SOLUTION SHEET

Catalogic ECX: Snapshot and Replication Automation for Pure Storage

Application-aware automation for Pure Storage snapshots, replication and clones

Catalogic® ECX™ In-Place Copy Data Management

- Automate the creation and use of copy data -- snapshots, replication and clones -- on Pure Storage FlashArray //X, //M and FA-400 systems.
- Integrate Pure Storage copy processes with key enterprise applications such as Oracle, SQL Server, VMware, SAP HANA, and InterSystems Caché and Epic Electronic Health Record.
- Modernize existing IT operations by providing automation, user self-service and API-based operations without the need for any additional hardware.
- Simplify management of critical IT functions such as data protection and disaster recovery.
- Automate development and test infrastructure provisioning, reducing management time as much as 90% or more.
- Catalog and track IT objects: snapshots, replicas, virtual machines, datastores, applications, etc.
- Deliver advanced insights into copy data environments across the enterprise, including protection RPO/RTO compliance reporting.
- Integrated data masking for databases.
- Simple licensing based on Pure Storage storage controllers with no limits based on CPUs, virtual machines, storage capacity, etc.

CATALOGIC SOFTWARE

PURE STORAGE

Catalogic® ECX™ in-place copy data management (CDM) for Pure Storage simplifies and automates operation of your Pure Storage FlashArray infrastructure through comprehensive management of Pure Storage FlashRecover snapshots, replication and clones. By providing an application- and VMaware copy management software layer, ECX reduces copy sprawl, simplifies data protection and disaster recovery, and delivers value-adding use cases such as automated infrastructure deployment for Dev-Test or DevOps.

Catalogic's in-place CDM approach has significant advantages over alternatives in that it requires no additional infrastructure for the user to purchase and manage, and leverages the existing Pure Storage environment rather than requiring the creation of a fully redundant environment for the copies of the production data.

Catalogic and Pure Storage

Catalogic ECX comprehensively supports the full line of Pure Storage FlashArray systems, including the //X10, //X20, //X50, //X70 and //X90, as well as //M and FA-400 series. Because ECX makes use of the Pure Storage FlashRecover copy engine, it takes full advantage of the exceptional FlashReduce data reduction features of the Pure Storage array. Copies and replicas created by ECX are automatically space efficient and high performance, without the need for any system tuning.

ECX Data Protection and Disaster Recovery

Using a policy-based, SLA driven model, ECX fully automates data protection and disaster recovery for Pure Storage systems, including snapshot and replication scheduling, copy location and retention.

ECX provides push-button recovery at both the data level and the system level. Data level recovery provides mounting and mapping read/write snapshots to systems over iSCSI or FC. (Oracle users can drive ECX data recovery via RMAN.) System recovery spins up a full recovery stack – including storage, networking and compute – of one or more systems in a pre-defined recovery sequence. No more messy runbooks or complex recovery scripts!

Application-aware protection eliminates the need for database recovery processing. Integrated log management offers point-in-time recovery for Oracle and MS SQL Server databases.

ECX catalogs all snapshots and replicas for rapid discovery when required, and alerts you if a snap or replication job was missed or failed via automated SLA reporting that provides a comprehensive view of protection levels.

Automated Dev-Test and DevOps Infrastructure

The speed and effectiveness of development and test processes are most often limited by the time it takes to provision IT infrastructure. Typical organizations take weeks to deploy infrastructure; even the most efficient can take several days. With Catalogic ECX and Pure Storage, Dev-Test or DevOps infrastructure can be spun up in minutes, either on an automated, scheduled basis or with push-button ease on demand. ECX users have reduced dev-test infrastructure management time by as much as 90%.

By keeping all dev-test functions within the Pure Storage environment, Catalogic avoids software development anomalies that can be introduced by doing development on a separate storage system that uses different software, proprietary file systems, different disk layouts, etc. Both false negatives and false positives can be introduced when the Dev platform doesn't match the production environment, leading to lengthy and complex trouble shooting. With Catalogic you can even do performance testing because everything is done on the same storage stack (either on the production array or with data sets replicated to an array used for development purposes).

