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BACKING UP AND RESTORING IN A MICROSOFT® EXCHANGE ENVIRONMENT

AN ACRONIS WHITE PAPER

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This paper is intended for solution architects and storage administrators engaged in planning, deploying and protecting Microsoft Exchange environments.

Introduction

Are you running an organization where your Microsoft Exchange servers are considered mission critical? After all, Exchange is one of the most used "filing cabinets" in today's office, where meetings are scheduled, documents are shared and business is conducted. How much would you lose in productivity and revenue if even one of your servers went down? Moreover, that same "filing cabinet" has to be accessible for legal reasons, thanks to Section 802 of the Sarbanes-Oxley Act, which requires the retention of auditing information – including email – for a period of seven years.

Microsoft Exchange administrators need to know how they can protect Exchange data and recover quickly with the least amount of impact on their operations. Few organizations can afford to try to recover from an Exchange failure using an Exchange resident recovery solution. Even a highly experienced administrator, rushing through page after page of instructions, will take hours, sometimes days, to complete a recovery, creating an unacceptable business risk. Hence the existence of third-party solutions, each claiming to simplify and shorten the process. But is there really a "one-step restore" solution available? And how fast can it back up and recover lost data or restore downed email servers?

Several automated recovery and restoration solutions compete for an Exchange IT manager's attention. However, marketing claims and counterclaims confuse an organization's ability to sort out their differences. This paper is designed to help you evaluate current offerings quickly and efficiently by applying the latest standards currently available within the industry. Armed with this information, you will be better able to evaluate your options and chose a solution that works for your organization.

Executive Summary

What should you expect from third-party backup and recovery products when you need to recover a single message or mailbox, or restore from a catastrophic failure? This white paper lays out the challenges facing Exchange administrators responsible for backing up and restoring their servers. It offers functional benchmarks decision-makers can employ to evaluate vendor offerings from many points of view: speed, granularity, ease of use, and more. Here we aim to separate the wheat from the chaff.

Speed is a critical issue to Exchange server managers, for both backup and recovery

The dilemma: most Exchange backup and recovery packages force you to use two kinds of backup and recovery techniques:

- brick-level backups (slow, but necessary for recovering individual messages)
- database-level backups (fast, you need them to recover from a disaster).

There is one product that allows you to do a fast database-level backup, make the slower brick-level backup optional, and still recover individual messages with unparalleled speed: Acronis® Recovery™ for Microsoft Exchange.

The more granularity, the better

By saving details down to the individual mailbox, public folder, subfolder and message in the backup process, you have more recovery points to choose from when you need to recover lost data.

The dilemma: brick-level backups, while they offer the highest level of granularity, can take 20-30 times longer to complete than database-level backups.

Acronis changes the playing field by offering a fast database-level backup that eliminates most reasons to run parallel brick-level backups to recover individual messages. Acronis Recovery for Exchange runs fast during backup and fast on full restores. Read further for detailed timing comparisons.

Near-continuous data protection is a best practice

The dilemma: Major third-party Exchange backup products have, until recently, failed to offer viable solutions for quickly restoring an Exchange server or recovering e-mails.

The ideal solution is near-continuous data protection (NCDP), which allows you to restore a server to a point prior to failure. It comes at a much lower cost in terms of money, personnel and impact on your infrastructure. With Acronis high-performance Exchange email backup and recovery software, administrators can:

✔ recover down to an individual email in minutes

✔ restore server operation almost immediately

✔ recover to the point of failure

Managing large archives can be challenging

The dilemma: Any backup product can create a full backup, but backups can often take up a lot of disk space, fueling expensive disk storage purchases and hindering restore performance. Few Exchange backup and recovery products employ data compression, and only one offers advanced filtering to reduce the size of brick-level backups. Acronis Recovery for Microsoft Exchange addresses Exchange file bloating by offering several easy-to-configure approaches for creating efficient, secure backups.

