EMC 15 MINUTE GUIDE TO SMARTER BACKUP

Trust Your Future

15 MINUTE GUIDE

EMC²

OVERVIEW

Backup and recovery has become an essential element of data protection. Information is useless if customers, employees, or business partners can't access it when needed. Availability and integrity of information, or the lack of it, can directly impact revenues and profits – and company reputations.

Backup is critical for ensuring recovery of essential information in the case of corruption, data loss or disaster. More than that, how you back up—the people, process, and infrastructure you have in place—can affect key business initiatives. It can accelerate, or decelerate, the pace at which you roll out new applications or extend virtualization across your organization, and it can improve or hinder product development cycles, global expansion efforts, and customer service.

Those responsible for backup and recovery have the following key objectives:

- Scalable Recovery - ensure data is protected and recoverable to service level agreements (SLAs)
- Lower Cost - reduce backup infrastructure costs and resource drain
- Reduce Complexity - simplify backup management and processes to increase business agility

TODAY'S CHALLENGES

Meeting these backup and recovery objectives is a significant challenge. For many organizations, backup is broken. An expanding set of applications, shrinking recovery times, and heightened sensitivity to data loss, as well as new business environments, continually pressure IT organizations. Most are realizing that traditional backup and recovery architectures, which are based on tape-based workflows, can no longer meet objectives.

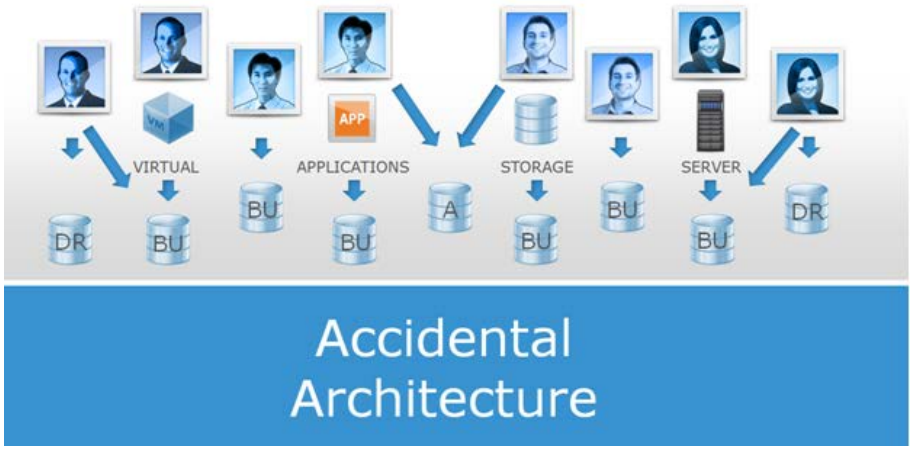
Challenges of traditional backup include:

- Slow recoveries – whether onsite from tape or from offsite via truck
- Unreliable recoveries – no assurance of completeness or accuracy
- Inefficient – provides no capabilities to reduce media required
- High effort – significant manual intervention to administer most tape-related processes
- High risk—losing unencrypted tapes during transportation to and from offsite locations

ACCIDENTAL ARCHITECTURES

Given these backup and recovery challenges, data source vendors – that is, application, hypervisor, and storage vendors – have taken action in a way that's completely transformed the industry. They're building backup tools (eg, VMware vSphere Data Protection, array snapshots, Oracle RMAN) and optimization (eg, VMware's Changed Block Tracking, Oracle's Block Change Tracking) directly into their products

But with such rapid change and easily obtained options, many organizations have fallen into the chaos of an ad-hoc backup approach. The application, virtualization and storage teams, dissatisfied with traditional backup, use the native point products now available to them. This results in protection silos and an accidental backup architecture. It's accidental because no one would intentionally plan for a half-dozen unconnected protection tools with no central oversight and no cost controls. Accidental architectures increase cost, complexity and risk as your data protection environment scales.



