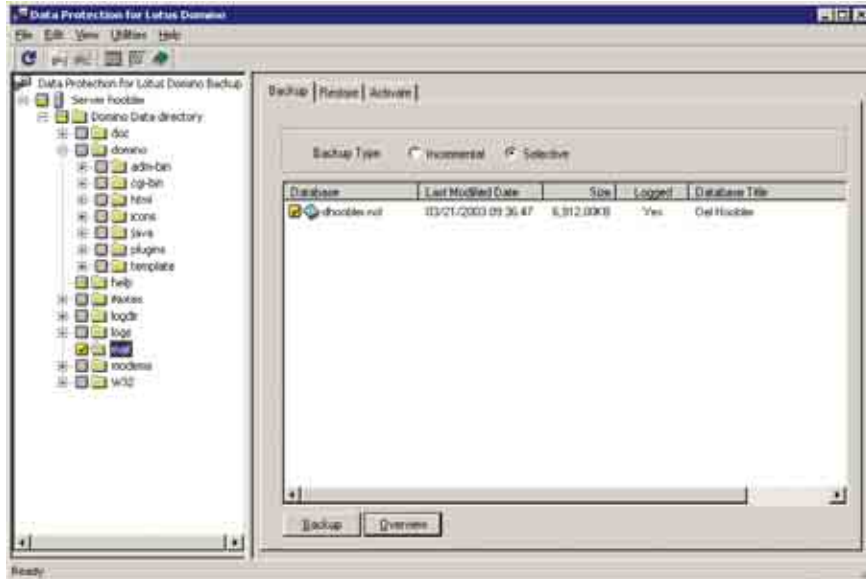


Designed to enable data protection of your mail databases while they're online



## IBM Tivoli Storage Manager for Mail



Today, an On Demand Business faces an expanding set of data-protection challenges and regulatory data-retention requirements. The 24x7 availability of mission-critical data and applications is no longer a goal—it's a business necessity. The IBM Tivoli® Storage Manager family of offerings is designed to provide centralized, automated data protection that can help reduce the risks associated with data loss while also helping reduce complexity, manage costs and address compliance with regulatory data retention requirements<sup>1</sup>.

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### Highlights

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- **Enables online hot backups**
- **Expedites backups and restores through high-performance features**
- **Offloads local area network (LAN) traffic by allowing storage area network (SAN) backups and restores**
- **Centralizes storage management with disaster-recovery support**
- **Designed to provide online data protection for IBM® Lotus® Domino® servers**
- **Supports Lotus Domino transaction-logging and incremental backup**
- **Designed to provide online data protection for Microsoft® Exchange servers**
- **Supplies a variety of backup choices for Microsoft Exchange**
- **Restores Microsoft Exchange and Lotus Domino individual mailboxes**

Tivoli Storage Manager can help protect your organization's data from failures and other errors by storing backup, archive, space management, bare-metal restore, as well as data compliance and disaster-recovery data in a hierarchy of offline storage. Because it is highly scalable, Tivoli Storage Manager can help protect computers running a variety of different operating systems, on hardware ranging from notebooks to mainframe computers and connected together through the



Internet, wide area networks (WANs), local area networks (LANs) or storage area networks (SANs). It uses Web-based management, intelligent data move-and-store techniques and comprehensive policy-based automation working together to help increase data protection and potentially decrease time and administration costs.

### **Managing inactive data in a hierarchy of storage**

Every environment has inactive data that it must manage, and, in most IT environments, inactive data makes up the bulk of gigabytes stored. In an on demand operating environment, inactive data is managed and stored in a hierarchy of lower-cost storage. This helps to lower costs as automated policies store data on the type of media that best meets that data's longevity, access speed and cost needs. You can use the hierarchy of storage to optimize the management of your data.

Using IBM TotalStorage® Open Software Family solutions built on IBM Tivoli Storage Manager software and a wide range of optional, integrated Tivoli Storage Manager modules, you can centrally manage inactive data, help protect your organization from hardware failures and other errors, and better match the value of your data to the most cost-effective storage management practices.

### **Recovery management**

Recovery management extends to protecting database and application data. An on demand business relies on valuable data that is collected in various mission-critical databases and applications across its infrastructure. The Tivoli Storage Manager family supports the online protection and recovery of a wide

variety of today's business-critical applications—databases, enterprise resource planning (ERP) systems, mail and application servers—that must remain available 24x365.