Making Exchange administrators more effective

The dilemma: Smaller organizations may have just one experienced Exchange administrator. But what will happen if a server goes down and that person cannot be reached? A well-designed backup and recovery application can strengthen any potential 'soft' links in your recovery chain. Its user interface should be agile enough to empower even an inexperienced person to take over in an emergency and successfully restore a server. Acronis Recover for Microsoft Exchange makes this 'happy ending' scenario possible with its user-friendly wizard-based assistants and its always-clear automated Disaster Recovery Plan.
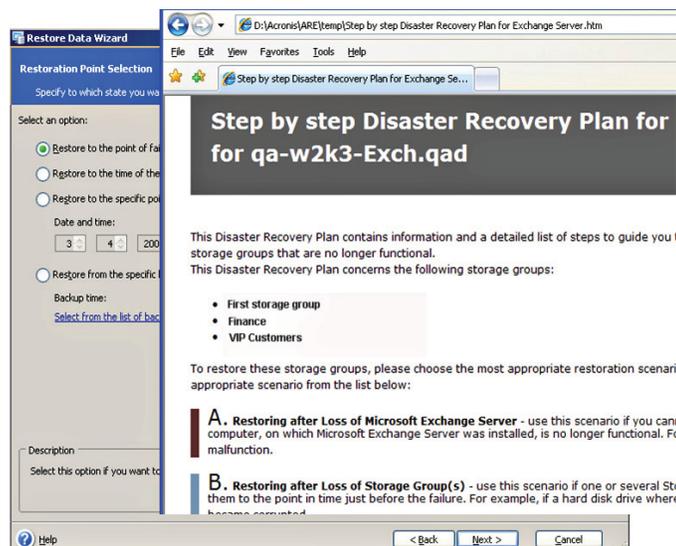
Acronis Disaster Recovery Plan

But it isn't just small organizations that benefit from Acronis' step-saving approach to Exchange management. The same tools help experienced administrators in any size organization cut the time they spend on Exchange and free them for other work.

Advantages of fast disaster recovery

Scenario: *As you go home early in the evening from your corporate headquarters in Miami, you notice a crew of HVAC contractors installing a new piece of air conditioning equipment on the roof of your building. Two hours later you get a frantic call from the VP of sales saying that email is down, the result of a power shutoff that was not cleared through IT. All of the sudden, your West Coast regional sales offices from Los Angeles to Seattle can't transmit end-of-quarter sales reports needed to create a quarterly earnings report.*

> **In the end, the only thing anybody cares about is the answer to this question: 'How fast can I recover?'**

How long can your organization afford to be without access to Microsoft Exchange email? Whether it's the kind of externally caused shutdown of service shown in the example above or an all-too-frequent internal user error, it's easy to see how a prolonged disruption can stop an organization in its tracks. Regardless of what causes a disruption, in the end, the only thing anybody cares about is the answer to this question: 'How fast can I recover?'

Using the utilities found in Microsoft Exchange itself will not allow an Exchange administrator to recover quickly from an Exchange failure. An administrator has to follow pages of instructions that can take hours at best to complete, days at worst.
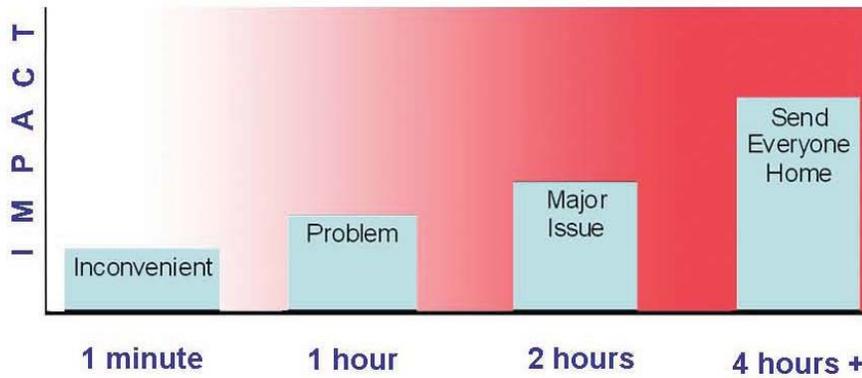
Speed of recovery is the number-one concern of any Exchange administrator, and that is why third-party products are so heavily sought after. The goal of the Exchange administrator is to obtain a tool that not only backs up data stores as efficiently and compactly as possible, but also makes it easy to recover them quickly. Such a tool has arrived on the market, as we'll see below.

