Rethinking backup and recovery in the modern data center
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Rethinking backup and recovery in the modern data center

Meet new demands in the modern data center

Yesterday’s approach to backup and recovery no longer works for today’s dynamic, diverse, and always-on data center. Businesses require a modern architecture and approach that is capable of handling the growing demands of mission-critical applications and overabundance of user-generated data. In the modern data center, you have to take a smart approach that goes beyond regular backup and recovery methods, requires intimacy with the infrastructure, and visibility into what is being protected. You also need to have the ability to support a wide range of data sources and targets. In other words, you need a solution that increases your agility, allowing you to adjust dynamically so you can deliver superior business resiliency.

Keeping up with exponential data growth

Today, mankind creates five trillion gigabytes of data in just 12 hours. This is as much information as we have created from the dawn of mankind to the year 2003. This unabated growth of data is fueled by the deployment of new, dynamic business applications, greater adoption of virtualization and cloud deployments, an increasingly mobile workforce that creates and consumes business information on the edge, and tightening regulatory requirements. These trends have transformed both IT and business organizations into much more complex, diverse, and dynamic entities.
IT organizations are under tremendous pressure to be more agile, to meet rapidly evolving business requirements, and to do it all with less budget and personnel. Simply put, businesses and consumers are driving computing demand and business requirements to unprecedented levels. However, in many cases, the challenge increases many times over when organizations are limited by IT architectures that originated in the past three decades and have not been updated in the last five years.

The non-stop IT operation

The traditional “set it and forget-it” backup and recovery approach is not suited to keep up with the latest business requirements that demand 24X7, always-on operations across the globe to remain competitive. These new requirements make the concept of backup windows and scheduled maintenance downtimes essentially obsolete. Also, the increased adoption of cloud and virtualization is driving new data silos and increasing management complexity. With the mobile workforce creating and consuming business data through mobile devices at a record pace, business data must be protected and remain available, while being maintained in a secure manner on the mobile device of the user’s choice.

In our information-based economy, IT has become critical to business success. The role of IT has increased in importance, as they now serve as the architects of a new generation of businesses. Following suit, IT processes, including backup and recovery, are evolving to keep pace with much more complex, diverse, and dynamic entities.
The need for a dynamic, new approach

Changes within today’s modern data center are constant and never ending. However, when administrators deploy their backup policies, the policies are often made to solve a specific need, and are then rarely revisited. The ability to learn and adapt to change is critical to the survival and competitiveness of any organization, and this begs the question: if the importance of information changes over time, why doesn’t the backup policy change along with it? To reduce risk to service level objectives (SLO) and gain higher backup resource utilization, backup and recovery applications need to intelligently adapt backup policies when data and applications change within the environment.

This new adaptive backup and recovery (ABR) approach must have four key elements—prioritization, prediction, recommendation, and automation—to achieve superior business resiliency, visibility and control, and maximum resource efficiency.

The four elements to the new adaptive backup and recovery approach include:

Prioritization
Backup decisions are best made when they are based on application priority and criticality, instead of taking a blanket approach that treats all data equally, backing up everything forever. Ideally, your backup and recovery solution will natively integrate deeply with applications and storage infrastructure to provide the most optimized backup and restore service, based on each specific business priority. This is especially crucial for mission critical applications with built-in high availability, such as SAP HANA, Oracle, Microsoft Exchange, and Microsoft SQL Server. Applications such as these also require integration to guarantee transactional consistency to ensure the highest level of recoverability.

With prioritization, you will be able to choose various levels of protection to fit your business needs. Additionally, the deep integration with the underlying backup-related hardware can deliver the most efficient backup by putting minimal impact on live applications and instantly recovering data and applications in mission critical environments.
Prediction
A backup and recovery system should leverage operational analytics to drive better decisions as to how backup-related resources are utilized, learn from its behavior, continuously iterate and improve how it operates to maintain SLOs, and help you achieve business resiliency. In other words, the solution should be able to “look ahead” like a backup and recovery GPS, helping IT professionals avoid upcoming roadblocks, so they can navigate to a successful service level objective.

Prediction should leverage operational analytics about the environment (the backup infrastructure and application and network) to provide the awareness and insight into what data has been protected, and why, how, and where it’s been protected. These capabilities help IT determine the right frequency of protection and for how long you should protect and retain the data itself. This level of insight enables data protection policies to be adjusted constantly to avoid over-protection of non-critical data and sub-optimal protection of mission-critical data.

Recommendation
Knowledge is power, and with the knowledge and visibility that comes from Prediction, IT can gain insight into how the backup behaves. With Recommendation, IT can take action on what they learn to improve the backup and recovery environment. In some cases, the system itself can recommend actions to be taken. In turn, by leveraging these recommendations, your organization becomes more successful in enforcing its data protection strategy. This not only enables you to reduce potential conflicts, such as avoiding errors and resource contention, but ensures that you can meet your SLA objectives.

Automation
Backup and recovery solutions should enable automated backup and recovery policy provisioning adjustment, based on data collected/gathered from operational analytics about the environment itself. Having this type of “auto-pilot” capability as an option allows the backup and recovery solution to effectively self-manage and self-recover. By doing so, the
solution itself enables IT to dramatically reduce the time-intensive, tedious, and heavily interactive process that is traditionally required to re-calibrate existing strategy. You can also minimize/mitigate backup challenges such as resource contention, time constraints, and redundancy of operations.

With the ability to foresee, predict, and adapt your backup priorities to dynamically changing data, applications, and business requirements, the adaptive backup approach enables IT to make backup decisions based on application priority and criticality. This means backup policies can be configured with optimized use of resources with surgical precision. When combined with the ability to “look ahead,” administrators can provide a health-check on the policy, media, and targets, detecting potential resource and time conflicts, adjust according to adapt backup policies, and avoid competition for backup-related resources.

A dynamic, always-on data center

Today’s businesses live in a dynamic, always-on, constantly changing environment, with complex, distributed big data. To manage these challenges, a modern backup and recovery solution must:

1. Deliver superior business resiliency to meet mission-critical recovery SLAs across the entire enterprise
2. Achieve data source and backup target diversity and scale, which enables centralized protection of the entire enterprise ecosystem—virtual or physical, application, or storage infrastructure
3. Provide Adaptive Intelligence to foresee, predict, and adapt backup priorities to dynamically changing data, applications, and business requirements
The HP Adaptive Backup and Recovery (ABR) approach combines intelligence, operational analytics, and automation to enable efficient, data-driven IT organizations, resulting in better backup and recovery decisions such as tuning the right level of protection for diverse data sets and applications. ABR is designed for today’s dynamic environments, delivering fully automated, intelligent, and policy-driven protection for mission critical applications.

Learn more at www.autonomy.com/adaptivebackup

About HP Autonomy

HP Autonomy is a global leader in software that processes unstructured human information, including social media, email, video, audio, text and web pages. Using HP Autonomy’s information management and analytics technologies, organizations can extract meaning in real time from data in virtually any format or language, including structured data. A range of purpose-built market offerings helps organizations drive greater value through information analytics, unified information access, archiving, eDiscovery, enterprise content management, data protection and marketing optimization.

Additional information is available at autonomy.com.