

Releasing the Latent Value of CA Disk Release 11.5

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Product Situation Analysis

When CA Disk™ Backup and Restore release 11.5 (CA Disk) was first made generally available, it delivered important technology improvements that responded to current business needs and challenges. Since then, business, technology, and your needs have changed and advanced. CA Disk has also continued to advance in response to and anticipation of your current and future needs, giving users flexibility and choice to select the best possible implementation and use of the product for their environment, and to provide even greater levels of manageability and performance.

This document is designed to help you evaluate the enhancements of CA Disk against your needs and provide you with information to help you consider if and when you should upgrade and to weigh the effort required against the benefits.

Analysis of Problems You May Be Experiencing Today

We hope to be able to help you make educated decisions on the right time to be able to upgrade to the latest version of CA Disk. For the vast majority of our customers there is no cost to the upgrade as it is provided as part of the maintenance contract for the product. We recognize that the time and effort that is required to perform an upgrade needs to be justified, and so we have outlined the most common business issues that customers like yourself have faced and how they can be alleviated by either upgrading to a later release or implementing features already in place in your current solution.

We've made this as prescriptive as possible, outlining the following information

1. **The Symptom** A simple description of the problem statement
2. **The Diagnosis** The underlying technical difficulty that leads to the symptom
3. **The Cure** The route to fix the problem
4. **The Treatment** The actual actions that need to be taken to implement the cure
5. **The Cost/Benefit Analysis** A plain and simple explanation of the time and effort that will be involved and the savings that will be made by releasing this latent value.

We hope you find this approach both refreshing and valuable, and that it helps you better prioritize your time and effort.

Our business runs in a 24x7 world – we can't afford to have our key production systems offline for maintenance

Symptom

Our backup, recovery, hierarchical storage management and DR functions sometimes seem to run slower than they should when required to handle too many concurrent activities. Also, we sometimes have to bring this system down in order to do maintenance, which can put a hold on production activities.

Diagnosis

As storage environments grew, the Files Data Set (FDS) structure sometimes caused performance and throughput to be impacted (Example: Historically CA Disk required the operating system to use Data Set and Device enqueueing, thus single threading the work load).

Cure

Users can now *choose* to use tight integration with the CA Datacom[®]/AD Database, Files Data Base (FDB) as the *data repository*, or continue to utilize the Direct Access FDS.

- If the FDS is your preferred technology, be assured that CA will continue supporting the FDS for years to come.
- If you prefer the new technology of using the CA Datacom FDB, there are several un-interruptive methods for implementation of this processing technique and you will realize many new benefits, functions and features going forward, which are outlined below.

Improved Performance. By now utilizing CA Datacom, CA Disk uses the high performance multi-tasking and multi-threading engine provided by the new data base.

Improved Merge. Processing time will be greatly improved as CA Disk will now be able to use the ARCHVOL as an alternate key to access the DSNINDEX records directly from CA Datacom. No longer will there be requirements to unload and sort the file.

Reduced Contention. Historically CA Disk required that the operating system use the RESERVE and Data Set Enqueueing, thus single threading the work load. CA Disk will now process using the record level locking provided by CA Datacom, thus freeing records and files for quicker processing times.

Self Reorganizing. Switching to the new CA Datacom FDB will save the down time needed for reorganizations as the new process is 'self reorganizing'. This means the FDB requires no outage for maintenance.

Constraint Relief. The existing maximum of 65,535 data sets per tape volume is eliminated when CA Datacom is implemented as the product data container. This allows full utilization of high capacity tapes when backups and archives include small data sets.

Flexible Migration. There are capacity limitations when using the FDS container, thus customers were forced to manage several concurrent FDSs. A utility is provided to migrate all those FDSs into a single CA Datacom FDB, simplifying management and monitoring. Consolidation of several CA Datacom FDBs into a single FDB is also supported.

Improved IXMAINT. This utility process will no longer enqueue on the entire FDS, since it will be replaced by the new CA Datacom FDB and will be much faster, no longer waiting

for ARCHIVE or the other functions that update records to complete.

AD-HOC Reports User defined ad-hoc batch SQL reports are now supported in addition to the existing CA Disk product reports. The CA Vantage GMI included in the CA Disk base also supports CA Datacom.

Treatment

Upgrade to CA Disk r12 and review the "*Integration Guide.*" This provides you with Datacom conversion considerations, steps, and strategy. It also gives you the information you need to analyze your FDSs and convert to CA Datacom enabling many CA Disk performance benefits.

Cost / Benefit Analysis

Switching to CA Datacom will provide CA Disk users ROI in terms of reduced complexity, improved performance and reduced CPU system resources and cycles. Benefits include improved Merge, improved performance, un-interruptive migration, self reorganizing FDB, reduced contention, extended DASD devices supported, and improved IXMAINT.