Benchmarking the leading Exchange backup and recovery products

A recent Acronis benchmark study compares database backup and recovery speeds of six of the most popular data protection products for Microsoft Exchange. The study measures three types of database backups of approximately 78 GB of data: basic, compressed backup and granular. Only two companies covered in this study compete in all the categories measured because only two feature the ability to recover down to the message level from a database backup.

Basic backup results

Basic database backups are used only to restore an Exchange server. They cannot back up Exchange information with the granularity required to restore individual messages, mail boxes or folders. They require the administrator to also perform a parallel brick-level backup in order to restore individual messages without having to restore the entire Exchange server database.

Basic Database Level Backup (Uncompressed Files)

	Acronis Recovery for Microsoft Exchange	Competitor A	Competitor B	Competitor C	Competitor D	Competitor E	Status
Full backup archive size	78GB	78GB	78GB	78GB	78GB	78GB	100%
Full backup time	0:12:09	0:42:01	1:48:47	2:01:52	0:12:48	0:21:03	105%
Incremental backup time	0:04:05	0:03:37		0:08:53	0:02:21	0:01:52	46%
Restore time	0:23:02	0:25:13	1:10:54	0:18:15	0:16:14	0:53:29	70%

While Acronis performance in a basic database backup is excellent, administrators also have to contend with the high cost of network data storage. When given a choice, Acronis believes that administrators will look closely at vendors that use compression technology to shrink backup stores with an eye toward reducing the amount of top-tier storage disks required for mission-critical applications like Exchange. Only two of the six vendors tested here offer the ability to compress data, as we see below.

Basic backup results with compressed files

In this test, Acronis shows it can compress the 78 GB file store to 56% of its original size, 23% smaller than the only other competitor offering compression. When you have to do a brick-level backup as well, this backup method is usually preferable because it can be completed so quickly with only minimal increases in restore time.

Basic Database Level Backup (Compressed Files)

	Acronis Recovery for Microsoft Exchange	Competitor A	Competitor B	Competitor C	Competitor D	Competitor E	Status
Full backup archive size	43.625 GB (56%)	53.81 GB (69%)	Unsupported	Unsupported	Unsupported	Unsupported	123%
Full backup time	0:11:42	1:49:20	Unsupported	Unsupported	Unsupported	Unsupported	934%
Full restore time	0:33:02	0:27:12	Unsupported	Unsupported	Unsupported	Unsupported	82%

High-Granularity database backup results

The same two major players stand alone in their ability to carry out high-granularity Exchange database backups capable of restoring right down to the message level. This is the ideal solution for most Exchange administrators because it all but dispenses with the need to carry out brick-level backups in order to restore individual mailboxes, folders and emails.

Advanced Database Level Backup (Provide Granular Restore)

	Acronis Recovery for Microsoft Exchange	Competitor A	Competitor B	Competitor C	Competitor D	Competitor E	Status
Full backup archive size	78GB	78GB	unsupported	unsupported	unsupported	unsupported	100%
Full backup time	0:17:04	7:36:38	unsupported	unsupported	unsupported	unsupported	2676%
Full restore time	0:26:23	0:32:09	unsupported	unsupported	unsupported	unsupported	122%
Incremental backup time	0:05:27	unsupported	unsupported	unsupported	unsupported	unsupported	100%
Restore 1 mail total time	0:00:26	0:00:27	unsuported	unsupported	unsupported	unsupported	104%
Restore whole mailbox total time	1:53:07	unsupported	unsupported	unsupported	unsupported	unsupported	100%

While both products shown here are capable of doing a granular restore from a database, Acronis Recovery for Microsoft Exchange's significant backup speed advantage (it's at least 20 times faster) sets it apart. Because its backup window is relatively small, the administrator has more flexibility in setting backup times. And because it can also support incremental backups, Acronis doesn't force frequent, time-consuming full backups in order to protect data adequately.

