



## EMC VisualSRM Storage Resource Management Suite

Increase utilization, improve availability, and automate file management processes for your multi-vendor mid-tier environment

### The Big Picture

- Visually display how resources are being used, and better manage those resources
- View file-level detail from either server or NAS views to ensure consistent management across infrastructure
- Track system and individual storage consumption to ensure capacity is available when and where it's needed
- Reduce or eliminate server outages and application downtime due to out-of-control disk space consumption
- Reclaim wasted capacity, identify aged and out-of-compliance files to save money and lower your total cost of ownership (TCO)
- Shorten backup windows so more work can be done in less time
- Meet business requirements more quickly and easily by implementing automated intelligence policies
- Increase storage utilization, further reducing storage TCO

### VisualSRM enables automated storage management

By simplifying and automating storage management for mid-tier environments, the EMC® VisualSRM™ Resource Management Suite allows administrators to take full advantage of their storage infrastructures through the most intuitive and easy-to-use management application available today.

EMC VisualSRM helps companies move from passive storage management processes to automated storage management, enabling users to understand the usage patterns and configure and proactively control the use of their storage resources according to business requirements within a SAN, NAS, and DAS environments. Administrators can set thresholds on criteria and events such as capacity levels, age of files, or time since a file has been accessed and set policies that define actions to be taken when an event occurs. Using VisualSRM, IT organizations can better manage their current resources and recover wasted assets.

Moreover, through VisualSRM's integration with the EMC DiskXtender® product line, customers can have a comprehensive and cost-effective storage resource management (SRM) and archiving solution.

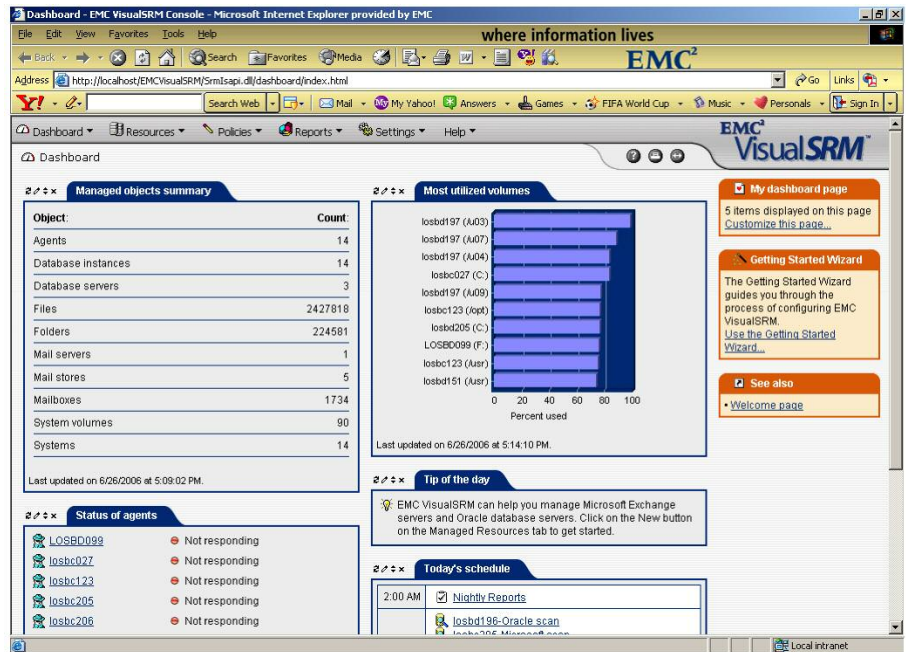
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## Achieve full functionality and value in minutes

VisualSRM can be installed in minutes, providing value within an hour. It installs by means of a series of simple, intuitive implementation and setup wizards. VisualSRM's feature set includes:

