

Managing Exchange 2000 Migration with BindView

— BindView

HURWITZ REPORT

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Migration to Exchange 2000 will not be simple. The existing user base is faced with several key challenges.

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Multiple email systems should be consolidated into a single, scalable, high-performance solution with both messaging and workflow features and reduced management costs.

1 Benefits of Migrating to Exchange 2000

The primary difference between Exchange Server 5.5 and Exchange 2000 is that Exchange 2000 has no separate internal directory, and this presents significant benefits.

2 Migration Challenges

Past Exchange upgrades have been relatively straightforward processes, but Hurwitz Group believes that this experience will not be repeated with the Exchange 2000 migration.

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BindView products automate the Exchange 2000 migration process, as well as assess the vulnerabilities and manage the risks involved.

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The increasing dependence of business operations on technology translates into new types of business risks. Hurwitz Group believes that BindView's products mitigate these risks.

9 Conclusion

With Exchange administrators in short supply and even fewer Windows 2000 Active Directory experts, businesses need to achieve their migration and expand their management capabilities without adding more people.

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EXECUTIVE SUMMARY

Email systems continue to evolve into e-Business enablers. Microsoft's new Exchange 2000 Server is a prime example. It brings additional capabilities to traditional email services, including conferencing, instant messaging, and workflow management. Integration of Microsoft Exchange with Windows 2000 Active Directory addresses one of the larger enterprise issues surrounding administration of thousands of users through roles and policy-based management. These features can give early adopters a significant advantage over their competition by supporting new e-Business projects.

Migration to Exchange 2000, however, will not be simple. The existing user base is faced with several key challenges, including:

- ▶ **Migrating users to Windows 2000 and Windows 2000 Active Directory**
- ▶ **Migrating Exchange 5.5 objects into Windows 2000 Active Directory**
- ▶ **Ensuring correct configurations and security implementations**
- ▶ **Managing a mixed Exchange and Windows OS environment**
- ▶ **Ongoing management issues surrounding implementation of advanced technologies and new management interfaces**

This white paper will examine these and other critical issues that administrators will face in Exchange 2000 migration. It will also explain the role of BindView's management solutions in helping customers migrate to Exchange 2000 smoothly and efficiently.

Email Evolves Into an Enterprise Asset

Email systems are significant corporate assets. They speed business-to-business (B2B) communication, simplify workgroup collaboration, and facilitate workflow management. They are also an integral part of the evolving e-Business infrastructure, providing a platform for online order verification, fulfillment, and customer service.

In the beginning, email systems were implemented at the departmental level. This led to multiple types of systems, different configurations, and different management schemes that resulted in skyrocketing management costs. As email services became more critical to business success, their reliability requirements increased. The distributed, heterogeneous solutions made it difficult to achieve the reliability required. The high administrative costs and reliability problems demanded a new, adaptable solution for widening e-Business requirements. The solution was, and still is to consolidate the multiple email systems into a single, scalable, high-performance solution with both messaging and workflow features and reduced management costs.

With the Exchange Server 5.5 release, Microsoft addressed some of the scalability and performance challenges facing enterprise email. However, due to network bandwidth constraints, most enterprises require a highly distributed Exchange architecture, which limits their return on investment. In addition, the native product did not address management issues (administration, security, disaster recovery, etc.) for enterprise-size numbers of users. The extensive post-deployment consulting that was required further eroded returns.

Microsoft's new Exchange 2000 brings a range of new functions to serve not only business communication, but also to address some of the management issues of an enterprise-size user architecture. This allows businesses to successfully expand the role of messaging systems to facilitate both internal workflow management and e-Business customer relations.