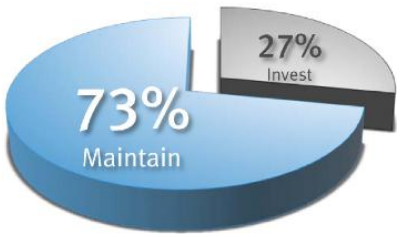
Further destabilizing today's situation are three big trends that are irreversibly changing how organizations must think about backup and recovery.

TREND #1: MASSIVE DATA GROWTH

Data is exploding with a forecasted 50x growth this decade. Since backup creates copies of important data, backup storage requirements using traditional approaches can consume 5-10x more capacity than the primary storage that's being protected. IT budgets and data center power, cooling and floor space simply cannot handle this type of data growth.

Source: 2011 IDC Digital Universe Study

Studies have also shown that backup success is only 80 percent and recovery success only 70 percent. Continued massive data growth makes it even more difficult to meet SLAs, as well as more costly. Today's traditional and accidental architectures can't keep up.



Source: Forrester Research, Inc., IT Budget Allocations: Planning For 2011, December 3, 2010

TREND #2: IT BUDGET DILEMMA

IT organizations are spending 73% (Forrester) of budgets to maintain existing legacy infrastructure and applications. But they want more of it to be spent on investment for the future.

Traditional backup and recovery derails that goal. It has become too complicated – with operating costs accounting for 58% of data protection expenses. Tape-based backup solutions are particularly costly to maintain – requiring specialized staff for media management, storage and shipping.

A recent report of organizations found that new data centers are being designed and built smaller but will support 300% more workloads. Traditional backup and recovery cannot support this trend – it requires more data center footprint and requires more administration.

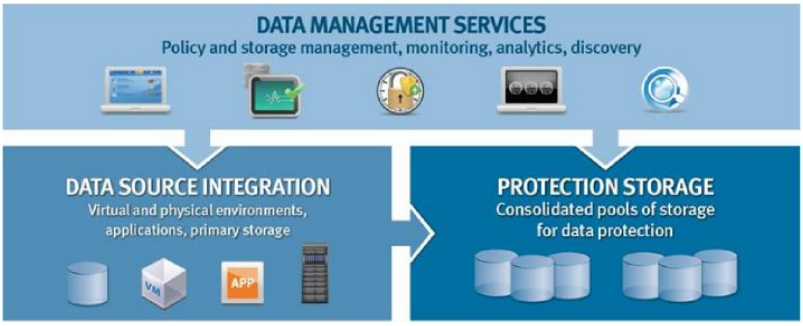
TREND #3: VIRTUALIZATION AND THE CLOUD

Simply put, traditional backup will slow down your IT transformation efforts. Virtual servers have long ago passed physical servers for running applications. But concerns with backup of virtual environments remain and often stall cloud projects. In one survey, nearly 9 out of 10 respondents identified protection of their virtual environment as a top concern.

Not only this, but end-user expectations have changed dramatically over the past decade. IT used to be an intimidating "black box" and end users accepted whatever limitations IT departments imposed. But all that's changed. End users today are savvy. They understand what's available in the consumer space and what's possible with the right IT infrastructure. They understand the transformative benefits IT can have on their businesses. This means the bar is a lot higher, for IT in general, and backup and recovery in particular.

THE ANSWER: PROTECTION STORAGE ARCHITECTURE

Given the challenges traditional backup and accidental architectures pose to protection objectives and transformation efforts – what can be done? Organizations need a smarter backup and recovery approach – one that will transform backup itself. They need a protection storage architecture.



Protection Storage Architecture

What is a protection storage architecture? It's a blueprint to guide the transformation of data protection to a clean, centralized protection service. It provides the backup team a way to solve immediate challenges while delivering a platform that can evolve with business and technical requirements. However, each organization's blueprint will be unique to its business. Understanding the role of the core components of the protection storage architecture will ensure a game-changing journey.

PROTECTION STORAGE

This is the anchor of the architecture; storage built for protection. It is cost-optimized, highly durable storage that can be used for integrated data protection (i.e., disaster recovery, backup and archive). To avoid creating silos of protection storage, the platform must support multiple protocols (e.g., VTL, NAS, OST and deduplication) and integrate with multiple data sources (e.g., applications, hypervisors, storage and backup applications).

