Ten ways to save money with IBM data protection

*Realize superior return on investment with comprehensive backup
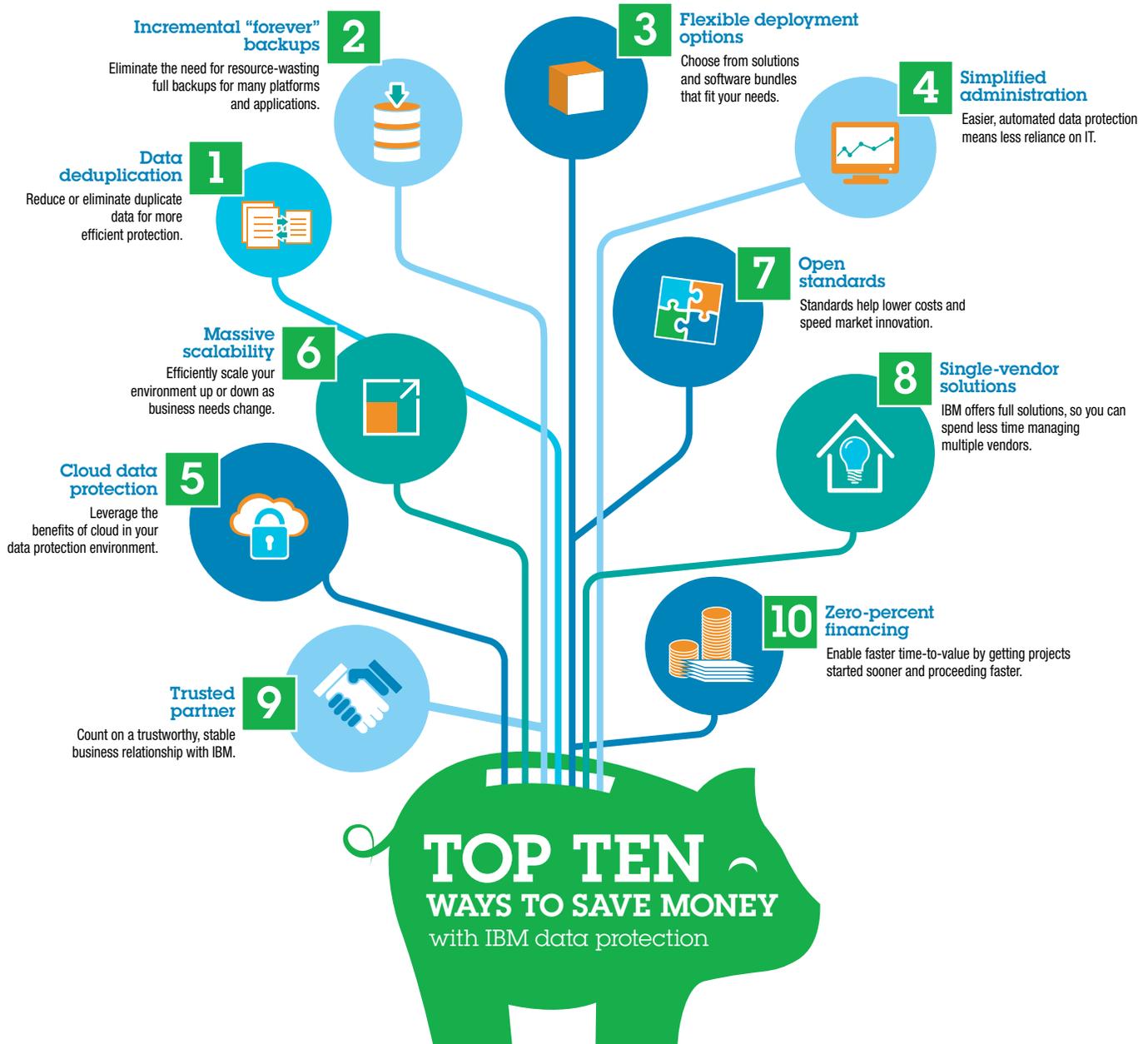and recovery solutions from IBM*

Introduction

Rapid data growth and inefficient data protection systems are causing many organizations to spend money in ways they'd rather not. Modernizing data protection technology can be an excellent way to save money—and free up funds to invest in new ideas. Data protection is a core IT process, and small improvements can have a big impact on the value IT brings to the organization.