Benefits of Migrating to Exchange 2000

The primary difference between Exchange Server 5.5 and Exchange 2000 is that Exchange 2000 has no separate internal directory. Directory services are provided by Windows 2000 Active Directory. This integration presents significant benefits, for example:

- ▶ **Unified user administration.** Windows 2000 Active Directory provides a single repository for all users, mailbox information, configuration data, peripheral devices, host connections, databases, permissions, etc. Just about any computing resource can be modeled and controlled through the Windows 2000 Active Directory infrastructure, providing administrators a consistent top-level management interface across all

computing resources. This consistency translates into lower total cost of ownership (TCO) due to reduced training costs and improved effectiveness of the IT organization.

- ▶ **Streamlined security administration.** Windows 2000 security groups can be automatically used as Exchange 2000 distribution lists. Windows 2000 security resources, like access control lists, can also be used to define user permissions for Exchange 2000 resources. This can significantly reduce IT effort in maintaining the Windows/Exchange environment in terms of creating parallel user lists and permissions.
- ▶ **Policy-based management features.** The way to efficiently manage very large numbers of users is by implementing policies defined by the business. With policy management capabilities (roles, permissions, delegation, etc.), IT managers can maintain correct configurations and change administrative settings across hundreds of thousands of users, groups, servers, and public folders in a single operation. This simplification of management tasks improves the effectiveness of the IT organization — eliminating redundant tasks is one example — which reduces the TCO. Policy-based management also simplifies the alignment of computing configuration and settings with corporate security policies. This improves overall security policy enforcement, mitigating the business risks of operating in today's Internet-based environment.
- ▶ **Directory access for enterprise applications.** Windows 2000's Active Directory supports lightweight directory access protocol (LDAP). This gives a wide range of client software access to the user directory, which provides new communication and collaboration avenues. Workflow tracking processes, such as document approval, expense reporting and payment, and purchase orders can now be automated through Exchange 2000. Thus, IT can provide value outside of the traditional technology introduction and maintenance. Hurwitz Group measures this type of IT innovation with Return On Opportunity™ (ROO) metrics.

These benefits will give early adopters a significant advantage, particularly in supporting new e-Business ventures and streamlining operations for greater profitability.

Migration Challenges

Past Exchange upgrades have been relatively straightforward processes. Hurwitz Group believes that this experience will not be repeated with the Exchange 2000 migration. Windows 2000 Active Directory brings revolutionary technology to Exchange 2000, which will have far-reaching effects on network capabilities and security. Microsoft stated that, "If you develop a clear and deep understanding of Active Directory, this will clarify most of the differences between Exchange 5.5 and Exchange 2000, and will form a basis for understanding how Exchange 2000 works." Windows 2000 Active Directory deployment, however, is no walk in the park, and can have extensive costs associated with problematic installation (see Figure 1).

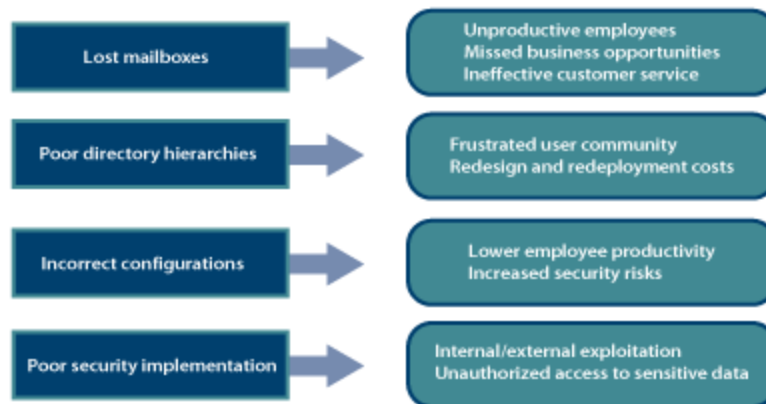


Figure 1. Business costs associated with problematic Exchange migration.