### **Designed to enable online hot backups**

IBM Tivoli Storage Manager for Mail is a software module that works with the IBM Tivoli Storage Manager client to provide online data protection for both IBM Lotus Domino and Microsoft Exchange servers. In conjunction with the Tivoli Storage Manager client software, this module interfaces through a network with a centralized Tivoli Storage Manager server and its hierarchy of low-cost storage that holds the backed-up data. By employing the application programming interfaces (APIs) provided by e-mail application vendors to enhance data protection, the module helps enable online hot

data backups and provides rapid data-restore performance. As a result, Tivoli Storage Manager for Mail can help your organization's e-mail application remain operational around the clock.

#### **Expedites backups and restores through high-performance features**

Tivoli Storage Manager for Mail supports many high-performance features, such as the use of parallel sessions to help maximize throughput of backup data and shorten the backup window. You can perform parallel sessions by running multiple simultaneous instances of Tivoli Storage Manager for Mail. Or you can schedule full backups to occur at specific intervals, such as when traffic is low. Incremental backups require fewer system resources and have less impact on application performance, so they can occur more often. Tivoli Storage Manager for Mail captures only the database changes since the last backup. And the multithreaded, multi-buffered architecture helps to increase performance.

#### **Offloads LAN traffic by allowing SAN backups and restores**

Tivoli Storage Manager for Mail can perform a backup and restore directly through the SAN instead of going through the LAN. In a SAN environment, Tivoli Storage Manager for Mail can be directly connected over the SAN to the respective storage devices, which can be tape or disk. The data is transferred over the SAN, and the metadata flows over the LAN to the Tivoli Storage Manager server. This option lets you offload the LAN from network traffic by sending the data directly through the SAN. It also helps reduce the read/write load on the centralized Tivoli Storage Manager server, because only the metadata gets processed.

#### **Designed to provide online data protection for Lotus Domino servers**

Tivoli Storage Manager for Mail can help improve backup and recovery procedures for Lotus Domino databases by providing capabilities that take advantage of the Lotus Domino backup and recovery API. This API enables you to perform full online backups of individual databases without shutting down the server. A backup or recovery is started from the Tivoli Storage Manager for Mail graphical user interface (GUI). From this point, the backup or recovery works fully automated. During a backup, the flow of data starts with reading data from the Lotus Domino server and sending it through Tivoli Storage Manager for Mail to the Tivoli Storage Manager server. During a recovery, the data is restored from the Tivoli Storage Manager Server through Tivoli Storage Manager for Mail and written back to the Lotus Domino server.

### **Centralizes storage management with disaster-recovery support**

Tivoli Storage Manager for Mail lets you leverage the efficiency of centralized storage management. So you can take advantage of the scalability, hierarchical storage management (HSM) and powerful disaster-recovery functions of Tivoli Storage Manager with the ease and convenience of a centralized location. Tivoli Storage Manager for Mail can also help you restore data, including offsite tape management—helping to minimize disruption to daily user activities. In the event of a disaster, you can leverage Tivoli Storage Manager Extended Edition to prepare and keep current a recovery plan with detailed recovery steps and computer scripts. An offsite copy of your active data can be restored to new storage devices to help get your business operating again as quickly as possible.

### **Supports Lotus Domino transaction logging**

Tivoli Storage Manager for Mail helps you exploit the transaction-logging feature of Lotus Domino, enabling you to capture just the database changes for logged databases. Updates to a logged database are recorded in the Lotus Domino server transaction log. If a recovery is necessary, the database can be restored using the last full backup—augmented by any changes to the database since the last backup, as recorded in the transaction log.

A recovery requires that logged databases and the transaction log be backed up regularly. Tivoli Storage Manager for Mail backs up both of these data objects automatically. It also supports restoration of archive transaction logs to a path other than the current transaction log. This capability can help improve performance by reducing the server impact during roll-forward

recovery of restored databases. Transaction-log support for Lotus Domino includes:

- ***Ability to archive transaction log files.*** *Allows you to back up only changes to data (rather than entire databases)—helping to minimize bandwidth use.*
- ***Ability to archive the currently filling transaction-log file.*** *Backs up the most recent changes to the databases as recorded in the currently active transaction log.*
- ***Protection against log space overflow.*** *Provides log-archive threshold functionality to help protect against a transaction log filling up the available log space on the server and to help optimize server performance by affecting transaction logging only if necessary.*

- **Online archive of transaction log files.** Enables automatic retrieval of archived transaction logs during database recovery (if necessary).
- **Point-in-time restore of archived transaction log files during database recovery.** Restores a full backup, and then applies transactions from the transaction log up to the required point in time.
- **Automatic detection of database instance ID (DBIID) changes.** Intelligently scans for changed data that might occur because of server maintenance or a scheduled compaction of data files. It then initiates a new, full backup to capture the changed data, providing the backup files needed to complete a restore.