By effectively halving your backup requirements, your organization can:
    -speed the overall backup process,
    -reduce the impact your backup regime has on server performance system resources, and
    -complete recoveries just as quickly.

*Acronis Recovery for Microsoft Exchange's
significant backup speed advantage
(it's at least 20 times faster) sets it apart.*

Further thoughts on speed

Many systems have large backup stores to manage. In that case it's nice to be able to fine-tune the backup priority from low (backup processes will run slowly, but won't affect other processes on the computer) to high (backup processes will run faster, but can slow other processes). These techniques can run automatically so the backup function is totally transparent to users, adjusting bandwidth to accommodate high email traffic at full speed, but an administrator can intervene, whenever circumstances demand, to make a temporary adjustment.

Sometimes, speed of recovery is something you'd like to adjust based on the circumstances surrounding a recovery. Few packages on the market address this issue, forcing the administrator to carry out a recovery where the data is restored onto the server at a preset speed. But in some settings, having just one throttle setting for recovery can slow down Exchange performance, impacting the normal flow of business communications over an extended period of time. If the IT manager described in the scenario at the beginning of this section was using Acronis to recover the Exchange server after a power outage, it would be possible to adjust the recovery throttle "on the fly," reducing the streaming speed so users wouldn't notice any change in overall performance.

Granular level recovery advances

> **Scenario:** *You just had an urgent call from a senior attorney in your organization's legal department. She is looking to recover a former employee's mail box. A pending court case has referred to a specific email received by that employee, and your company has been subpoenaed for that one email record as evidence to be presented in court.*

As the above scenario illustrates, granularity in the Exchange e-mail world refers to the level of detail contained in your backup. Granularity means everything when you're trying to recover mail servers, mailboxes, or individual e-mails in a hurry. Litigation discovery can be expensive and time-consuming. The more detail you save in the backup process, the more data points you can choose when you need to recover a message. Traditionally brick-level backups have offered the highest level of granularity, making individual email recoveries fast and efficient. This method provides the ability to back up and restore any Exchange data (mailboxes, emails) using full and incremental backup methods.

Granularity means everything when you're trying to recover
mail servers, mailboxes, or individual e-mails in a hurry

Brick-level backups take up a lot of space and require a lot of time to complete. But, they have the granularity required to recover individual mailboxes, emails and folders (high granularity without having to resort to a full server restoration). As a result, you're forced to run two backup processes to protect your Exchange data.

Brick-level backup advantages include:
- High restore granularity - Allows restoration of individual emails.
- Rapid restores - Users can find and restore individual emails quickly.
- The volume of data backed up can be controlled - A user is able to use filter/exceptions to reduce the overall size of the backup store.

But brick-level backups are not perfect

Given the brick-level backup's inherent granularity, it's no secret that Exchange administrators view it as a painful, but necessary exercise, taking, on average, 20-30 times as long as a simple database backup to complete. In large organizations where tens of gigabytes have to be protected, a full-granularity brick-level backup can take hours, during which time the Exchange server might have to be taken offline. Moreover, brick-level backups tend to take up a lot more storage space than the data they're protecting. For instance, if a user sends a 1 MB email to 20 people, the store will only increase by a little more than 1 MB, but a brick-level backup will separately back up each instance of the email, creating a 20MB backup for that one message. Some organizations try to cut the backup window down to size by limiting the granularity of their backup, but this can backfire if a recovery requires more detail than the backup captures. Other Brick-level backup disadvantages include:

- extremely Slow Backup Performance. Brick-level backups can take hours, potentially impacting productivity if the server has to be taken offline.
- brick-level backups don't back up mailboxes and folders. You need to do a separate mailbox or folder backup to capture them.