Exchange migration requires a significant planning effort to successfully meet the following migration challenges:

- ▶ **Migrating users to Windows 2000 and Active Directory.** Successful migration to Windows 2000 and Active Directory involves both short-term tactics and strategic business planning. Decisions that appear to simplify migration in the short-term may later require costly restructuring to align the infrastructure with more strategic goals. Administrators should also be considering Exchange 2000 issues during the design of the Active Directory forest structure. For example, administrators will need to consider security, messaging, and collaboration issues during design of the Active Directory's trees. Administrators will also have to develop effective organizational unit (OU) hierarchies and administrative policies, which is difficult in large organizations with complex organizational structures and overlapping management requirements. Prior to Windows 2000 migration, administrators should employ modeling and testing tools to test various directory structures and policies.
- ▶ **Migrating Exchange 5.5 objects into Active Directory.** For the actual migration of Exchange 5.5, most organizations will utilize the Microsoft Active Directory Connector to extend Windows 2000 Active Directory schema for Exchange-specific attributes and then populate the directory with data from Exchange 5.5. Thus it is important to have the Exchange 5.5 directory fully scrubbed and ready before running Microsoft Active Directory Connector. Microsoft Active Directory Connector, however, can cause duplicate account problems during the migration. It automatically creates new user accounts based on Exchange 5.5 data without checking with existing Windows 2000 Active Directory accounts created by prior Windows NT migrations. Similarly, subsequent Windows NT migrations with duplicate existing accounts from earlier Exchange 5.5 migrations can occur. Therefore, administrators need tools to automate the account checking to avoid duplication problems.

- ▶ **Ensuring correct configurations and security implementations.** The integration of Exchange 2000 and Windows 2000 Active Directory allows many different types of business applications to present, publish, and share common information. Microsoft also implemented several features to allow automation of workflow and collaboration processes. Thus Exchange 2000 becomes a core network service that will drive new internal and customer-facing business processes, thereby increasing ROO if implemented properly. This makes controlling configuration and access to the directory critical for maintaining reliable business operations. Recent virus attacks that take advantage of Microsoft Outlook demonstrate the need for carefully considered configuration and security policies, a consistent methodology to find and close security exposures, and a mechanism to monitor the environment for unauthorized changes.
- ▶ **Managing a mixed Exchange and Windows OS environment.** It is impractical for companies to migrate their entire user-base to Windows 2000 and Exchange 2000 in one step; instead, a phased approach is favored. The businesses, therefore, must operate in a mixed Exchange environment with replication via the Microsoft Active Directory Connector. Unfortunately this leaves administrators with two separate sets of management tools, one for Exchange 5.5/Windows NT and one for Exchange 2000/Windows 2000. The delegation of administrative tasks is also different between the two tool sets, which could open security holes. A consistent management interface that securely delegates administrative capabilities across the entire mixed environment dramatically simplifies administration during migration.
- ▶ **Ongoing management issues.** Windows 2000 Active Directory capabilities allow administrators to manage their environment through policies. Microsoft, however, has not provided the administrative tools to accomplish this goal effectively in large, distributed environments. Limited directory-wide query and analysis capabilities are available, and although Windows 2000 Active Directory permits delegation of authority, it provides little to effectively manage delegation and ensure it occurs in a consistent manner across the enterprise. This is a critical problem because Windows 2000 Active Directory will become the key to implementing corporate security policies.

IT organizations also could have migration problems because their administrators are already busy maintaining the current Exchange installation. Budget restraints and skill shortages limit IT's ability to hire additional staff to deal with the migration problems. As usual, Microsoft focused on delivering capability, leaving the process of a smooth migration to third parties. IT departments will have to look to those third-party solutions to find ways to maximize their existing management resources.

BindView Solutions Simplify Migration

BindView products automate the Exchange 2000 migration process, as well as assess the vulnerabilities and manage the risks involved. BindView addresses the migration challenges with its bv-Control and bv-Admin products (see Figure 2).