Using Backup Analysis Engine reports from Butterfly Software, IBM has assessed hundreds of environments for client backup modernization projects. This tool helps generate detailed reports on return on investment (ROI) and total cost of ownership (TCO) from its analyses of infrastructure and backup needs. Armed with that data, as well as assessments of competitive data protection software, IBM has documented how users can realize significant cost savings by choosing IBM data protection software.[1]

Imagine the possibilities if your organization could spend more resources on innovation and less on backup infrastructure. This white paper describes 10 ways that IBM data protection solutions can help organizations save money while addressing modern data protection challenges.

Ten ways IBM data protection solutions can help you save money:

1. Data deduplication

2. Incremental "forever" backups

3. Flexible deployment options

4. Simplified administration

5. Cloud data protection

6. Massive scalability

7. Open standards

8. Single-vendor solutions

9. Trusted partner

10. Zero-percent financing

2 Incremental "forever" backups

Eliminate the need for resource-wasting full backups for many platforms and applications.

3 Flexible deployment options

Choose from solutions and software bundles that fit your needs.

4 Simplified administration

Easier, automated data protection means less reliance on IT.

1 Data deduplication

Reduce or eliminate duplicate data for more efficient protection.

7 Open standards

Standards help lower costs and speed market innovation.

6 Massive scalability

Efficiently scale your environment up or down as business needs change.

8 Single-vendor solutions

IBM offers full solutions, so you can spend less time managing multiple vendors.

5 Cloud data protection

Leverage the benefits of cloud in your data protection environment.

10 Zero-percent financing

Enable faster time-to-value by getting projects started sooner and proceeding faster.

9 Trusted partner

Count on a trustworthy, stable business relationship with IBM.

TOP TEN
WAYS TO SAVE MONEY
with IBM data protection

1. Data deduplication

*"The IBM Spectrum Protect data deduplica-
tion capability reduced our storage footprint
by 30 percent and our power and cooling
costs by 30 to 40 percent."*

—Peter Nielsen, CEO, Front-safe A/S

Deduplication is a common way to improve efficiency in data
protection environments. Virtual machines, servers and applica-
tions can have thousands of duplicate files. Deduplication tracks
duplicate objects, rather than backing them up. Deduplication
also saves money on replication to clouds and off-site recovery
centers because resources are no longer used for replicating
duplicate data.

IBM deduplication solutions support a broad range of require-
ments, for small and large workloads. IBM® Spectrum
Protect™ provides deduplication enabled entirely in software.
Clients choose the underlying hardware, which can reduce total
costs compared to deduplication appliances. Software-based
deduplication can run on IBM Spectrum Protect backup servers
or production systems, as desired. IBM ProtecTIER® dedupli-
cation gateways are available for environments where deduplica-
tion can't be supported on either production or backup servers,
when very high throughput is required, and when multiple
brands of backup software are deployed.

2. Incremental "forever" backups

*"Our critical metrics are backup time, data
growth rate and cost. [IBM Spectrum
Protect] software backs up incredibly fast,
and its incremental forever feature keeps our
storage costs down, even though our data
pool is increasing."*

—Jeff Zurflueh, director of data center services, Cash America

Most backup software requires periodic full backups to maintain
restore performance, creating unnecessary work for backup
infrastructures. Incremental forever backups take less time
and require less infrastructure than full backups—resulting in
significant savings.

Consider the impact on big data and analytics systems that use
both active and historical data, or shared file systems where
only a small percentage of data changes each day. What if you
could eliminate the cost of backing up all that unchanged data
every week?

Incremental forever means no more full backups. Once data has
been backed up by IBM Spectrum Protect, you can recover that
data, or the whole system, quickly and easily.

IBM Spectrum Protect incremental backups are easy to
configure and manage, requiring no extra administration.
IBM Spectrum Protect incremental backups are available
for VMware, Microsoft Hyper-V, file systems and other
environments.

3. Flexible deployment options

"With IBM Spectrum Protect Suite—Entry, the top recovery products are included, with the same features we're deploying for our enterprise clients."

—Joseph King, vice-president, pre-sales consulting, CAS Severn

IBM helps save organizations money through flexible deployment options that offer choices regarding how much of the data protection infrastructure they want to own, and how they want to pay for it.