Because all ECX functions are accessible via a documented REST API interface, developers can integrate ECX infrastructure automation with popular DevOps tools such as Puppet, Chef, Jenkins, etc. Predefined integration scripts and plug-ins make it easy for developers to spin up full stack infrastructure via a few simple lines of code. In this way, DevOps teams using Pure Storage have the same agility as those running in the cloud, but are able to use vital system-of-record data in their development processes. ECX also provides necessary data masking functionality for databases to provide information security.

VMware Protection and Recovery Using Pure Storage Snapshots

ECX automates the protection and recovery of VMware virtual machines using an easy, SLA driven copy model that leverages FlashArray's low-impact and efficient data copy processes. The solution is highly scalable: a single production instance of ECX can manage over 10,000 virtual machines.

Application-consistent snapshots can be created for any VSS-compliant Windows-based applications. Additional copy options include log management, Pre- and post-snapshot scripting, skipping read-only datastores, etc.

Where ECX truly shines is in the recovery process. VMs can be restored quickly using FlashArray snapshot and clone technology. Three restore modes are available:

- **Test Mode:** creates a temporary VM quickly using clone technology (the VM runs from the clone). VMs can be fenced off allowing for easy recovery testing. Test-mode VMs are given unique identifiers to avoid conflicts. Test Mode is exceptionally useful for software dev-test operations (or DevOps via the ECX API), reporting, or any use case enable by fast and secure VM delivery.
- **Clone Mode:** creates a full copy of the VM for use cases requiring long-running copies of data or higher levels of system performance. Clone Mode VMs have unique names and identifiers.
- **Production Mode:** a full VM recovery that over-writes the original copy. This is a true VM recovery model useful in the event of VM deletion, corruption, etc. Production Mode recovery restores all the original VM information, and snapshot copies continue to be made going forward.

All recovery modes support customized IP mapping. In addition to VM-based recovery, individual virtual machine disk copies can be instantly mapped. Multiple VMs can be configured into a pre-defined recovery sequence, allowing for full recovery or spinning up of a complete test environment.

Recoveries can be scheduled to run at a set time (e.g. for dev-test refresh) or started with a single click. End-user self-service allows the IT department to free itself from routine system delivery while still retaining overall control of the Pure Storage copy environment.

ECX catalogs all copies for rapid discovery when required and provides a searchable index of VMs, datastores, etc. Copy monitoring alerts you if a snapshot or other copy job was missed or failed via automated SLA reporting that provides a comprehensive view of protection levels. Detailed reports help track down unused virtual machines and datastores, allowing you to reclaim vital IT resources.

Efficient, Reusable Data Masking

Most organizations use data masking to some degree in order to obfuscate sensitive data. But the data masking

process can add significant overhead to copy creation and can limit the number of copies made available. With ECX, masked copies of data can be created which can then be distributed to any number of users. In this way, a single masking operation can serve the needs of multiple data consumers.

Oracle RMAN Integration

Oracle users are deeply committed to RMAN (Oracle Recovery Manager) and use it every day. ECX works with RMAN by feeding information about ECX generated copies into the RMAN catalog. This provides visibility via RMAN, and in addition users can drive Oracle data recoveries using RMAN scripts in conjunction with ECX provided copies.

Database Log Management

Pure Storage snapshots are an excellent way to capture large data sets quickly, but database transactions will continue to take place in-between snapshots. For this reason, ECX includes Oracle and SQL Server log capturing. By keeping track of logs, ECX can provide point-in-time recovery to transactional points that fall between snapshot captures.

Secure Multi-Tenancy

ECX offers secure multi-tenancy functionality to meet the needs of both managed service providers and larger enterprises that need to delegate resources internally. Individual “tenants” can be created within a single ECX instance, allowing each tenant its own set of resources and the ability to deliver administrative functionality within the tenancy (create users, define jobs, etc.).

Policy Templates for Automation and Self-Service IT

IT departments spend too much time in mundane, repetitive tasks, such as continually allocating storage resources to internal data consumers. With ECX template-based provisioning and copy management, internal customers can get easy self-service access to request the resources they need, when they need them. ECX templates are pre-defined by the IT team to allow access to specific resources. Users can then access these templates via a self-service portal interface or through API calls.

Simple Licensing

Unlike other solutions that require complex licensing based on data size, CPU cores, database instances or other metrics subject to continual change and increase, Catalogic uses a simple storage controller-based licensing system. License the Pure Storage FlashArray controllers you wish to use with Catalogic copy data management, and there are no concerns about data size, number of DB instances, etc.

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