

Continuous data protection at telecom scale

How a leading US telecommunications provider eliminated backup bottlenecks and accelerated recovery

Executive summary

As a leading US telecommunications provider's customer base and traffic continue to grow, so does the volume and criticality of sensitive data across business support systems (BSS), billing, and customer systems. These data sets are core to revenue, customer experience, and regulatory compliance and therefore require ironclad protection and rapid recovery.

As the provider's environment scaled to hundreds of petabytes, its backup strategy evolved organically around traditional methodologies. This legacy approach created long backup windows of up to 38 hours, led to noticeable performance degradation, and resulted in recovery times of up to 36 hours, leaving the environment exposed and difficult to operate.

Everpure™, in collaboration with data protection partner Commvault, implemented an isolated repository environment (IRE) based on Everpure snapshot technology, delivering continuous protection with no performance impact and enabling restoration of up to 400TB in minutes.

Customer background

The major US telecommunications provider is a leading communications service provider with a rapidly growing base of wireless, broadband, and enterprise customers. Every increase in subscriber count, network traffic, and service adoption adds more BSS data, billing and financial records, and customer profiles and interaction history. This information is highly sensitive and must be continuously protected, tamper-resistant, and rapidly recoverable to meet internal SLAs and external regulatory expectations.

The challenge: Protecting rapidly growing, business-critical data

The original environment was designed to back up multiple data sources into a consolidated data repository. As new systems and workloads were added, the performance impact of backup workflows on production workloads also grew. What began as a manageable solution became increasingly complex and fragile.

Backup windows progressively lengthened, eventually reaching up to 38 hours for full protection across the different databases. During these extended backup cycles, database performance was degraded, with direct impact on production applications and end user experience. To cope, operations teams were forced to choose which workloads to protect and how often, prioritizing some databases at the expense of others. This resulted in uneven protection levels, growing operational complexity, and difficult trade-offs between performance and data safety.

The restore experience was equally problematic. In the event of an incident, recovery operations could take up to 36 hours, making the solution effectively unfit for its primary purpose of safeguarding critical data and enabling fast restoration. These long recovery times increased business risk, complicated compliance, and made it harder to meet internal expectations for service continuity.

The Everpure solution: Isolated repository environment

To address these challenges, Everpure deployed a simple, scalable, and resilient solution based on its snapshot technology, creating an IRE dedicated to the telecommunications provider's critical databases.

Architecture overview

The Everpure IRE architecture is built around continuous, application-consistent snapshots and tiered retention. Everpure snapshot technology continuously creates snapshots of the source databases and stores them on Everpure FlashArray//X™ for up to three days. This primary snapshot tier acts as a high-performance, nearline recovery layer that can be used for fast restores and frequent operational tasks such as test data refreshes.

As snapshots age, they are asynchronously archived to Everpure FlashArray//C™. This secondary tier maintains up to 14 days of immutable replicas, providing logically isolated copies that are resilient against corruption, misconfiguration, or malicious activity. Together, these tiers create a layered protection strategy: rapid, frequent recovery options close to production on FlashArray//X, combined with longer-term, immutable retention on FlashArray//C.

Business and operational results

With the Everpure IRE in place, the telecommunications provider transformed its data protection posture.

Databases are now fully and continually protected through snapshots across all targeted workloads. The operations team no longer has to choose which systems receive full protection and which are deprioritized. Protection policies can be standardized, automated, and applied consistently across the environment.

Because snapshot operations are nondisruptive, they no longer impose a noticeable performance penalty on production. Business applications remain responsive even during heavy protection activity, allowing the organization to reconcile performance and protection rather than trading one for the other.

Recovery times have dramatically improved. The environment can now restore up to 400TB in minutes, compared with previous restore times of up to 36 hours. This step-change in recovery performance significantly improves recovery time objectives, reduces operational risk, and better aligns data protection with business expectations for service continuity and regulatory compliance.

Everpure IRE: Key capabilities

Simple by design

The Everpure IRE is designed for simplicity from the ground up. Application consistency is achieved by placing the database into backup mode before taking each snapshot, ensuring that recovery points are coherent and usable. Routine tasks such as snapshot scheduling, refresh operations, and cloning can be embedded into “easy button” automation scripts for database administrators, reducing manual work and minimizing the risk of human error. This combination of application awareness and automation empowers teams to operate at scale without increasing complexity.

Superior protection

Beyond primary backup and restore, the solution provides rich options for using database copies productively. Local copies can be used to support development and test environments, to perform regular data refreshes, or to drive intra-instance extract, transform, and load (ETL) workflows, all without disturbing production workloads. Because snapshots can be replicated over Fibre Channel to alternate sites, the telecommunications provider gains an additional layer of isolation that strengthens its recovery posture. When an incident occurs, teams can quickly recover from any copy, choosing the most appropriate snapshot based on the nature and timing of the event.

Instant, nondisruptive snapshots

Everpure snapshot technology allows any volume to be snapped instantly, without the need for lengthy reservations, complex planning, or capacity reservations. Snapshots are taken with no meaningful performance overhead on production workloads, enabling frequent protection points without service impact. Flexible consistency groups allow related volumes—such as those that make up a multi-volume database or application stack—to be captured together, ensuring cross-volume consistency and simplifying application-level recovery.

Full-featured, independent copies

Snapshots in the IRE are not limited to passive, read-only protection points. Each snapshot can be promoted to a fully functional volume, with full read/write capabilities. These promoted volumes can be mounted for investigation, testing, reporting, or other operational tasks. They can then be modified and captured as new snapshots as part of new workflows. Because snapshots do not depend on one another, each can be managed, promoted, and recovered independently, while still delivering full performance.

Optimized space efficiency

Although the environment supports frequent snapshots and numerous copies, capacity consumption remains efficient. Snapshots are always thin-provisioned, deduplicated, and compressed, avoiding unnecessary data duplication even as the number of recovery points and test/dev copies grows. This efficiency allows the telecommunications provider to maintain a rich protection history and multiple concurrent copies without compromising on cost or footprint.

Recover anything, anywhere

The IRE is designed for flexible, granular recovery. Operators can roll forward or backward instantly to the desired snapshot point, choosing from a wide range of recent and historical copies. Any volume can be recovered from any snapshot, whether the goal is to roll back corruption, rebuild a test environment, or perform a full-scale disaster recovery. This level of flexibility ensures that data protection is not only robust but also adaptable to the different recovery scenarios that the telecommunications provider may face.

The outcome

By replacing a sprawling, slow, and performance-impacting backup environment with an Everpure IRE based on snapshot technology, the telecommunications provider now benefits from a simple, scalable, and highly resilient data protection architecture. The new solution aligns backup and recovery capabilities with the pace and criticality of the business, enabling continuous protection, rapid restoration, and efficient use of infrastructure at scale.

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