- **Intuitive User Interface:** VisualSRM provides an easy-to-use, customizable Web-based graphical user interface. The VisualSRM user interface utilizes wizards for policy creation, provides drill-down reporting capabilities, and supplies intuitive views of storage systems, applications, and their configurations.
  - **Openness:** VisualSRM is device-independent and supports heterogeneous platforms, providing file-level reporting on both UNIX and Windows platforms for SAN, NAS (Network Appliance and EMC Celerra®), and DAS in Fibre Channel and iSCSI environments. Platforms supported include Windows2000/2003, Windows NT, HP-UX, AIX, Solaris, and Linux.
  - **File-Level Policies:** VisualSRM enables IT administrators to set and enforce storage thresholds at such granular levels as volume, partition, share, directory, and sub-directory. When a threshold is exceeded, VisualSRM gives IT managers the flexibility to take a range of actions. If a user file system exceeds a threshold, VisualSRM can take an action to move, delete, compress, or archive files to free up space. VisualSRM helps companies categorize data and define category-based storage management policies that speed ROI by matching data with the most appropriate and cost-effective storage media.
  - **Policy-Based Management:** VisualSRM helps IT administrators meet their policy goals by automating processes across storage, system, and application resources. This saves time while providing predictable and repeatable results. VisualSRM provides the ability to sequentially execute policies through Policy Task Lists (PTLs), allowing policies to work together.
  - **Reporting:** VisualSRM provides 48 built-in reports that can be run interactively or as scheduled jobs, showing detail and summary-level information, including trending analysis for capacity planning and chargeback capabilities. VisualSRM has the ability to scan file systems to gather additional metadata on where a file resides. Files are noted as local or offline, allowing customers to accurately monitor and report within a tiered storage environment. Custom reports are easy to add. Reports can be generated in all the common formats—PDF, XML, HTML, XLS, and RTF.
  - **SRM and Archiving:** VisualSRM has light integration with the EMC DiskXtender product. In certain environments, VisualSRM, through its policy-based management capabilities, can kick-off a data movement in DiskXtender. When utilized together, these products represent a comprehensive and cost-effective storage management and archiving solution.
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EMC VisualSRM can manage your storage infrastructure from one intuitive and easy-to-use console.



## VisualSRM modules are tailored to your specific needs

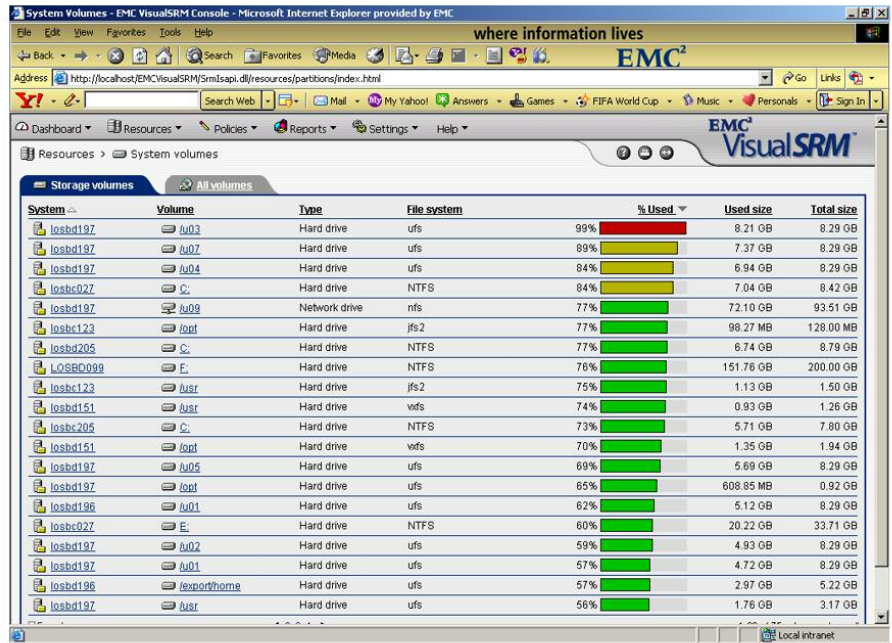
- **VisualSRM Base Edition:** VisualSRM Base Edition allows you to actively manage your storage with powerful visualization tools that allow for rapid identification of issues. It offers active, policy-based management of data storage resources for UNIX and Intel-based platforms using Microsoft Windows, MSCS clusters, and Linux platforms.
- **VisualSRM Enhanced Edition:** VisualSRM Enhanced Edition includes the features found within the Base Edition, plus centralized monitoring, reporting, and browsing with drill-down capabilities for NAS Celerra and Network Appliance environments, Exchange, Oracle, Microsoft SQL Server, and Sybase database applications.

## Comprehensive reports and the UI

### Key points and benefits

- Determine which servers as well as NAS systems are configured and used in storage the environment
- Understand file-level detail and summary utilization analysis of NAS devices
- See trends of database usage, table-level growth, and manage log files
- Identify databases that may be idle, yet consuming large amounts of storage
- Find databases that may soon exhaust the available space, helping to proactively plan for new storage to keep up with demand

This VisualSRM screen shows the top volumes by percentage of capacity used.



## EMC Global Services is available to jump-start your productivity

A VisualSRM solution can be quickly implemented with the EMC VisualSRM QuickStart service. This low-cost, two-day service accelerates time-to-value of storage resource management.

### Platform support

EMC VisualSRM currently supports the following server and application platforms. Contact your EMC sales representative or authorized reseller for the most current list of supported platforms.

- Windows 2000/2003
- MSCS Clusters 2000 and 2003
- Sun Solaris 9 & 10
- Red Hat Linux 3.0 & 4.0
- HP-UX 11.11 & 11.23
- IBM AIX 5.2 & 5.3
- VMware® 2.5.2 Guest Environment

### Application support

- Oracle 10g R2
- Microsoft Exchange 5.5, 2000/2003
- Microsoft SQL Server 2005
- Sybase 12.0, 12.5

### File migration support

- DX-DMC for EMC Celerra data migration

VisualSRM shows the top volumes by percentage of capacity used.