DATA SOURCE INTEGRATION

Customers want two things from their data protection team—performance and visibility. Done right, data source integration enables both. The protection storage architecture leverages both the optimized data flows and user interfaces of the data sources: hypervisor, application, and storage. The data sources deliver optimized protection performance because they can track the data as it changes (e.g., VMware Changed Block Tracking, array snapshots) versus trying to figure out what changed after the fact like traditional backup agents do. The user interface (e.g., VMware, vSphere®, Oracle RMAN, EMC Unisphere™) displays protection status in that team's preferred native interface.

DATA MANAGEMENT SERVICES

Just what types of services should be offered? Senior management wants to ensure data protection meets SLAs and compliance regulations as cost-effectively as possible. They need analytics and reports for compliance, policy and infrastructure utilization. Customers want to be able to retrieve any version of any information, easily and quickly.

SMARTER BACKUP. TRUST YOUR FUTURE.

EMC backup and recovery is smarter backup. It consists of best of breed, integrated protection storage and software designed to meet your backup and recovery objectives – now and in the future. With EMC market-leading protection storage, deep data source integration and feature-rich data management services, you can deploy an open, modular protection storage architecture that combats accidental architectures and allows you to scale while lowering cost and complexity.

INCREASE SCALE

EMC is the backup industry's performance and scale leader. You'll reduce backup times by 90%, and our protection storage ensures fast, reliable recoveries. Advanced integration with VMware speeds recoveries by 30 times – even delivers instant VM access. Smart replication moves only the data needed for efficient and fast DR protection – eliminating the need for tapes and trucks. And our protection storage systems are up to 27x more scalable than the nearest competitor, so you'll stay well ahead of the data growth avalanche.

REDUCE COST

Integration makes it easy to deploy and manage EMC backup, while deduplication reduces the amount of storage and bandwidth required for onsite and offsite protection. In all, customers see an average 7 month payback, 10-30x reduction in backup storage required, up to 99% reduction in required bandwidth and an up to 81% reduction in time spent on backup administration.

LOWER COMPLEXITY

EMC backup simplifies so you can go faster. End users get the visibility they need via their preferred interfaces and the backup team gets the infrastructure control they need while eliminating routine tasks. This prevents end-users from creating protection silos, which creates complexity. It also provides backup teams with consolidated infrastructure and views essential for better management. With fewer moving parts and a central service for backup, you'll speed your organization's virtualization, application roll-outs, and business expansion – while risk decreases.

GETTING STARTED

Within this section, you will learn how EMC backup and recovery solutions can transform your backup. There's many ways to start, and not everyone is in the same place. You might choose to address a particular area of backup pain first or take an end-to-end backup redesign approach. Whatever your situation, EMC's adaptive portfolio, professional services and documented best practices provides the right solution for your situation.

Tape Replacement for Backup and DR

Many organizations continue to depend on traditional tape technology to execute regular backup and recovery processing. This is inefficient, labor intensive and threatens recovery objectives. The best way to address these challenges is by replacing tape with disk-based protection storage.

Protection storage, like EMC Data Domain deduplication storage systems and EMC Avamar systems, allow for the cost-effective elimination of tape for operational recovery and DR.

Through deduplication, EMC protection storage reduces the amount of capacity

GMAC-RF

"We benefit from not having to go to tape to retrieve data. With the Data Domain systems, the restore process now takes minutes instead of the hours it used to take to recall and load the tapes. We no longer have the problems that we were experiencing and it works like a dream."

needed for backup by an average of 10 to 30-times, making disk a cost-effective alternative to tape and enabling you to retain data online and onsite for longer retention periods and provides much faster recovery.

Data Domain systems are qualified with all leading backup applications. They support CIFS, NFS and file-based NAS utilizing NDMP as well as standard host-based backup using Fibre Channel – including support for IBM i environments. They also offer customized and direct integrations with backup and enterprise applications for faster, more efficient backup.