On the other hand, database backups are small and fast, and are the only way to carry out a ground-up rebuild of a server. Traditionally they haven't been able to back up individual messages (no granularity). Rather, they provided only storage group-level (the entire database) backups, although some programs attempt to improve on database granularity by providing the ability to back up databases and transaction logs separately.

However, by backing them up separately, recovering individual messages is a hit-or-miss proposition. Finally, however, the parallel database/brick-level backup requirement that has characterized Exchange server administration is changing for the better.

Breaking the Exchange backup dilemma

A new database backup technology makes it possible for Exchange users to restore individual mailboxes, folders and emails. In one step it simplifies administration and eliminates much of the system overhead once associated with backing up and restoring Exchange environments. It enhances existing database-level backup technology to offer the high granularity previously associated only with brick-level backups. Now one backup, not two, will cover an Exchange administrator's need to recover messages, mailboxes and folders, and prepare for any disaster recovery situation. Administrators can finally have the best of both worlds: the unmatched backup speed of Acronis database-level backups and the rapid individual message restore speed of brick-level backups, all from a single database backup.

Moreover, Acronis Recovery for Exchange captures mail boxes and folders during database-level backups, so it's no longer necessary to carry out separate mailbox backups.

Backing up while online boosts productivity

> **Scenario:** *It's midnight, and a Gulf Coast county government data center is facing down the first big tropical storm of the hurricane season. Outside the wind and rain is whipping through the palm trees, while inside, hundreds of emails are flying through your Exchange server among county, state and federal agencies. Many of these emails contain urgent instructions that the county must implement in case a disaster is declared. But it's also time for an automated, scheduled backup of the mail server. Can you back up your Exchange server without interrupting users?*

Taking an Exchange server offline for any reason creates two possible scenarios, neither of which is acceptable to most users.

- In a 24/7 environment, where email is active all the time from around the world, you must choose when to shut off the normal flow of business transactions that take place in Exchange.
- In a 9 – 5 environment you can't back up until the day is done. Any messages generated after the evening backup won't be if there if is a failure during the day.

It is no longer necessary to turn an Exchange server "off" in order to back it up, but several popular products still use this approach. While offline backups might work for a company that operates across a few time zones, the available backup window will shrink for any organization whose business has a global scope. When that happens, there is less time to complete a multi-hour backup and still bring the server online for the beginning of next day's business.

The Acronis backup scheme for Exchange takes an image of production Exchange databases and transaction logs while users continue to send and receive emails. The first step is to back up the database. The database files will be locked during backup and all the message changes that occur during backup will be written to the transaction log. Those changes are then are backed up from the transactions log to complete the backup process.

Leveraging near-continuous data protection (NCDP) to improve your Recovery Time Objective

Scenario: *You just read an email from your organization's COO asking for a plan to give the organization's email infrastructure a performance makeover. Among the words swimming across the page is Continuous Data Protection, and that's what he wants to see in the revitalized plan he expects to see on his desk in five days. You know CDP is a new technology in the Windows world, used in very few cases because it's costly, difficult to implement, and requires significant resources to administer. "Is this my only option,?" you ask yourself.*

How long can you afford to be without your Microsoft Exchange server? For most users, suffering through more than a few minutes of server downtime can threaten business functions. But Recovery Time Objectives (RTO)for some organizations measure in seconds and Recovery Point Objectives (RPO) measure in just a few emails. How can you limit downtime to meet those objectives?

Not long ago, it was necessary for a failed Exchange server to undergo a complete database restore before it could be returned to service, and this could take hours. Administrators have sought a way to recover from a system failure much more quickly so most users won't notice an outage. Recovery products that don't allow automated dial tone recovery or quick access to databases can create downtime situations that can be unacceptable from a business continuity point of view. As a result, the concept of *continuous data protection* (CDP) is a hot topic these days, and some Exchange users wonder whether it can be adapted for use in the Exchange environment.

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CDP is defined as real-time capture of every block-level write or file-level write operation. Theoretically CDP allows users to roll back to any point in time (APIT) if they need to recover information. Attractive as it may seem, Exchange users who would like to use CDP for their Exchange servers to achieve their RTO objectives will soon find:

- **There is no sense in applying CDP to Exchange**, since Exchange does not support true CDP. Even if a product could provide CDP for Exchange by backing up all changes in the transaction log, the product would add a substantial load to the system without providing any benefits.