System	Volume	Type	File system	% Used	Used size	Total size
lqloe027	/usr	Hard drive	vxfs	97%	1.17 GB	1.20 GB
lqloe027	/opt	Hard drive	vxfs	71%	1.46 GB	2.07 GB
lqloe027	/var	Hard drive	vxfs	70%	709.91 MB	0.99 GB
lqloe027	/tmp	Hard drive	vxfs	63%	627.77 MB	0.98 GB
lqloe027	/	Hard drive	vxfs	58%	581.63 MB	0.98 GB
lqloe027	/extra	Hard drive	vxfs	51%	1.25 GB	2.44 GB
lqloe120	C:	Hard drive	NTFS	24%	7.16 GB	29.29 GB
lqloe027	/stand	Hard drive	hfs	21%	60.87 MB	288.11 MB
lqloe121	/	Hard drive	ext3	13%	4.27 GB	32.73 GB
lqloe027	/home	Hard drive	vxfs	9%	279.50 MB	2.93 GB
lqloe121	/boot	Hard drive	ext3	9%	8.96 MB	98.72 MB
lqloe027	/viewstore	Hard drive	vxfs	8%	251.92 MB	2.93 GB
lqloe120	E:	Hard drive	NTFS	2%	29.89 GB	1,840.20 GB
lqloe120	G:	Hard drive	NTFS	< 1%	121.97 MB	1,840.20 GB

VisualSRM provides file-level reporting for NAS.

**iosam210 properties**

- Hostname (Serial #): iosam210 (APM00044101781)
- Vendor & Model: EMC Celerra NS700
- Description: EMC nfs base install
- Operating System: EMC 5.5.17.2
- Server cluster partner: N/A
- Hardware Status: OK
- # Data Movers: 5 (4 Primary, 1 Standby)
- # NAS Clients: 0
- Storage: (39 File Systems, 154 Volumes)
- Used Capacity: 12,162.8 GB (41.0% of 29,631.1 GB)
- Used Sav/Vol Capacity: 0 bytes (0.0% of 0 bytes)
- Managed by: lqloe120
- License status: Licensed
- Scan policy: iosam210\_scan
- Last updated: Fri Dec 15 16:16:38 2006

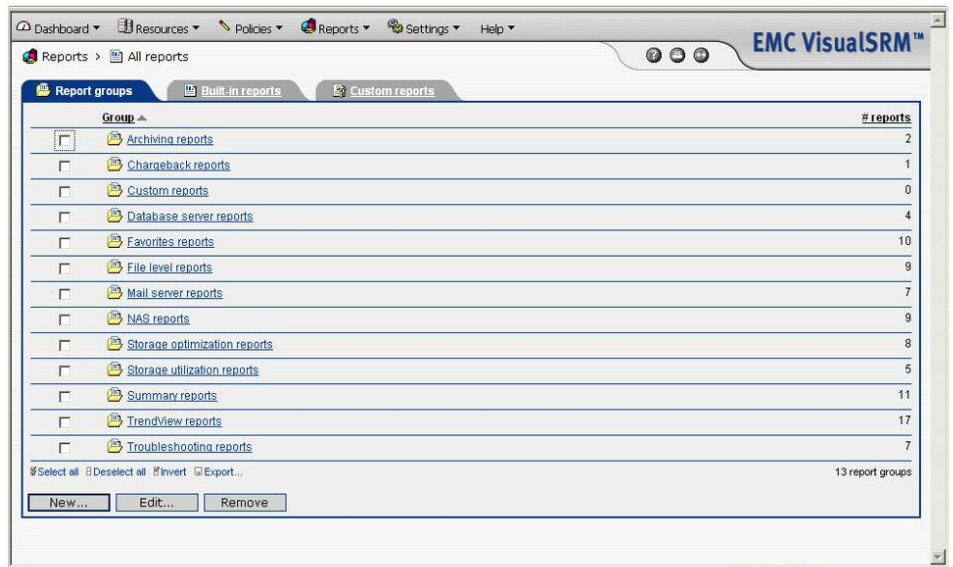
**30-day storage usage history**

Size (GB) vs Time

Name	In Use?	Type	Data Movers	% Used	Used Capacity	Total Capacity	Total Inodes	Free Inode
Aurva	✓	vxfs	server_1(RW)	52%	530.00 MB	1.00 GB	133,822	133,35

## Additional Report Groups

VisualSRM groups reports so you can easily find the information you need.



## Take the Next Step

For more information on the how EMC VisualSRM Resource Management Suite can help you simply and intelligently manage all your mid-tier storage resources, contact your EMC sales representative or authorized EMC value-added systems integrator. Or visit our website at [www.EMC.com](http://www.EMC.com).



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