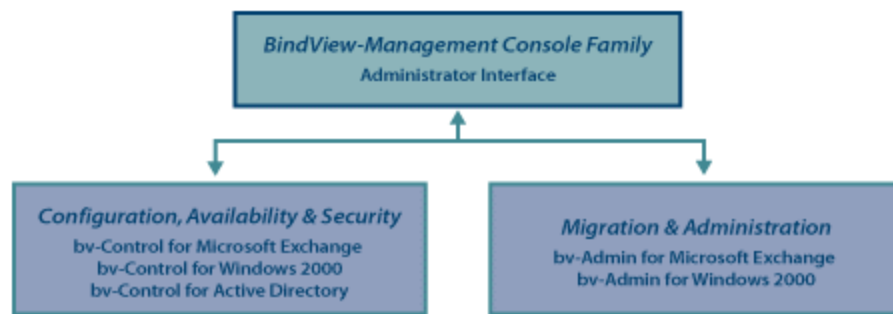


Figure 2: BindView solution architecture.

Migrating Users to Windows 2000 and Active Directory

BindView products provide extensive capabilities to simplify and automate the Windows 2000 and Active Directory migration process. *bv-Control* helps administrators “scrub” their Windows NT/Exchange 5.5 directories to prepare for migration. It accurately documents their existing environment, including hardware and software configurations, domains, services, and user account and group information. This information provides the basis for planning the new environment and disaster protection if rollback to the old environment is needed. *bv-Control* reporting and analysis features simplify the identification of stale, duplicate, or unused accounts and unnecessary domains. Therefore, managers can design an optimal new environment and close potential security holes.

With *bv-Admin*, managers can model and implement Windows NT domain consolidation and reconfiguration to prepare for actual migration. It allows administrators to model multiple Windows 2000 Active Directory hierarchies to test different delegation strategies. *bv-Admin* does this by implementing OU structures on top of existing Windows NT domain objects and resources without modifying the Windows NT Security Account Manager (SAM). Thus it provides a virtual map that can test security architectures, administrative policies, and Exchange-related issues in the actual working environment. The OU structures are 100% compatible with Windows 2000 Active Directory OUs and, therefore, can be migrated in one simple step.

bv-Admin supports all the different migration scenarios, such as domain consolidations, parallel migrations, or in-place upgrades. It supports migration trials and disaster recovery with collision handling, stop/restart, and rollback capabilities. Finally, managers can automate the migration verification process with *bv-Control*'s discovery and reporting capabilities.

Migrating Exchange 5.5 Objects into Active Directory

As discussed earlier, large benefits are gained by planning and cleaning up Exchange 5.5 and Windows NT prior to migrating Exchange 5.5 objects to Windows 2000 Active Directory. *bv-Control* discovers the location and configuration of Exchange 5.5 resources, allowing

managers to plan a more effective Exchange 2000 architecture. It audits Exchange 5.5 and reports stale, duplicate, and unused accounts. bv-Admin verifies one-to-one relationships between mailboxes and Windows NT accounts. Administrators can then use it to implement account changes to prepare for migration. As with Windows 2000, administrators can verify Exchange 2000 migration with bv-Control's discovery and reporting capabilities. Additionally, both products provide a wide range of postmigration reporting to verify and audit all actions taken.

bv-Admin eliminates the potential duplication problems associated with using Microsoft Active Directory Connector. It checks existing Windows 2000 Active Directory accounts prior to the actual migration step. If the account already exists, bv-Admin will associate the new attributes with the existing account instead of creating a new account.

BindView is currently developing additional support for Exchange migrations. For example, for organizations choosing not to use Microsoft Active Directory Connector, bv-Admin will offer the option to move a user's mailbox and associated distribution lists from Exchange 5.5 to Windows 2000 Active Directory. Thus, if a user account is migrated from Windows NT to a Windows 2000 Active Directory domain, the user's mailbox can be migrated to a specific site and server in the destination domain. This provides additional flexibility in planning and executing a migration to Exchange 2000 and Windows 2000.