- **CDP is very costly**, requiring the purchase of an identical server and high-speed communications running concurrently and in parallel with your existing server infrastructure. Prices associated with this can run from tens of thousands to hundreds of thousands of dollars in some cases, restricting its use only to a few deeply critical applications where, for example, thousands of financial transactions a second take place.

- **Finally, *it requires a significant personnel investment*** in training and staffing to implement and run, beyond the means of many organizations.

While email is a mission-critical application, the very slight chance of losing a maximum of a few emails is unlikely to negatively impact the company's operations. *Near continuous data protection* provides a valid solution bringing your organization very close to continuous coverage.

Acronis Recovery for Microsoft Exchange is an excellent example of a NCDP in action. It is reasonably priced, allows exceptionally fast recoveries, and provides a highly manageable solution for your Exchange data protection needs. With it:

- *Users won't have to wait for a full recovery of the database before they can begin to send and receive new email.* Full Exchange functionality can be restored in seconds for users via a Dial Tone recovery feature.

- *The administrator can adjust the speed of database restoration* with throttle bandwidth and CPU speed adjustment features, ensuring that live email activity will not be slowed by CPU activity used to restore the database.

# Shrinking large archives to reduce disk storage

Scenario: *Not a month after ordering several high-performance network disk drives to support your growing Exchange environment, you notice that an increasing flood of emails across the enterprise has already filled the new drives to 70% of capacity and that you're running even higher capacity levels across the rest of your disks. Can you really afford to continually "throw" disk drives at your burgeoning data store?*

Any backup product can create a full backup, but few offer the technology or the flexibility to save significant disk space and cost. Few backup products employ data compression, meaning backups can use significant disk resources. Customizable compression rates help control the amount of data that is stored and transferred, leading to direct cost savings in infrastructure costs and labor. With some data, an advanced compression algorithm can reduce an information store to about 10% of its original size.

Compression pays major dividends in recoveries because it speeds access to Exchange mail boxes and messages. In the case of Acronis Recovery, you can choose one of the following compression levels for a backup archive:

> **None** - the data will be copied without any compression
> **Normal** - the recommended data compression level (set by default)
> **High** - higher archive compression level
> **Maximum** - maximum backup archive compression
> **Ultimate** – ultimate level of compression

