XtremIO Integrated Copy Data Management (iCDM)

A New Option to Transform Your Business Processes and Infrastructure

iCDM Benefits

Powerful, Simple, Risk-Free Copy Operations

- Instant, on-demand in-memory XtremIO Virtual Copies, integrated with your favorite applications & databases
- No more Performance SLA risks or capacity risks!

Uncompromised Performance

- Consistent performance at flash speed on consolidated production and non-production XtremIO Virtual Copies

Lowest Cost

- XVC provides space-efficient, writeable copies- only new compressed data takes any space
- Less expensive than off-premise or Tier 2 storage!

Transformative Agility & Self-Service

- Transform IT workflows, increase productivity and efficiency:
- Instantly provision and refresh/restore copies
- Self-service for application and DBA teams with plug-ins and standard API scripts
- CDM workflow automation

Unleash Your Business Processes

- Reduce operational risk with simplified, automated workflows
- Develop and test at production scale to produce higher quality applications
- Drive analytics decisions real-time and on-demand

Introduction

Critical business processes require multiple copies of each database and application's data for purposes such as development, testing, analytics, operations and data protection. To improve organizational agility and competitiveness, more is better—more copies, more frequently, with more operational self-service across the process cycles.

Organizations have relied on brute force copies with storage tiering, flawed snapshots, and dedicated copy management tools for managing the creation and maintenance of copies. IDC and Gartner call this product category "**Copy Data Management**", or CDM.

Drawbacks of Traditional CDM Approaches

All current CDM approaches struggle fundamentally with storage sprawl, performance/scalability and SLA issues, limitations on copy frequency and complex operational processes.

	Traditional Snapshots	Brute Force Copies	Subsets	3rd Party Copy Mgmt Tools
Cost	Low-Medium	High	Low	High
Performance	Limited	On-par or sub-optimal	Sub-optimal	Very limited
Risk to production	Medium to High	Impact during creation/resync	Low	Low
Scalability	Limited	Very Limited	Limited data set	Very limited
Time to promote/ refresh	Long – need to copy back to production	Long – need to copy back to production	Not Applicable	Long – need to copy back to production

Today's limited CDM methodologies result in expensive, slow and complex copy management operations, which do not meet the needs of business. Therefore, application/DBA teams are faced with the following challenges:

- **Bloated copies** – A copy consumes the same amount of storage as the original instance, creating redundancy and large amounts of storage sprawl, risky SLAs and high costs.

- **Insufficient copies** – The cost and performance overhead and sub-optimal SLAs of making copies mean organizations can rarely meet copy demands of internal groups.

- **Handicapped Copies** – Non-production business processes experience poor copy performance, as they are too expensive to put on Tier-1 storage. Slow copies result in slower development cycles and lower quality code, when deployed at scale.
- **Painful copy creation & management** – Copies made with brute force read/write techniques, put a high load on underlying infrastructures. In addition, agile workflow elements, like self-service copies, copy scheduling and refresh/promotion are practically impossible.
- **Stale copies** – Once created, copies immediately go out of sync with the main application. The complexity and performance impact of creating copies mean that their data is rarely refreshed to match the production instance.
- **Compromised business process workflows** – The result? Organizations have built their processes around their infrastructure's copy limitations, thus limiting their own competitiveness and agility.
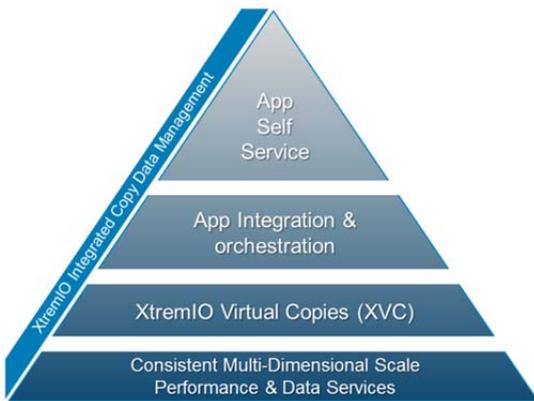
New Approach: Consolidation Without Compromise

XtremIO pioneered the concept of **integrated copy data management (iCDM)** – the ability to consolidate both primary data and its associated copies on the same all-flash array for unprecedented agility and efficiency.

With its bullet-proof, consistent IOPS and latency, linear scale-up and scale-out all-flash performance, XtremIO delivers incredible potential to finally consolidate production AND non-production applications on the same array, without impacting production SLAs. Building on that unique performance foundation, XtremIO arrays leverage XtremIO Virtual Copy, or XVC technology. XVC abstracts the copy operations as a unique in-memory metadata operation with no back-end media or network impact. XVC allows instant, high performance, entirely space-efficient copies of any data set, in nearly any quantity desired, with data services like inline deduplication and compression, and with no impact on production or other copies.