Ensuring Correct Configurations and Security Implementations

bv-Control's discovery and reporting capabilities provide comprehensive configuration and security management for the total environment — Exchange 2000, Active Directory, and Windows 2000. Managers can use it to find exceptions to standard configurations, track configuration changes over time, and produce in-depth analyses and reports detailing the configuration of systems enterprise-wide. These configuration audits can also expose at-risk configurations so that managers can close holes before security is breached. The bv-Control event-management feature monitors and alerts managers when exceptions in security logs and performance counters arise. Administrators can then use bv-Admin to reconfigure accounts and systems to prevent problems from becoming critical and affecting performance and availability. Finally, bv-Control can search mailboxes and public folders for dangerous attachments and delete them, which is particularly useful for minimizing the impact of email-based viruses.

Managing a Mixed Exchange and Windows OS Environment

BindView users can manage their entire environment. bv-Control provides discovery, configuration, and monitoring for Exchange 2000/5.5 and Windows 2000/NT. bv-Admin provides a single management console to view and perform day-to-day administration over both Windows NT/Exchange 5.5 and Windows 2000 Active Directory/Exchange 2000 domains and

resources. The similarity in look and feel and the end-to-end view of the mixed environment eases the transition period. BindView products also allow administrators to plan and implement for the various restrictions that a mixed environment imposes on Exchange 2000 deployment.

Additionally, BindView simplifies managing coexisting Windows OSs by allowing role-based administrative delegation in their Windows NT environment identical to Windows 2000 Active Directory. With *bv-Admin*, NT tasks can be delegated to administrators assigned to particular roles without compromising security. This feature allows senior administrators to securely delegate only the administrative authority needed by the junior staff and simplifies managing both environments because the management methodology is the same regardless of the operating system.

Ongoing Management Issues

BindView products continue to add value after Exchange migration is complete. Windows 2000 Active Directory can reduce the effort in administering Exchange and Windows user accounts and simplify management of large numbers of users with policy implementation. However, the new Exchange/Windows environment will be more elaborate, used in more complex ways, and used for more mission-critical operations. This complexity escalates the need for sophisticated, ongoing management capabilities to maintain high availability, performance, and security. BindView facilitates this need with health and security monitoring, administration controls, and capacity planning capabilities.

Health monitoring is done within *bv-Control*. *IntelliPACS* are prepackaged scripts that monitor Exchange and Windows services, event logs, Exchange store sizes, Exchange server response times, and performance counters against manager-defined thresholds. The scripts send alerts when certain relationships are detected. For example, when the Exchange server directory service is stopped, a console alert is generated with the highest level of severity. This feature allows administrators to discover potential problems before they impact user performance. Alerts are distributed by *IntelliPACS* through user-defined notification methods, including console alert, email, pager, network broadcast, and simple network-management protocol (SNMP) traps to other third-party management consoles.

BindView products simplify the ongoing policy administration provided by Windows 2000 Active Directory. One of the key requirements for policy-based management is the ability to analyze whether policies are effective. *bv-Control* enables administrators to gather relevant information stored in Windows 2000 Active Directory and analyze various administrative policies. One example is completing a baseline performance analysis to determine if replication policies are effective. Administrators can also access security-policy compliance with *bv-Control*. It examines password requirements, disabled accounts, and group memberships across the entire directory, allowing administrators to close security holes before a breach occurs.

bv-Control also provides capacity planning with its configuration discovery and reporting capabilities. It reports changes to Exchange and Windows configurations, processes, and Windows 2000 Active Directory administrative roles and policies. bv-Control's analysis capabilities also allow managers to determine when new resources are needed to maintain service levels. bv-Admin then allows administrators to implement changes, including creating, updating, and deleting objects such as mailboxes, public folders, and distribution lists.