Recoveries will also become more reliable. EMC protection storage verifies the data inline as it's ingested as well as upon recovery – confirming it's both readable and correct. Continuous fault detection and self-healing ensures backups remain recoverable throughout their lifecycle.

Data Domain systems are up to 27x more scalable than their closest competitor. This simplifies management as your environment grows and protection needs change.

DISASTER RECOVERY

Many companies would like to replicate data for efficient off-site DR, but have bandwidth constraints or face too many complexities to replicate distributed data. So they still rely on trucks to move DR copies offsite, which creates the risk of losing them, long waits for bringing tape back from an offsite location— and if the tape media fails, so does the restore. EMC protection storage provides network-efficient replication, which enables replacing tape as a medium for DR.

Network-efficient replication transfers only unique and compressed data across any IP network, requiring a fraction of the bandwidth, time, and cost, compared to traditional replication methods. This will enable you to reduce the bandwidth required for replication by up to 99% so you can move that data quickly to a secondary location for the fastest time-to-DR readiness. And you can choose the replication method that best matches your application recovery requirements and DR policies with the industry's most flexible replication options.

Tape Replacement for Backup and Disaster Recovery Summary

- Speed backup times with the industry's protection storage performance and scale leader
- Reduce backup storage by 10-30 times and eliminate tape
- Industry-leading scale – up to 27 times more scale within a single system
- Replicate cost-effectively for smarter DR with up to 99% bandwidth efficiency
- Recover reliably with continuous fault detection and self-healing

Tape Replacement for Mainframe Tape Processing

Originally architected into mainframe storage processing as a lower cost tier of storage, tape is now creating challenges.

Today's mainframe environments face demand for better service level agreements (SLAs), shorter backup and restore operations, and less complex and costly tape management processes. There is zero tolerance for lost or damaged physical tape. Further, the two traditional major uses of tape on the mainframe, hierarchical storage management (HSM) and online transaction processing (OLTP), need better performance than tape can provide.

The EMC® Disk Library for mainframe (DLm) is a disk-based system that delivers industry-leading scalability, performance and availability for mainframe tape operations and applications. Disk Library for mainframe combines RAID 6 protected disk storage, hot-standby disks, tape emulation, hardware compression and EMC storage choices to meet all mainframe tape requirements. When combined with the declining cost of storing data on disk due to deduplication, it's easy to see why tape replacement for the mainframe has arrived.

Tape Replacement for Mainframe Summary:

- Eliminate costs associated with traditional tape handling
- Faster batch, backup and HSM recalls
- High reliability architecture ensures multi-site data availability
- Helps consolidate backup and archive requirements
- Reduce overall storage requirements with industry-leading deduplication

Backup for Virtual Environments

IT administrators face many challenges as their virtual environments grow, one of which is backup. While virtualization technology optimizes the use of physical server resources, traditional backup can introduce inefficiency, complexity and cost. This could in turn stall virtualization projects and slow down your IT transformation efforts.

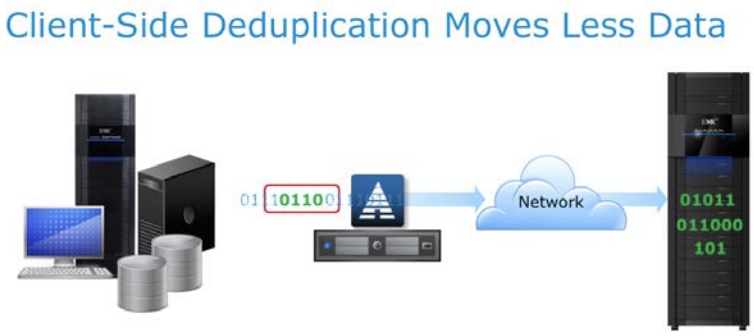
Traditional backup solutions require a rotational schedule of full and incremental backups that move a significant amount of redundant data week over week. Because of the unnecessary data movement, backup windows often roll into production hours, constrain the network, and result in unnecessary storage under management. In virtualized environments, server consolidation can mean overlapping backup windows and heavy impact on hardware resources – bringing backups to a crawl. This can stall virtualization projects – or put data at risk because it is not properly backed up, making recovery uncertain.

