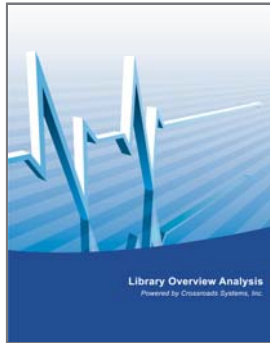


## Library Overview Analysis



### Overview

Storage administrators have responsibility for the operations, budget, backup and disaster recovery within a corporate data center. Many organizations incorporate a tape solution as part of their disaster recovery plan, but many see issues with backups continuing to take longer and longer. Failures occur, tapes are continually replaced, yet there isn't a good understanding of the root cause of the failures. In the meantime, storage needs are growing while budgets are shrinking. There needs to be a way to increase productivity, maximize existing assets, and reduce operating costs, all while ensuring that critical corporate data can be restored when needed.

The Crossroads Library Overview Analysis Service provides comprehensive analytics on the health, performance, and utilization of your tape library system. Delivered via a web portal, the Library Overview Analysis offers insight into the root causes of data errors, incomplete backups, system bottlenecks, and frequent component failure. Library Overview Analysis provides details that allow you to maximize the investment of your current tape system while minimizing the risk to corporate data. Library Overview Analysis identifies low performing devices, under- or over-utilized assets, and degrading components, and providing major cost savings through reductions in capital expenditures, on-going maintenance, and premature device wear. Detailed information offers quick drill down to the root cause of failure, providing reductions in time, labor, misdiagnoses, and destruction of good tape media.



Library Analysis

### Web Portal Report Delivery

The Library Overview Analysis is an annual service providing comprehensive monthly charts and reports that offer detailed insight into the overall operation of your tape library. In addition, a professional analysis with actionable recommendations summarizes environment activity on a quarterly basis. Delivered via a customized web portal, Library Overview Analysis offers insight into data traffic trends, system efficiency and device utilization, providing metrics for future capacity and acquisition planning. Targeted recommendations pinpoint suspect media, degrading drives, and sub-optimal configurations for quick problem resolution.



Drive-Tape Error Analysis

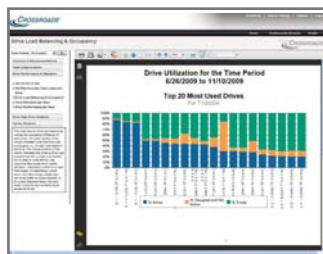
The web portal delivers comprehensive reports and graphs providing insight into these areas of the tape library system:

### Library Analysis

These graphs provide an at-a-glance view that the library is operating at optimal level, with confirmation that components are current revision and that data traffic is as expected. Trending analysis presents the data growth of the library over the weeks of the service.

### Drive-Tape Error Analysis

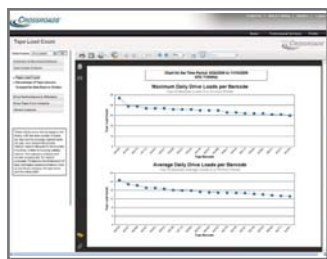
Misdiagnosing data errors can lead to major cost expenditures through disposal of perfectly good media, and risk data recovery by continuing use of faulty drives. The Drive-Tape Error Analysis identifies suspect media as well as defective tape drives, pinpointing degrading components.



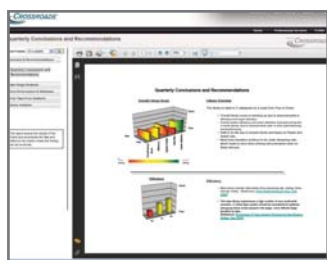
Drive Performance & Utilization

### Drive Performance and Utilization

Accurate capital expense plans depend on whether existing tape resources are being used effectively and efficiently. Individual drive performance is measured to identify isolated or systemic network, server, or application bottlenecks, as these bottlenecks can lead to failed, incomplete backups. In addition, maintenance cost savings can be gained by removing non-required assets. System down-time as well as capital expenses can be minimized by identifying and reducing premature wear on over-used or over-loaded components.



Tape Usage Analysis



Summary & Recommendations

## *Tape Usage Analysis*

Since tape environments are most efficient when large amounts of data are written during a single session, inefficient tapes sessions or over-frequent tape mounts can be identified to improve overall system and reduce premature wear on equipment.

## *Summary & Recommendations*

A quarterly summary of the analysis findings identifies risk areas, low efficiencies, and performance impacts. Actionable recommendations, such as drive removals or tape replacement, are offered for improving overall performance and minimizing data risk.

## **Zero Impact to Storage Infrastructure**

Data for the Library Overview Analysis is obtained through the Crossroads' ReadVerify Appliance (RVA), a standalone, self-contained device that installs quickly into your Storage Area Network. RVA integrates seamlessly into your existing tape environment: there are no agents to install, and no additional servers or components to purchase. Data collection is performed out-of-band of the backup or data application, and has no impact on the existing storage infrastructure.

## **Services Available**

Tape Environment Services comprise four distinct offerings: Library Monitoring and Alert Service, Site Analysis Survey, and Tape Verification Service. The Library Monitoring and Alert Service tracks a wide range of library parameters and provides daily reports on all triggered alerts. The Library Overview Analysis Service offers a portal into the efficiency, effectiveness and health of the tape library environment, with targeted, specific recommendations and observations. The Site Analysis Survey monitors the real-time operation of your tape storage system and provides a detailed analysis of the environment, complete with actionable recommendations and projected cost savings. The Tape Verification Service minimizes disaster recovery risk by validating that the information written to each tape can still be read. With the Tape Environment Services, you gain clear insight into their tape storage environment, allowing informed opportunities for cost savings, risk mitigation, and improved operation. With the increased visibility into the operation and usage of their library, you can proactively manage resources and address issues to minimize downtime and ensure the recoverability of your business-critical data.



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### **ABOUT CROSSROADS**

Headquartered in Austin, Texas, Crossroads Systems delivers flexible solutions to connect, protect, secure and restore business-critical data. Crossroads (symbol: CRDS) is currently traded on Pink Sheets and also posts its financial disclosure reports, press releases and other related documentation on the OTCIQ web service of the Pink Sheets website. For more information, please visit [www.crossroads.com](http://www.crossroads.com).

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