

# Releasing the Latent Value of CA Vantage SRM Release 11.5

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## Product Situation Analysis

Since CA Vantage™ Storage Resource Manager release 11.5 (CA Vantage SRM) was made generally available, important changes in business and technology have occurred. In response, r12 of CA Vantage SRM was made generally available in the spring of 2007. It is a milestone in the latest support for highly effective z/OS storage resource management, and to provide even greater levels of availability and performance.

This document is designed to help you evaluate the enhancements of CA Vantage SRM 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.

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## Analysis of Problems You May Be Experiencing Today

We hope to be able to help you make educated decisions on the right time to upgrade to the latest version of CA Vantage SRM. 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.

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## Our business can't afford downtime on our mission-critical systems and sub-systems; if something starts to go wrong, we expect it to be self-correcting

### Symptom

You are concerned that you have to manually monitor your mainframe storage resource management product because the possibility exists for it to encounter a failure in one module but continue processing "partially functional" for some time without noticing the failed component, due to a lack of status monitoring.

### Diagnosis

Earlier versions of CA Vantage SRM required manual observation of critical components; users may not have been aware of the unavailability of certain components, such as:

- Pools Component
- Volumes Component
- DTOC Component
- Each of the "Automation" Servers (GOA, Message, Log, Audit, System)
- Message Handler
- TCP/IP
- Schedule

### Cure

In r12, the product displays the status of all major CA Vantage SRM components, including optional GUI alerts and console messages for status changes. The new **Internal Status Monitor** ensures high availability of the services required for management activities so that CA Vantage SRM can continuously operate as a mission critical system. The Internal Status Monitor gathers state information from different CA Vantage resources and maintains a viewable object that keeps track of all monitored resources and their states. Commands may be issued from this object to start or stop some of the resource types. For dynamic resources, such as all the different script types, the Zoom function can be used to access the commands specific to those resources. Normal Vantage automation can be performed based on this object

### Treatment

Upgrade to CA Vantage r12 and review Chapter 21 "Working with the Internal Status Monitor" in the *CA Vantage User Guide*. You can also find more information by clicking the Help About Object button in the Internal Status Monitor object view.

The Internal Status Monitor object can be found in the z/OS Object Tree under the CA Vantage Internal Management branch. Normal CA Vantage automation can be performed based on this object. A checkpoint and a log entry are taken every time there is a state change. When the state changes for a resource, the previous state will be kept for display and reporting purposes. At all times each monitored resource will have a state of OK, Warning, or Failed. Within these common states, resources will have their own sub-states displayed in the Substate field.

## Cost / Benefit Analysis

Users implementing this release can see improvements in time savings and risk reduction due to automated monitoring and actions aligned to critical CA Vantage SRM components. Automation helps reduce manual administration by simplifying management ensuring protection and high-availability of applications and business information. It 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.

	ResName	ResType	Current St	Date	Time	State Mins	Substate	Substate Mins	Prev St	Configured
1	TCP/IP	Component	Ok	09-Apr-2008	05:38:57	1	Active	1	Warning	Y
2	POOLS	Collector	Ok	09-Apr-2008	04:37:55	62	WaitingNextCollect	18	Warning	Y
3	RaidPPRC	Collector	Ok	09-Apr-2008	03:03:55	156	InitialPPRCBuildComplete	150	Warning	Y
4	RaidPAV	Collector	Ok	09-Apr-2008	03:03:54	156	InitialPAVBuildComplete	156	Warning	Y
5	RaidTS	Collector	Ok	09-Apr-2008	03:03:49	156	IntervalDSSBuildComplete	9	Warning	Y
6	RaidEMC	Collector	Ok	09-Apr-2008	03:03:40	156	InitialEMCBuildComplete	156	Warning	Y
7	PRTEST1	GoaScript	Failed	09-Apr-2008	02:59:41	160	SyntaxError	160	Ok	Y
8	RaidCIM	Collector	Ok	09-Apr-2008	02:59:06	161	IntervalCIMBuildCompleted	36	Warning	Y
9	RaidBLD	Collector	Ok	09-Apr-2008	02:59:06	161	RAIDLVOLBuildComplete	156	Warning	Y
10	SNA	Component	Ok	09-Apr-2008	02:58:51	161	Active	161	Ok	Y
11	AUTO	Component	Ok	09-Apr-2008	02:58:51	161	Active	161	Ok	Y
12	EXTGRPS	Component	Ok	09-Apr-2008	02:58:51	161	Active	161	Ok	Y

