentication and access control
- User management and provisioning
- A consolidated user data repository

#### **Authentication and access control**

Keeping track of "who has access to what" in a constantly changing and expanding enterprise is an extremely difficult, and risky, mission. Oracle and PwC help organizations establish authentication and access controls that support segregation of duties compliance objectives and help simplify and standardize user access for a more cost effective and sustainable controls environment.

A centralized and comprehensive view of people, roles, and privileges results in more accurate and efficient auditing and reporting, and continuous improvement of policies and controls. Access is defined by policy and granted dynamically, creating a closed-loop compliance process.

PwC works with your information security staff to develop common principles for access and authentication design and management including access policy creation and enforcement.

Oracle Access Manager™ allows users of your applications or IT systems to log in once and gain access to a broad range of IT resources. Oracle Access Manager provides an identity management and access control system that is shared by all your applications. The result is a centralized and automated single-sign-on (SSO) solution for managing who has access to what information across your entire IT infrastructure.

## **User management and provisioning**

A comprehensive user management solution allows organizations to create real-time, consistent business processes for managing user profile information across the enterprise. Effective user management helps automate the process of provisioning and de-provisioning users as they are hired, terminated, or transferred. In addition, a comprehensive user management solution provides the ability to monitor and review (or test) change history, user permissions, and authorization that is critical for sustaining compliance.

Exceptions must also be managed through approval workflows that are monitored to align with business policies. By only having to address the rules and the occasional exceptions rather than tens of thousands of individual privileges, managers can focus on their core responsibilities. This centralized and comprehensive view of people, roles and privileges results in more accurate and efficient monitoring, reporting, and continuous improvement of policies and controls.

To design and deploy comprehensive user management and provisioning, PwC first works with your organization to establish the basic user management structure, role structure, user structure, and interface requirements. Then, PwC assists in designing the architecture of the overall provisioning system components, including the technical components and data.

Oracle Identity Manager™ is a leading user provisioning and administration solution that automates the process of adding, updating, and deleting user accounts from applications and directories. The Oracle Identity Management Suite with integrated role management works in tandem with Oracle Role Manager to dynamically grant roles in response to business events such as new hires or transfers. Users are then directly provisioned based on the roles they hold and gain or lose entitlements based on changes in roles, ensuring that people are granted the right access at the right time to effectively do their jobs, while preventing security holes and compliance violations.

## **User data repository**

The user data repository is the cornerstone of an identity management solution. It provides a means of storing user information so it can be utilized for access and user management decisions. This includes information used to validate identities, personal information, role information, and reporting relationships, as well as passwords and credentials. PwC help organizations consolidate user information stored across the enterprise. The resulting consolidated view enables more timely and efficient user management, including the removal of access for users as they leave the organization, reducing the number of orphaned user accounts.

## **Virtual Directory**

Oracle Virtual Directory provides a real-time, virtual view of identity data from any datastore, including directories, databases, and web services without synchronization. Provides features to logically join identity attributes stored in multiple data-stores as well as prioritize requests to back-end directories on a per-server or per-connection basis, to maximize the native directory's processing potential.

## Getting role management right means aligning it with business objectives.

It's agreed that successful role management is core to identity management, security and compliance, but traditional approaches to role definition and management lead to role explosion, increasing both costs and administrative burdens. The solution to this problem is integrating roles to business operations and aligning them to business policy, thereby linking changes in business relationships automatically to changes in role memberships. Only then will a user's access stay in sync with their current role as they change jobs, take on new responsibilities, or leave the company, enabling users to have the right access at the right time to effectively do their jobs. By focusing on effective role management, organizations benefit from finding the right balance to support business objectives and better manage risk.

PwC provides a comprehensive, formal, and reusable methodology that takes a risk-based approach to meet an organization's role management needs that has been proved in hundreds of identity and access management projects worldwide. PwC looks across your enterprise, applications, job functions, and control functions to develop a role structure and hierarchy that better aligns user permissions and creates a more manageable approach to ongoing role maintenance. Based on PwC's in-depth knowledge of leading practices for business and IT role management, organizations can jump-start their role management solution by leveraging PwC's recommended baselines for role creation, workflow processes, and reporting that integrate both compliance and risk objectives.

**Oracle's Role Manager™** provides a single point of policy management to define and manage roles, role memberships, and associated access privileges from one place quickly and easily, ensuring truly consistent enforcement across the enterprise.

The combination of PricewaterhouseCoopers Enterprise Role Management methodology and the Oracle Role Manager solution provides capabilities that address the full lifecycle of role management activities—from mining, engineering, and validation to ongoing administration and governance.

### The PwC and Oracle advantage

PwC and Oracle's collaboration provides a community of practice with a strong technical and business focus on managing access to critical information assets. PricewaterhouseCoopers is a leader in providing business advisory services to some of the world's largest organizations. By drawing upon PwC's extensive knowledge base and experience with identity management, companies can significantly reduce the time and effort normally required in solution deployments. And by combining PwC's in-depth regulatory, compliance and industry knowledge with Oracle's comprehensive suite of technology solutions, our mutual clients gain a streamlined, enterprise-wide approach to address their business issues, reduce costs, and optimize performance.

## Contacts

**Donna Chu**  
donna.f.chu@us.pwc.com  
(408) 817 4316

The firms of the PricewaterhouseCoopers global network ([www.pwc.com](http://www.pwc.com)) provide industry-focused assurance, tax and advisory services to build public trust and enhance value for clients and their stakeholders. More than 130,000 people in 148 countries across our network share their thinking, experience and solutions to develop fresh perspectives and practical advice.

© 2007 PricewaterhouseCoopers LLP. All rights reserved. "PricewaterhouseCoopers" refers to PricewaterhouseCoopers LLP (a Delaware limited liability partnership) or, as the context requires, the PricewaterhouseCoopers global network or other member firms of the network, each of which is a separate and independent legal entity. \*connectedthinking is a trademark of PricewaterhouseCoopers LLP. MC-NY-08-0381-A.

Copyright © 2007, Oracle Corporation and/or its affiliates. All rights reserved.

This document is provided for information purposes only, and the contents hereof are subject to change without notice. This document is not warranted to be error-free, nor is it subject to any other warranties or conditions, whether expressed orally or implied in law, including implied warranties and conditions of merchantability or fitness for a particular purpose. We specifically disclaim any liability with respect to this document, and no contractual obligations are formed either directly or indirectly by this document. This document may not be reproduced or transmitted in any form or by any means, electronic or mechanical, for any purpose, without our prior written permission.

Oracle is a registered trademark of Oracle Corporation and/or its affiliates. Other names may be trademarks of their respective owners.