- CA Disk will no longer use EXCP I/O to access the FDS; it will use the high performance multi tasking and multi-threading engine provided by the new database.
- Conversion from one or more FDS is done without downtime to CA Disk processes.
 - Several FDSs can be consolidated into a single database or kept separated.
 - In addition, a mixed implementation with data on FDS and CA Datacom/AD FDB is supported.
- Save the once tedious time for reorganizations. The new process is *self-reorganizing* thus many times easier to use.

Our experienced staff are fewer and fewer – we'll need a new generation of storage administrators to be effective right away; I'm concerned that the traditional ways of managing our stored data are so complicated that bad things could happen to our business data while the new generation learns how to do their jobs

Symptom

You find you have no choice but to task less experienced staff with supporting enterprise objectives to achieve 24x7 operations availability. Lack of automation coupled with inexperienced staff are increasing the risk of missed events, delayed escalation, and slow problem resolution.

Diagnosis

IT staff are feeling constant pressure to reduce the time to identify, fix and resolve issues. Often busy with other day-to-day tasks and fires, they can miss critical events that can cause degraded service levels, and ultimately application outages. There are too many processes to learn, with little if any, integration or automation that could improve IT Staff success and reduce the Mean-Time-To-Repair.

Cure

Upgrading to the most current CA Disk r12 release can minimize system downtime and help improve business processes, elevate levels of productivity, and reduce operating costs. The new **CA OPS/MVS® Event Management and Automation Support** allows CA Disk to notify CA OPS/MVS when the Catalog SVC intercepts are installed, removed or refreshed so that any installation dependant event processing can be performed. The events for which notification is performed are STARTING, UP, STOPPING and DOWN. The STARTING and STOPPING events are sent when the installation or removal process is started, and the UP and DOWN events are sent when the process has completed successfully. If the installation process starts and then an error that prevents the successful completion is encountered, a STOPPING and a DOWN event are sent rather than an UP event.

Treatment

If you have CA OPS/MVS, upgrade to CA Disk r12 and review the "*CA Disk Backup and Restore Overview Guide*" for integration with CA OPS/MVS. CA Disk requires that the CA OPS/MVS parameter APIACTIVE be set to ON for the API event to be processed.

Cost / Benefit Analysis

Upgrading to the most current CA Disk r12 release can minimize system downtime and help improve business processes, elevate levels of productivity, and reduce operating costs. Customers implementing this release can see improvements in time savings and risk reduction. Automation helps reduce manual administration by simplifying management ensuring protection and high-availability of applications and data and

business information.

CA Disk r12 can also contribute to cost savings by reducing the financial impact resulting from application downtime, lost revenue or customers. For example, a recent TechWise TCO2007 Study reported on average, that each hour of downtime costs firms a total of \$145K when the costs associated with lost sales, wages, and production are considered. Companies reported hourly downtime costs ranging from \$25K to more than \$1M.

Our business is growing; the amount of data we store, protect and manage is growing; and we expect our systems to keep pace with this – it is not an option to reach ceilings imposed by technical limitations

Symptom

You have “large” data sets (defined as being larger than 64K in size) as well as multi-volume data sets in excess of 20 volumes. As a result some IT Staff have been forced to develop non-standard “work-arounds,” which usually means your product of choice may not work effectively, limiting your users’ ability to fully exploit the product functionality.

Diagnosis

Today, the IBM z/OS operating system allows the allocation of data sets exceeding 65,535 tracks and can support data sets up to 16M tracks per volume. This can be a “large” data management issue where all data, whether “Large” or “Not Large,” must be protected and managed using multiple products or processes. In prior releases of CA Disk, processing was limited to data sets whose size was less than 64K. Large multivolume tape data sets that spanned more than twenty volumes were not supported (e.g. moving large data sets to tape and keeping the convenience of backups maintained by CA Disk).

Cure

In r12, CA Disk now provides **Support for Large Data Sets** that have the “Large” attribute. Additional support is also provided for LARGE Data Sets in Sequential Migrate. This means all data sets, regardless of size, can be managed using one solution.

Another new enhancement in this release is **Support for Multivolume Data Sets**. This enhancement extends the Sequential Migration support for multivolume data sets from the current 20 volumes to up to the IBM maximum of 59 volumes per data set.

Treatment

Upgrade to CA Disk r12 and review the “*CA Disk Backup and Restore Systems Guide*.” CA Disk Archive, Backup, Restore, and Recover operation support for LARGE data sets is implemented as a new value for the existing Sysparm parameter USEDSSIO.

Cost / Benefit Analysis

Effective management processes like migration to multi-volume tape or archive can:

- Improve the utilization of disk and tape media to lower cost of ownership
- Data centers can reclaim the DASD space used

CA (NASDAQ: CA), one of the world's leading independent, enterprise management software companies, unifies and simplifies complex information technology (IT) management across the enterprise for greater business results. With our Enterprise IT Management vision, solutions and expertise, we help customers effectively govern, manage and secure IT.