Having the freedom to choose compression levels lets administrators balance the need for rapid backups with the need to limit the amount of disk resources that are committed to Exchange. This is critical to administrators, who know that infrastructure costs of enterprise-class storage already rank as the single biggest expense within an IT environment.
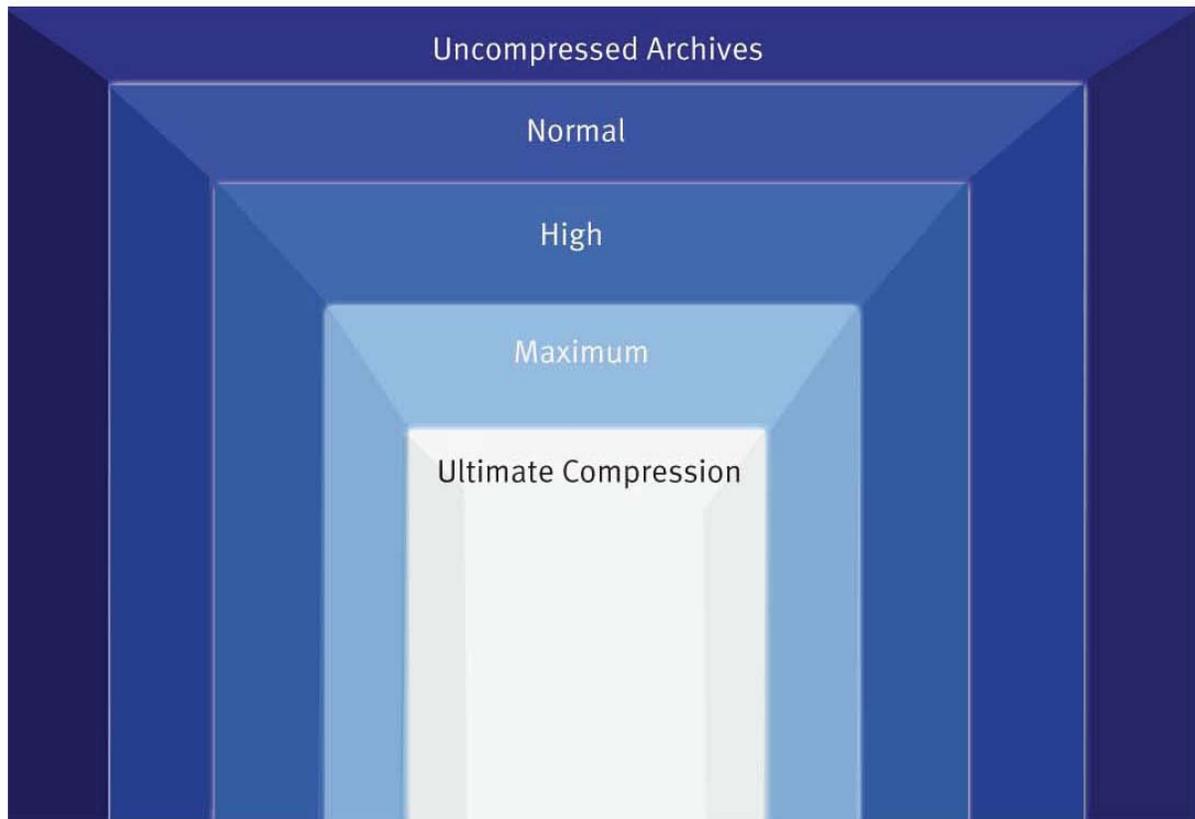
Most users will initially select the "Normal" compression level because it backs up nearly as quickly as uncompressed files while saving significant amounts of disk space. "Ultimate" creates the highest compression levels available to Exchange administrators, with up to a 90% reduction possible on files without graphic content.

As an adjunct to compression, filtering is a critical feature for brick-level backups because it offers a way to reduce archive sizes to more manageable levels. In some organizations, media data take up to 98% of the total archive's space. Along with data store-shrinking techniques like SPAM exclusion, or excluding deleted items and sent items, Acronis Recovery for Exchange also allows attachments to be excluded, based on file extension or size.

Simplifying disaster recovery

> **Scenario:** *It's 12:40 in the afternoon at a world-wide laboratory supply company headquartered west of Boston, and most of the IT staff is out to lunch. Sales has just put the finishing touches on a request for proposal for a $12 million laboratory build out at a pharmaceutical company in Stuttgart, Germany, due by email in just 20 minutes. At that moment an Exchange server failure brings the email function down. A frantic call goes out to the help desk, which tries, unsuccessfully, to reach the Exchange administrator. The only person left to help out is…you. And you've never attempted an Exchange recovery before.*

All backup and recovery/restore products make a point of highlighting their advanced user interfaces, but whether a GUI is advanced or not depends on the perspective of the administrator who has to step in when a crisis looms. Staff responsible for backup and recovery in large Exchange environments might know how to recover an Exchange database, but in smaller organizations the Exchange administrator could be the only person trained to recover in the face of a failure. What if that person is on vacation, out of the office or unreachable?

Inexperienced administrators present a potential weak link in any organization's backup and recovery plans, but most Exchange backup and recovery products fail to account for this. A less-than-knowledgeable administrator may struggle to exercise his or her memory of the steps required to recover a server while the help desk phone is ringing off the hook. But if a clear, easily followed plan is delivered directly to the administrator, the likelihood of a quick restoration of email service climbs dramatically.