EMC Avamar breaks through these barriers, dramatically speeding VMware backups by reducing the amount of data that needs to be backed up and moved across the network. Avamar reduces VMware backup times by 90%. This means lower capital and operational costs today and greater scale and agility for tomorrow.

Click picture to watch video

PURDUE PHARMA

"Optimized backup for VMware... Avamar does it unbelievably well."



Further, because Avamar is integrated with the vStorage API – and leverages VMware Changed Block Tracking (CBT) – organizations can back up large VMs in just minutes, for even greater efficiency. Avamar can load balance jobs across virtual proxy servers. This lessens the backup processing load and speeds up backups even more. In fact, Avamar is three times faster than any other solution on the market today.

And you can use Avamar's integration with Data Domain Boost software to selectively send Oracle, Microsoft SQL, SharePoint, Exchange and VMware image backups to a Data Domain system. With this integration, you can choose the best approach by workload but with the efficiency and simplicity of Avamar managing it all.

But backup is only one side of the equation, and recovery is the other. Avamar is the only enterprise solution with Changed Block Tracking for recovery. With this approach, only the needed blocks are recovered, not an entire VMware image. This means organizations benefit not just from faster backups but also the industry's fastest restores – up to 30 times faster. The latest industry benchmark show specific backup and recovery of Avamar versus the competition. Plus, all Avamar recoveries are a single step, further simplifying and speeding the recovery process.

But there's more. When VMware image backups are stored on a Data Domain system, you can recover through VM Instant Access. This means you can boot a VM right on the Data Domain system and be running in two minutes. Then, while the VM is running, simply use Storage vMotion to move the VM from the Data Domain system to your production storage.

Backup for Virtual Environments Summary:

- Reduce VMware backup times by up to 90%
- Speed recoveries by 30 times – or recover through VM Instant Access
- One-step VMware recovery
- Reduce backup storage by 10-30 times

BROWN UNIVERSITY

"Thanks to Data Domain, backup performance has been significantly enhanced, while data storage requirements have been reduced by 96 percent…The DBAs have control of their backups and they are very happy with that."

Backup for Enterprise Applications

If application teams lack confidence in data protection, they will slow down. In one survey, 77% said they are not fully confident they can recover in the event of a disaster. To get the needed protection, application teams will seek out native tools – like Oracle RMAN – or use point solutions. But this results in protection silos and an accidental architecture.

EMC backup and recovery solutions integrate with leading enterprise applications to deliver the trust needed to combat accidental architectures. Our application integration is end-to-end, via our protection storage and software. This unique approach optimizes data movement to increase performance and provides application owners control and visibility into backup and recovery via their preferred interfaces.

Oracle

We are the first and only vendor to offer DBAs complete control of backup, recovery and replication for Oracle with EMC Data Domain Boost for Oracle RMAN. DD Boost distributes part of the deduplication process to the Oracle server, so only unique data is sent from the Oracle server to the Data Domain system, and gives RMAN control of the Data Domain replication process.

This provides the flexibility to give the backup team or DBAs control of Oracle backup. But in either case, EMC protection storage stores all the Oracle backup data. And with our protection software, you can get a hybrid approach. It enables DBAs to control backup and recovery but the backup team synchronizes catalogs, sets policies, ensures replication for DR. Our protection software also supports Oracle Block Changed Tracking to minimize backup impact on the Oracle server, and is yet another example how EMC data source integration delivers game-changing benefits.

Click picture to watch video

SAP & Sybase

Backup can never be too fast. Not only do we provide the industry's fastest performance, our protection software can send SAP data directly to disk-based protection storage (like Data Domain). This Client Direct approach eliminates time-consuming routes through backup servers, reducing SAP backup and recovery times - as well as reducing bandwidth consumption and infrastructure costs. For even greater simplicity, through any web-browser on any device, backup administrators can schedule and configure SAP backups, including event-based backups. For SAP HANA, you can backup directly to a Data Domain system via NFS for reliable, cost-effective protection.