Cloud and appliance-based solutions can reduce the cost and complexity of data protection while enabling users to switch systems quickly, sometimes in less than a day. IBM publishes reference architecture blueprints for IBM Spectrum Protect on multiple platforms, which can simplify on-premises and hybrid cloud deployments.

On-premises solutions enable the most customization and control, and may be required to meet data protection requirements. IBM Spectrum Protect clients can choose from a range of software license plans. For example, plans that measure capacity at the backup server reward clients for using efficiency features. Plans that measure source system capacity can be simpler for charge-back and billing.

IBM Spectrum Protect Suite offers pay-as-you-go capacity licensing and includes agents for VMware, SAP, email and databases. To reduce license costs even further, it also has three specially priced options for specific workloads:

- IBM Spectrum Protect Suite – Entry—Can save users up to 55 percent for smaller workloads[2]
- IBM Spectrum Protect Suite – Archive Option—Can save users up to 80 percent for archive data[3]
- IBM Spectrum Protect Suite – ProtecTIER Option—Can save users up to 75 percent when used with ProtecTIER deduplication[4]

Plans are also available that license each IBM Spectrum Protect component, per virtual or physical server protected.

4. Simplified administration

"IBM has hit the mark for VMware admin-istrators with its purpose-built data protec-tion solution for VMware. It is designed to be simple, require minimal back-end infra-structure, and enable organizations to start small but grow massively big."

—Jason Buffington, senior analyst, Enterprise Strategy Group

IBM solutions enable organizations to automate, and therefore simplify, backup administration. This saves money by reducing the number of manual processes and expertise required, without risking data protection.

IBM data protection software enables VMware administrators to easily perform data protection and recovery operations, powered by IBM Spectrum Protect, and launched within the familiar vSphere interface.

IBM Spectrum Protect Operations Center enables backup administrators and managers to see at a glance whether data is protected and the backup environment is healthy. In addition, IBM can consolidate IBM Spectrum Protect backups and snapshots from multiple locations, simplifying recovery management.

5. Cloud data protection

"This hybrid cloud model gives customers the advantage of being able to restore their most recent data quickly—and in case they need older data, it can be restored from our data center."

—Brian Ipsen, senior consultant, Atea, a cloud service provider

IBM Spectrum Protect enables business-class cloud data protection services, delivered by IBM Cloud Managed Backup and IBM Business Partners in more than 20 countries. IBM Spectrum Protect is optimized for hybrid cloud data protection environments, helping data owners and their service providers achieve higher backup success rates—reducing their total costs.

Advanced cloud data protection capabilities available in IBM Spectrum Protect solutions include:

- A cloud portal that enables multi-tenancy and billing
- Cloud-based backup storage pools that can provide flexible capacity

- Automatic fail-over for customer restores, which enables high availability of critical services
- A flexible deduplication architecture, which helps customers control costs
- An incremental "forever" design that eliminates the cost and disruption of periodic full backups
- Node replication with flexible retention, which helps customers maintain less data on-site
- Compression for IBM Spectrum Protect database (metadata) backups, which reduces overhead costs

IBM solutions can also simplify data protection for cloud applications built with OpenStack. IBM Spectrum Protect was the first data protection solution to have backup drivers accepted and included in the OpenStack distribution.

6. Massive scalability

"What's different now is that we'll no longer experience data explosions. [IBM Spectrum Protect] allows us to keep pace with and manage data growth seamlessly and in ways we've never been able to before."

—Kumar Kancharana, senior systems analyst, Piedmont Healthcare

IBM data protection solutions can grow as data grows, with more scalability per backup server than ever before. IBM Spectrum Protect solutions can support organizations ranging from small businesses to large enterprises.

Because IBM Spectrum Protect scales so efficiently, users need less backup infrastructure as data grows. Organizations can consolidate backups onto IBM Spectrum Protect to reduce the number of backup and media servers by up to nine times,

compared to competitor solutions.[5] Consolidation onto IBM Spectrum Protect can lower backup infrastructure costs up to 38 percent[1] by reducing requirements for hardware, maintenance, cooling, power and rack space. IBM Spectrum Protect has the following scalability credentials[6]:

- Manages up to 100,000 backups from one IBM Spectrum Protect Operations Center hub server[7]
- Backs up as many as 500 virtual machines in less than 7 minutes[8]
- Ingests, deduplicates and replicates up to 20 TB/day of new data, and protects up to 400 TB of data or four billion data objects per backup server, in versions 7.1 - 7.1.2[9]
- Uses the scalable IBM DB2® enterprise database for its catalog

7. Open standards

"Having open standards around cloud will help achieve an IT environment with fewer boundaries, increase the speed of adoption and add a new level of flexibility."