#### **Supports Lotus Domino incremental backup**

For logged databases, changed data is archived in the Lotus Domino environment from one full backup to the next. Tivoli Storage Manager for Mail provides an incremental backup command for Lotus Domino environments that backs up only new databases that have not yet been backed up, non-logged databases that have changed since the prior backup and logged databases that need a new, full backup because the DBIID has changed. Tivoli Storage Manager for Mail also marks for expiration any database backups that have been deleted.

#### **Designed to provide online data protection for Microsoft Exchange servers**

IBM Tivoli Storage Manager for Mail uses the backup APIs provided by Microsoft to help protect your data and provide a professional, wide-ranging storage-management solution for your Exchange environment. Tivoli Storage Manager helps protect your Microsoft Exchange storage group by creating a copy of it, along with the associated transaction logs. A backup or recovery is started from the Tivoli Storage Manager for Mail GUI. From this point, the backup or recovery works fully automated. During a backup, the flow of data starts with reading data from the Exchange server and sending it through Tivoli Storage Manager for Mail to the Tivoli Storage Manager server. During a recovery the data is restored from Tivoli Storage Manager server through Tivoli Storage Manager for Mail and written back to the Exchange server.

### **Supplies a variety of backup choices for Exchange**

Tivoli Storage Manager for Mail uses Microsoft backup APIs to produce different types of backups for Microsoft Exchange.

- **Full backup.** *Backs up the specified storage group and associated transaction logs and then deletes the log files only if the backup is successful.*
- **Incremental backup.** *Backs up only the transaction logs and then deletes them only if the backup is successful.*
- **Differential backup.** *Backs up only the transaction logs but does not delete them. A cumulative incremental backup (the last full backup and the latest differential backup) contains the data needed for a complete restore.*

- **Copy backup.** *Similar to a full backup, except transaction log files are not deleted after the backup. A copy backup can be used to make a full backup without disrupting regularly scheduled backup procedures that use incremental or differential backups.*
- **Database copy backup.** *(for Microsoft Exchange 2000 and 2003 servers) Backs up only the specified database and associated transaction logs. Transaction log files are not deleted after the backup. This procedure also does not disrupt regularly scheduled backup procedures that use incremental or differential backups.*

### **Restores individual mailboxes**

Tivoli Storage Manager for Mail provides simplified mailbox restore for both Microsoft Exchange and Lotus Domino individual mailboxes. The Microsoft ExMerge utility can extract individual mailboxes, and then store them as personal folder storage (PST) files on disk. These PST files can be backed up to the Tivoli Storage Manager server and used for individual mailbox and item recovery, complementing the database and transaction-log-level backup and recovery provided by Tivoli Storage Manager for Mail. The PST files are extracted by the ExMerge utility and afterwards backed up by the Tivoli Storage Manager for Mail backup/archive client.

Tivoli Storage Manager for Mail also supports recovery of individual storage groups back into an online Exchange server. This feature helps to easily recover mailboxes, which are assembled in storage groups. Tivoli Storage Manager for Mail leverages new Microsoft Exchange 2003 backup APIs to provide this feature.

## **Benefits of IBM Tivoli Storage Manager for Mail**

### **Improved application availability**

- *Speeds recovery of databases, tablespaces or data files*
- *Includes database recovery in a comprehensive data disaster-recovery plan*

### **Enhanced storage resource utilization**

- *Designed to optimize backup granularity*
- *Integrates with volume point-in-time replication services*
- *Stores backup copies in a hierarchy of low-cost storage—the specific level chosen to optimize cost against the recovery-time objective*

### **Enhanced storage personnel productivity**

- *Creates a single point of control, administration and security for database recovery*

## **IBM Tivoli Storage Manager for Mail – Data Protection Requirements**

### **(one of the following):**

- *Microsoft Exchange*
- *Lotus Domino on IBM AIX®*
- *Lotus Domino on IBM OS/390®*
- *Lotus Domino on Sun Solaris operating environment*
- *Lotus Domino on Microsoft Windows®*
- *Lotus Domino on Linux®*

IBM Tivoli Storage Manager for Mail supports many leading vendor products. The list is dynamic and extensive. Please visit our Web site to access the most current list and additional details at:

**ibm.com**/software/tivoli/products/storage-mgr-mail/platforms.html

### **For more information**

To learn more about IBM Tivoli Storage Manager for Mail, visit:

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