Microsoft SQL, Exchange and SharePoint

Our smarter backup delivers fast and efficient Microsoft application protection. Auto-discovery and auto-configuration via our protection software saves time and ensures protection of all critical data. Integration with SQL Server Management Studio enables DBAs to set backup preferences within a familiar interface. Support for SQL AlwaysOn Availabilty Groups means backups can be from a non-production copy, maximizing availability, and granular SQL restore capability supercharges recoveries. Our Exchange Database Availability Group (DAG) federated backup tracks database movement and keeps them protected automatically, while fast, flexible mailbox, folder or message level restore keeps end-users productive and happy. For SharePoint, a complete backup of the farm via our integration with VSS enables flexible recovery of the entire SharePoint farm, servers in the farm, search and content databases, or granular content like files.

Backup for Enterprise Applications Summary:

- Transform backup with unique application integration that boosts performance and delivers end-user backup visibility and control
- Provide Oracles DBAs complete control of backup, recovery and replication while backup teams maintain control of infrastructure
- Supercharge SAP backups with Client Direct approach that eliminates routes through backup servers
- Keep Microsoft SQL, Exchange and SharePoint efficiently protected and available with key functionality support, deep integration and automation

Backup for File Data

Data in the enterprise will grow by 650% before 2017, and 80 percent of this will be unstructured (IDC). Most of this unstructured data – like user data in workgroup directories, application data on file shares and object stores, and log, sensor and internet data – will be on IT controlled storage. This will place tremendous strain on traditional backup and recovery approaches, budgets and SLAs.

We offer innovative approaches to protect file data with speed and efficiency.

Avamar delivers an industry-leading solution for protecting unstructured file data that resides on NAS systems. Avamar NDMP Accelerator provides fast, daily full backups for EMC Isilon, VNX/VNXe, Celerra and NetApp systems via existing network links and without the need for a dedicated, high-speed NDMP backup network. With it, a level-0 backup is performed only once, during the initial full backup. Subsequent daily full backups are achieved by requesting only level-1 incremental dumps. Avamar eliminates backup bottlenecks and provides the freedom to consolidate storage and optimize NAS systems—without limiting files or volumes due to backup limits. And integration with EMC protection storage enables backup data to be efficiently retained on disk for extended periods for fast, reliable recovery when needed.

For block-based storage, EMC NetWorker provides 25x faster backup of Microsoft Windows file systems than the nearest competitor. This block-based backup speeds the protection of high-density file systems or very large files that incur only very minor and infrequent changes. Tightly integrated with Microsoft's VSS framework, NetWorker takes an image-based backup at the volume level, rather than walking the entire file system. Using block-level change detection, incremental backups enable fast performance with minimal impact. Recovery is fast, easy, and granular. There is no index created in this workflow. Because an index is not required, disk space requirements are lower and recovery is much faster.

PECHANGA RESORT & CASINO
"With the Avamar NDMP Accelerator node, we cut our time to back up 1.2 terabytes of our NAS file shares from 10-12 hours to about 25 minutes. NAS backups used to take so long; we had to choose which files to back up each night. We now get daily full backups of all of our file systems.""

Backup for Unstructured File Data Summary:

- Avamar NDMP backup speeds NAS backups, eliminating recurring level-0 dumps that can take days
- NetWorker delivers 25x faster backup of Windows files systems in SAN environments
- Both approaches reduce backup storage required for files by 10-30 time and time to manage backup by up to 81%

Backup of Edge Data

REMOTE AND BRANCH OFFICE BACKUP

Protecting remote and branch office data using traditional backup is problematic. Too often they rely on untrained staff using failure-prone tape devices. The lack of centralized control means that every office performs backup differently—if at all.