—Laurent Liscia, CEO, OASIS[10]

Adopting and contributing to open standards is another way IBM helps organizations save money. Collaboration through open standards is known to reduce costs and speed innovation, providing direct value to organizations. Specific data protection examples include:

- The IBM sponsorship of OpenStack led to IBM Spectrum Protect [IBM Tivoli® Storage Manager] backup drivers and storage-assisted data migration becoming part of the OpenStack Havana distribution.
- IBM contributed the standard used for storage systems interoperability—SNIA Storage Management Initiative Specification (SMI-S)—which enables snapshots, remote mirroring and other storage management functions to work across storage systems.

- IBM supports the Representational State Transfer (REST) application programming interface (API) to enable transparent administration of complex infrastructures.
- IBM is a founding member of the Linear Tape-Open (LTO) consortium, and contributed the popular IBM Linear Tape File System™ (LTFS) technology.
- IBM support for Linux led to IBM Spectrum Protect availability on Linux for IBM z Systems™ and scalability enhancements that now benefit all IBM Spectrum Protect environments supporting large workloads.

VMware is part of many data centers. The first storage product certified by VMware was IBM Spectrum Virtualize™, formerly called IBM SAN Volume Controller. Today, IBM Spectrum Protect enables virtual server administrators to perform many data protection and storage management functions using VMware interfaces. This integration with VMware helps organizations save money by enabling more applications to be hosted in virtual environments. Examples of VMware integration include:

- VMware Changed Block Tracking integrates with IBM Spectrum Protect to enable incremental forever backups for VMware.
- VMware vMotion live migration integrates with IBM storage virtualization software to enable transparent application and data migration between data centers.
- The VMware vCenter plug-in provided with IBM Spectrum Protect enables backups to be configured, scheduled and reported on using familiar VMware tools.
- VMware vSphere Virtual Volume (VVol) support was available from IBM the same day VMware vSphere v6 was released.

IBM data protection solutions also adhere to standards from Microsoft, Oracle, SAP and others.

8. Single-vendor solutions

"[IBM Spectrum Protect] provides recovery management in complex, highly distributed environments by using [IBM Spectrum Protect] to manage different backup types and offer different levels of recovery. A single [IBM Spectrum Protect] environment can manage incremental backup/restore, continuous data protection (CDP) with transaction-level recovery for servers and endpoints, system-level backup and recovery, and fast application-aware backups and restores leveraging advanced snapshot technologies."

—Robert Amatruda, IDC[11]

IBM offers complete solutions to meet data protection needs. That means IT staff can spend less time managing multiple vendors, integrating multiple products and managing support calls between vendors. IBM has the capability to deliver as much of the overall solution as desired.

IBM data protection software solutions support a full range of requirements, including daily backups, frequent snapshots and remote mirroring, to enable the required level of data availability. In addition, IBM solutions support virtual, physical, software-defined and cloud environments.

9. Trusted partner

IBM is the fourth most valuable global brand with an estimated value of USD93 billion.

—WPP and Millward Brown annual BrandZ ranking, May 2015[12]

For more than 100 years, organizations have trusted IBM with their data. IBM has recovered data from virtually every type of disaster imaginable. Organizations can plan projects with confidence when partnering with IBM, which offers not only reliable, industry-leading data protection solutions, but a trustworthy, predictable business relationship. Firmly committed to every client's success, if something isn't right, IBM works to make it right. Before, during and after the sale, IBM experts follow documented best practices designed to garner positive client outcomes. Additionally, IBM fosters open collaboration between users and developers through its transparent development process.[13]

IBM invests heavily in research and development, providing clients with innovative products, roadmaps to help improve their project planning and straightforward upgrade policies.

10. Zero-percent financing

IBM offers rates as low as zero percent for 12-month loans on IBM software, storage and servers.[14]

IBM Global Financing helps organizations acquire the data pro-tection solutions that their businesses need in a cost-effective manner by replacing large, up-front costs with predictable payments over time. For example, financing can help align IT expenditures to projected benefits, which can help data protection projects show positive cash flow sooner. IBM can work with organizations' finance teams to determine whether financing can benefit their data protection projects.