On top of XtremIO performance architecture and XVC capability, XtremIO iCDM offers application integration into rich application workflows. It allows making a development copy, instantly refreshing it to the latest production data, pushing the development copy to a QA host, pushing the QA copy to a scalability testbed, and rolling the output back into production. For analytics processes, production data can be extracted and pushed to all downstream analytics applications on-demand as a simple in-memory operation. With XtremIO iCDM, you can provision applications, such as Oracle, SQL Server, SAP, Exchange on top of physical infrastructure or virtualized infrastructure like VMware or Hyper-V, with centralized copy management. Copies are immediately useable by the application, enabling fast deployments and ensuring that those deployed copies are fully functional.

XtremIO Integrated Copy Data Management

Rounding out the XtremIO iCDM stack, the ability of application, database and development owners to self-service the generation and provisioning of copies, reduces demand on infrastructure manages and greatly enhances business agility. XtremIO delivers full support for automation and scripting with management consoles that integrate with AppSync, plug-ins for hypervisors and applications, and self-serviceable web-portals.

Benefits of Consolidation

XtremIO is the only storage platform capable of consolidating multiple workloads and entire business process workflows safely and efficiently, providing organizations with a new level of agility and self-service for new on-demand processes. To provide this kind of consolidation, the array must be able to deliver all performance SLAs all the time in a consistent and predictable way, while supporting on-demand copy operations at scale. XtremIO delivers on this promise.

XtremIO XVC Snapshots
HIGH PERFORMANCE, LOW LATENCY READ/WRITEABLE COPIES

Unlimited Immediate Copy Operations
➢ Create copy from any copy
➢ Unlimited, immediate delete
➢ Unrestricted topology

Instant Refresh of Virtual Copies
➢ Prod to Any Copy
➢ Any Copy to Any Copy
➢ Any Copy to Prod

- **Development:** For development/test, making a development copy on-demand from production, pushing the development copy to a QA host, pushing the QA copy to a scalability test-bed, and refreshing the output back into production, all leveraging the fresh copies of production data. The result: 30-50% faster development, dramatically less infrastructure and complexity, higher productivity, reduced risks for your development and increased quality of your product.

- **Analytics**: For analytics, production data can be extracted and pushed to all downstream analytics applications on-demand, as a simple in-memory operation. Copies are high performance and can get the same SLAs as production- without risking the production SLA. XtremIO offers this on-demand or scheduled, as both self-service and automated workflows for both application and infrastructure teams.

- **Operations:** For the Application team**, operations like patches, upgrades and tuning, copies can be made instantly for tasks such as fast diagnosis of app/database performance problems, testing and validating patching processes, validating and applying tuning, or testing new technologies and infrastructure options for databases. All at production scale and performance.

- **Data Protection:** XVC enables the creation of a large number of copies at low interval points-in-time for recovery. Point-in-time copies can be used for recovery when needed or can be leveraged for other purposes. Application integration and orchestration policies can be set to auto-manage data protection, using different SLAs**.

iCDM is unique to XtremIO and all these benefits are available as a no-cost, array- based application service.

Infrastructure Transformation and Modernization

With XtremIO's unique integrated CDM, all your application, database, development and infrastructure teams can finally work together for the agile copy operations you deserve. The unique combination of consistent scale-out all-flash performance, in-memory XVC, powerful application integrations and self-service tools finally gives you an effective option for managing your copies.

XtremIO iCDM consolidates copy services for all application, [database,](#) development and data protection teams, boosting business agility to transform your customers' business processes, operations and infrastructure. No more having to say "NO", no more long waits for copy refresh, no more underperforming copies, no more limits on number of copies. With XtremIO iCDM, all on-demand copies are application-aware, perform at flash speed and can be refreshed at will, so it becomes just a question of how many copies and when do you need them.
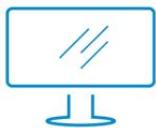
XtremIO iCDM Benefits
- Self-Service
- On-Demand
- Consolidated
- Instant Refresh
- Fast Provisioning
- Space Efficient
- Flash Optimized
- Inline Data Services

It's time to rethink today's compromised business processes with XtremIO's iCDM:

- What if you could give your application teams their own lifecycle copies instantly with no space or SLA impact?

- What if you could accelerate your analytics workflows by delivering real-time and on-demand decision support extractions?

- What if an all-flash infrastructure can give you dramatically improved performance at LESS THAN HALF the cost of your current infrastructure?

- What if you could reduce storage sprawl while streamlining dev/ops, QA, BI / analytics and data protection for a more agile organization?

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