EMC offers unique solutions to solve this challenge. Using Avamar, you can get fast, daily full backups for remote and branch office servers via existing IP network links. By filtering redundant data at the client and globally across sites and servers, Avamar reduces required network bandwidth by up to 99%. Centralized web-based management makes it easy to protect hundreds of offices worldwide from a single location, and single-step recovery makes restores easy. Avamar optionally encrypts backup data in flight across the LAN/WAN and at rest for security.

EUROSPORT

"EMC Avamar offers three advantages: it reduces the amount of data stored in local branches and provides centralized backups of these remote sites-without increasing bandwidth consumption. We also plan to use Avamar deduplication to speed up backups at the central site."

For remote offices needing a cloud-based solution that maintains strict IT control over the backup data, there's EMC MozyEnterprise®. It eliminates the need to invest in local hardware or backup experts. MozyEnterprise centralizes management of endpoints and smaller remote office servers through a multi-tenant web-based admin console. IT maintains control over backups while end-users can protect and access their data from any Internet connection. Backup data is encrypted before transmission, and is stored at rest in an encrypted state using Mozy or enterprise custom ciphers.

Remote Office Backup Summary:

- Fast, daily full backups via existing network links
- Reduce bandwidth required for remote backup by up to 99%
- Anywhere, anytime recovery of data with centralized management
- Data encrypted in-flight and at rest for security

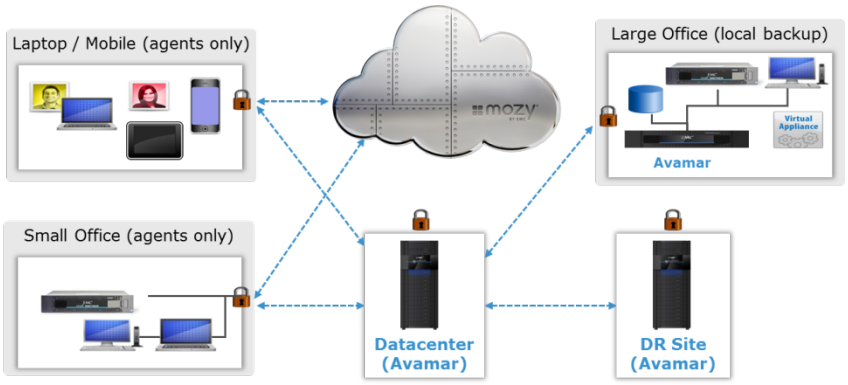
DESKTOP AND LAPTOP BACKUP

As unstructured data grows, much of this data is stored on desktop and laptops, which are often outside of traditional backup workflows. EMC delivers two industry-leading solutions for simple and efficient desktop and laptop backup and recovery.

Deploying Avamar on desktop and laptop systems delivers the same Avamar enterprise-class backup and recovery capabilities, but enables end users to easily recover their own data without IT staff intervention. Backups are non- disruptive to end users and an intuitive interface and integrated search engine allows users to quickly locate and restore files in a single step.

With Mozy, you can choose a cloud-based backup approach for Windows and Mac end-point clients. Mozy encrypts the backup data, then transmits securely over the IP network. It's then stored encrypted in the Mozy data center. IT controls the files types that can be protected. End users can recover on their own through simple-to-use options. Mozy also provides file sync and mobile apps for iOS and Android devices.

EMC partners sell Mozy on a subscription basis.



Self-Service Desktop and Laptop Recoveries reduce IT burden

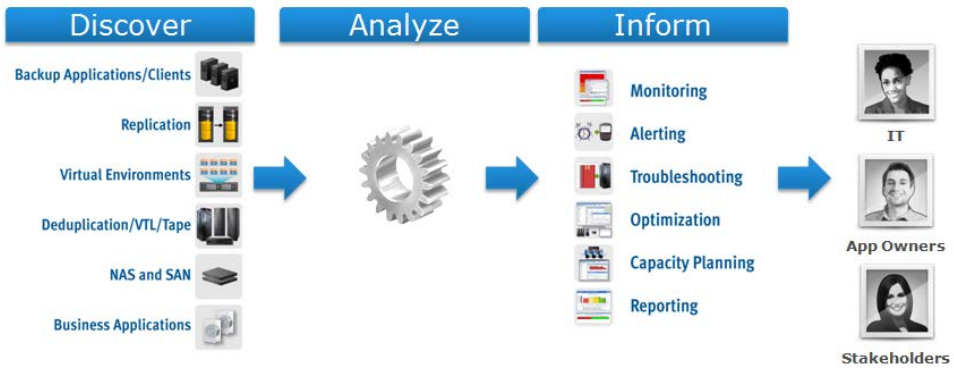
Desktop/Laptop Backup Summary:

- Leverage existing Avamar backup or deploy cloud solutions for ultimate flexibility
- Fast, daily full backups that are non disruptive to end-users
- Intuitive GUI for single step end-user recovery without involving IT staff
- Leverage existing IT datacenter experts or outsource to the experts in the Cloud

Data Protection Management

Many organizations continue to manage backup through manual efforts, Microsoft Excel spreadsheets, and custom scripted reports. In the last few years, a new set of products has emerged to address this specific need. Data Protection Management (DPM) solutions deliver visibility into:

- Data protected by backup
- Infrastructure utilized for backup
- RPO/RTO status compared to goalse
- Backup visibility to application owners and stakeholders



EMC Data Protection Advisor provides visibility across the entire backup environment

Our Data Protection Management solution, EMC Data Protection Advisor, provides a single, unified view of your entire backup infrastructure through automated data collection, analysis, and reporting. It collects data from your physical and virtual data protection infrastructure, not just the backup server, and analyzes for developing conditions, failures, or missed SLAs. Data Protection Advisor lowers cost through the improved use of infrastructure and reduced manual effort.

BELGACOM GROUP

"Data Protection Advisor is a powerful and versatile solution. With one tool, we gain reporting, alerting, and capacity planning for the entire environment. DPA has significantly reduced the time we spend managing our backup operations and has made our information infrastructure more reliable and efficient."

And by increasing backup protection visibility, it improves compliance and lowers risk.

Data Protection Advisor also provides self-service web-based dashboards to end-users and stakeholders. Application, virtualization and management teams can now have firsthand views into the backup protection status for their data. This visibility creates the trust and confidence required by these teams to move forward with plans and initiatives.

Data Protection Management Summary:

- Monitor, analyze, and report across physical and virtual backup environments with a unified solution
- Consolidate backup status information to reduce manual effort, speed problem resolution, and forecast resources to lower costs
- Understand risks and protection exposure across multiple backup products so data stays safe
- Provide visibility to end-users and stakeholders through web-based self-service dashboards

EMC SERVICES

Even with the compelling business and economic reasons to improve backup and recovery, organizations may still struggle to meet the specific demands of their environments. To help meet these challenges, EMC offers a comprehensive set of services to help you plan, deploy, and operate your backup and recovery infrastructure.

EMC Global Services offers services capabilities for planning, deploying and operating your EMC backup solution in physical and virtualized environments. The result is a unique blend of capabilities to help you transform your backup and recovery infrastructure while continuing to manage, protect, and leverage your information to create new business value.

In the planning stage, you may choose EMC assessment and advisory services to help evaluate your current situation and gain clear business impact from your backup and recovery investments. In the deployment stage, implementation services from EMC accelerate your time to value. In the operational stage, health check, operational assurance, integration enablement, and data migration services can help you seamlessly optimize, upgrade or migrate your existing backup solution. EMC can even provide residency and out-tasking services to fill staff or skills gaps in your own IT organization or allow you to selectively outsource discrete IT tasks entirely.

CONTACT US

For more information on specific ways EMC can improve your backup, contact your local representative or authorized reseller—or visit us at www.EMC.com/backupleader

STAY CONNECTED AT THE BACKUP WINDOW BLOG.

Continue your discovery of smarter backup and learn from EMC backup and recovery experts. Start a discussion or bookmark the site to stay update on lasted in smarter backup at backupwindow.emc.com