IBM offers competitive financing to qualified buyers for hardware, software, deployment, staff training and other professional services, from both IBM and other vendors.[15] Ask your IBM representative for a payment plan proposal. For more information, visit IBM Global Financing at **ibm.com**/financing

Why IBM?

IBM can help protect your data for less—up to 38 percent less in backup infrastructure costs alone.[1] IBM makes it easy to modernize and has helped thousands of organizations update their data protection systems with new capabilities and high-efficiency components.

Innovative technology, open standards, a history of reliable performance and a broad portfolio of proven storage offerings—all backed by IBM with its recognized leadership—are just a few of the reasons why you should consider IBM.

For more information

To learn more about IBM data protection solutions, please contact your IBM representative or IBM Business Partner, or visit: **ibm.com**/software/tivoli/csi/backup-recovery

3 IBM Spectrum Protect Suite– Archive Option applies to data ingested through an archive operation and backed up to IBM Spectrum Protect virtual tape library or tape archive pools. Data backed up to other storage pools is fully supported and licensed at the standard IBM Spectrum Protect Suite capacity rate.

4 IBM Spectrum Protect Suite–ProtecTIER Option measures capacity after IBM ProtecTIER deduplication is used. Assuming 4:1 deduplication, IBM Spectrum Protect Suite capacity-based licensing for data stored with ProtecTIER would be 75 percent less than the top-tier rate.

5 Based on a comparison with Symantec NetBackup. Scalability recommendations for Symantec NetBackup can be found at: http://www.symantec.com/content/en/us/enterprise/fact_sheets/b-netbackup_appliance_5030_DS_21273483-1en-us.pdf

6 Scalability figures apply to IBM Spectrum Protect v7.1 – v7.1.2.

7 IBM lab simulation, February 2015

8 Performance based on IBM measurements using simulated workloads in a controlled environment. https://www.ibm.com/developerworks/community/wikis/home?lang=en#!/wiki/Tivoli%20Storage%20Manager/page/NEW%20-%20Tivoli%20Storage%20Manager%20Blueprint%20-%20%20Improve%20the%20time-to-value%20of%20your%20deployments

9 Based on IBM simulations with IBM large model reference architecture blueprint for IBM Spectrum Protect.

10 Laurent Liscia, CEO, OASIS, December 2013.

11 Robert Amatruda, "IBM Enhances Tivoli Storage Manager 7.1 with Key New Features," *IDC Flash*, *Doc #244620*, November 22, 2013. http://www.ibm.com/common/ssi/cgi-bin/ssialias?subtype=WH&infotype=SA&appname=SWGE_TI_SG_USEN&htmlfid=TIL14089USEN&attachment=TIL14089USEN.PDF

12 The BrandZ Top 100 most valuable global brands ranking for 2015 was carried out by marketing and brand consultancy Millward Brown in conjunction with WPP. It calculates brand value by using in-depth financial data alongside interviews with more than two million consumers from around the world. http://www.millwardbrown.com/BrandZ/2015/Global/2015_BrandZ_Top100_Report.pdf

13 The transparent IBM development process enables client participation via the IBM Service Management Connect portal, IBM Spectrum Protect Operations Center community and other facilities.

14 For zero-percent financing, charges for software and services must be one-time and non-recurring. Minimum deal size is USD5,000, with a maximum of USD1 million. Not available in all areas. Not all products qualify for all offers, please check with your local representative. See ibm.com/financing for details.

15 IBM Global Financing offerings are provided through IBM Credit LLC in the United States and other IBM subsidiaries and divisions worldwide to qualified commercial and government clients. Rates and availability are based on a client's credit rating, financing terms, offering type, equipment and product type and options, and may vary by country. Non-hardware items must be one-time, non-recurring charges and are financed by means of loans. Other restrictions may apply. Rates and offerings are subject to change, extension or withdrawal without notice and may not be available in all countries. See ibm.com/financing for details.

1 Savings of 38 percent is the average of individual customer Backup Analysis Engine reports from Butterfly Software, May 2013, n=450. Savings include cumulative 36-month hardware, maintenance and electrical power and exclude a one-time IBM Spectrum Protect migration cost.

2 IBM Spectrum Protect Suite Entry and IBM Spectrum Protect Suite Entry – Front End offerings are limited to 100 TB of managed backup data and two IBM Spectrum Protect servers per enterprise.

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