Hurwitz Group's Analysis

Migration to Exchange 2000 and Windows 2000 provides IT with a host of new capabilities to support new business processes for competitive advantage. However, the increasing dependence of business operations on technology translates into new types of business risks. Availability, performance, and security of computing technology now determine business productivity, revenue stream, and customer relations. Hurwitz Group believes that BindView's products mitigate these risks for several reasons:

- ▶ **BindView products simplify and automate planning, deployment, and auditing** of the Exchange migration process, leaving little room for costly errors (see Table 1 for features discussed in this paper).
- ▶ **BindView reduces the administrative burden of managing a mixed environment** before, during, and after the migration process. This allows IT to leverage its existing staff without overloading them to the point where service levels are affected.
- ▶ **BindView provides both proactive and reactive management capabilities** to identify potential problems before they occur and quickly resolve the errors that do happen.
- ▶ **BindView products are simple to install and configure** because they do not depend on installing agent technology on all managed systems. IT can quickly adapt the management solution to any business changes brought about by new processes or acquisitions.

In addition to risk management, BindView's management tools allow IT to deliver ROO benefits to their businesses. One example documented by Hurwitz Group is IT's ability to build a business' reputation for bullet-proof services . e-Business reputation is particularly valuable for building customer relationships in today's highly competitive, online services market.

Table 1. BindView Products Address Exchange Migration Challenges

Challenges	bv-Control	bv-Admin
Migrate users to Windows 2000 and Active Directory	<ul style="list-style-type: none"> ▪ Scrubs existing Exchange/Windows NT directories 	<ul style="list-style-type: none"> - Models and implements OU structure on Windows NT for testing - Consolidates Windows NT domains + Supports migration trial runs - Supports actual migration with disaster recovery, collision handling, rollback, etc.
Migrating Exchange 5.5 objects into Active Directory	<ul style="list-style-type: none"> ▪ Scrubs existing Exchange Windows NT directories ▪ Verifies with post-migration reporting 	<ul style="list-style-type: none"> - Eliminates account duplication problems
Ensuring current configurations and security implementations	<ul style="list-style-type: none"> ▪ Analyzes and reports compliance with security policies ▪ Analyzes and reports at-risk configurations ▪ Monitors and deletes dangerous email attachments 	<ul style="list-style-type: none"> + Provides account and system reconfiguration control
Managing mixed Exchange and Windows OS environments	<ul style="list-style-type: none"> ▪ Provides single monitoring and reporting interface for entire environment 	<ul style="list-style-type: none"> - Provides single administrative control interface for entire environment + Provides secure administrative delegation in both Windows environments
Ongoing management issues	<ul style="list-style-type: none"> ▪ Provides health monitoring and alerting ▪ Analyzes and reports compliance with policies (configuration, administration, etc.) ▪ Provides capacity planning reporting 	<ul style="list-style-type: none"> - Provides configuration change control

Conclusion

Exchange 2000 brings many business benefits to the table: a scalable enterprise email system, lower ownership costs through simplified administration, a workflow tracking platform, and an e-Business infrastructure for customer service and supply-chain management. However, these benefits are tempered by two enormous tasks. The first is migrating users to two new Microsoft technologies — Windows 2000 and Exchange 2000. Second is the ongoing management effort required to maintain the more complex and integrated computing environment.

With Exchange administrators in short supply and even fewer Windows 2000 Active Directory experts, businesses need to achieve their migration and expand their management capabilities without adding more people. Hurwitz Group believes that BindView provides a solution that can simplify and automate the migration process. Automation makes migration less error prone and therefore avoids costly fixes and speeds time-to-value. The solution can also be a source of business competitive advantage through its ROO benefits. These benefits are derived from improved risk management that allows businesses to exploit the collaboration and cost reduction opportunities of e-Business. Overall, Hurwitz Group believes that BindView's experience with directory management and its easily installed and configured solutions provide a winning combination for businesses upgrading their Exchange environment.

Experience. Insight. Action.

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