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With business-critical systems that have to be available 24x7, if there is an interruption, even a scheduled one, I need it to be over as quickly as possible

### Symptom

When we start or restart our mainframe storage resource management product, it can sometimes take a long time to become available, delaying resumption of some production activities.

### Diagnosis

In earlier versions of CA Vantage SRM, object data collections processed upon every start or restart. Depending on the size of the storage environment and system load, this activity could take long periods and delay availability and use of the CA Vantage system. Example: real time object data collection of:

- Online data set descriptions
- Catalog entries with no corresponding data set
- Application space analysis
- Latest DFSMSHsm audit results
- And many more

### Cure

The new **Warm Start Feature** in CA Vantage r12 reduces overhead by check-pointing objects that are large and not scanned frequently; this gives you the ability to warm start these objects at system startup or restart time. Overhead is reduced because LI object data is reloaded to memory from its checkpoint copy, as long as the system has an eligible copy in the checkpoint data set.

### Treatment

Upgrade to CA Vantage r12 and review Chapter 22 "Working with Warmstart of Last Interval Objects" in the *CA Vantage User Guide*. Additionally, the INCLEXCL member in the SAMPLES library contains a recommended list of LI objects to be included. The *Warmstart* or *Checkpoint-restart* ability is available for the Last Interval (LI) objects. By default no LI objects are check-pointed. To enable the feature, you must specify which LI objects you want to be check-pointed in the "WarmStart Last Interval Objects" section of the INCLEXCL member in your PARMLIB.

### Cost / Benefit Analysis

These new automated actions for restart can help manage business risk by ensuring improved CA Vantage system rapid recovery and availability. It also provides consistency of service across applications and geographically dispersed locations. Therefore, it is possible to decrease downtime as well as CPU resource usage.

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

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### Symptom

We are exceeding the 32 bit capacity (2GB) of the current DTOC (Data Set Table of Contents). Keeping DTOC information below the 2 GB bar (within the address space) can obviously become a problem in the range of 2 to 4 million data sets. As a result we have had to develop non-standard "work-arounds", which can mean that product may not work effectively. It also limits our ability to fully exploit the product functionality.

### Diagnosis

Before CA Vantage r12, all object data was below the 2GB bar. CA Vantage SRM users have needed this virtual storage constraint relief because they have consumed the 2GB memory limit below the bar. It could consume all the available memory and 80A abends and unpredictable results would occur. As a result, there can be limitations on virtual memory usage for sites with very large numbers of data sets per CA Vantage SRM instance and related system resource overhead.

### Cure

The new **Memory Constraint Relief** feature in CA Vantage r12 means large objects can now be placed above the 2GB bar. The DTOC (All Datasets) object is the first to use this new support. The product uses the 64 bit architecture introduced for z/OS by IBM to increase the DTOC's capacity. All services that access the DTOC have been upgraded to the 64 bit architecture for compatibility. Also, the **DTOC Memory Option parameter (DTCMOPT)** can now be set to keep the current DTOC available while new scans are being done.

### Treatment

Upgrade to CA Vantage r12 and review Chapter 1 "New features" in the *CA Vantage Release Notes for Memory Constraint Relief (64-bit addressing)*. You should remove any exclusions you may have specified.

### Cost / Benefit Analysis

Placing the DTOC above the bar provides two large benefits. First, DTOC exclusions are no longer needed due to memory constraints. Secondly, memory below the 2GB bar for smaller objects is no longer constrained, eliminating most GETMAIN failures. Third, the DTOC Memory Option parameter (DTCMOPT) improves availability by eliminating wasted periods of time that DTOC information is not accessible.



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