Without prompting, the system should create and deliver Disaster Recovery Plans with step-by-step instructions for recovering databases. Only two backup and recovery solutions refer to this capability in their literature, but only Acronis has been proven to deliver it. In the case of our inexperienced Exchange administrator at the laboratory supply company, email functionality is restored in minutes by following simple instructions leading to a one-step restore. Good news: the proposal is delivered to Germany with time to spare.

*An ideal backup and restore solution
will blaze a path to an Exchange
recovery that anyone can follow.*

Guided processes for recovery and restoration can be established in advance with a wizard-driven system designed to ensure that staff members are able to restore databases quickly. The Acronis Backup Strategy Assistant, with its intuitive GUI, sets the stage by assisting in the creation and implementation of a backup strategy, even if the user lacks Exchange administration experience. The same interface also provides advanced tools that help Exchange experts customize data protection in just a few steps.

Finally a word about personnel allocation. When the recovery process is simplified, your Exchange server will demand less regular attention from your staff. Your technicians can concentrate on proactive projects and less time doing repetitive tasks that some backup and recovery products demand. It also inspires and builds personnel confidence, allowing less experienced (and less expensive) personnel to operate it on a day-to-day basis without giving up any of the backup and recovery functionality or performance of which the Acronis solution is capable.

Conclusion

Any challenge you face, whether man-made or from nature, can be handled with confidence only after you have planned and implemented a proven Exchange recovery process. If your organization already has a disaster recovery plan based on Acronis disk imaging products, you will find that Exchange Recovery for Microsoft Exchange integrates into it seamlessly. Now you can restore emails, folders and mailboxes, or recover Exchange servers, as easily as you already recover other kinds of data.

Organizations have long been resigned to a complicated, but unavoidable routine of running parallel brick-level and database-level Exchange backups. But with the advent of highly granular database backup technologies, like those found in Acronis Recovery for Microsoft Exchange, most users can dispense with slow, disk-gobbling brick-level backups altogether. Instead they can depend exclusively on database backups, which will reduce disk drive dependence significantly. The bottom-line benefits of this new approach are far-reaching. Combining them with Acronis' class-leading backup speeds will help secure your Exchange environment as never before.

Glossary

Brick-level backup - Backup of the entire Exchange Information Store done through a MAPI (Messaging Application Programming Interface) client.

Continuous Data Protection (CDP) - is defined as real-time capture of every block-level write or file-level write operation. Theoretically CDP allows users to roll back to any point in time (APIT) if they need to recover information.

Database-level backup - A backup of the entire Exchange information store.

Granularity - In Exchange, this refers to the ability to back up and restore Exchange documents down to the individual mailbox, folder and message.

Near Continuous Data Protection (NCDP) (NCDP) Acronis Recovery for Microsoft Exchange (ARME) enables the most complete recoveries among Exchange backup and recovery products, to the point prior to failure. ARME refers to this capability as near Continuous Data Protection (Near CDP). Technically speaking, true CDP is not possible in the Exchange, environment because Exchange cannot store the newest four megabytes of transactional log data that would be required to permit continuous data protection (CDP). Acronis' implementation of Near CDP secures the safety of your Exchange data, making it highly unlikely that even a single message will be lost.

Recovery Point Objective (RPO) is the maximum acceptable level of data loss following an unplanned "event", like a disaster (natural or man-made), act of crime or terrorism, or any other business or technical disruption that could cause such data loss. The RPO represents the point in time, prior to such an event or incident, to which lost data can be recovered (given the most recent backup copy of the data). **(courtesy Wikibon.org)**

Recovery Time Objective (RTO) is the maximum amount of Exchange downtime your organization can tolerate without suffering temporary or irreversible loss of data or revenue.

Information store - The information store is the core data storage repository for the Microsoft Exchange Server. Microsoft Exchange service manages access to databases, called stores, for user messages and public folder contents. In minutes, Acronis Recovery for Microsoft Exchange captures an image of the information store that is needed to back up and restore an Exchange server. Traditionally, brick-level backups have offered the highest level of granularity, but Acronis Recovery for Microsoft Exchange offers high-granularity recoveries from database backups, too.