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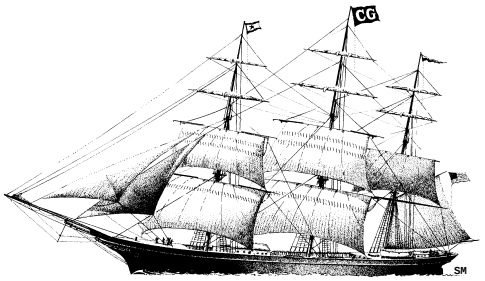

Navigating Information Technology Horizons℠

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MiraLink Lowers Cost and Complexity Of Remote Mirroring

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Be Prepared

One can hope that disasters like fires, floods, power outages, or major IT system failures do not happen to your business. Perhaps good fortune will prevail and no disasters will occur on your watch. **However, it is not wise to assume the rosiest scenario and fail to make disaster recovery plans.** That would be like making a habit of speeding and hoping to avoid a traffic ticket, which is not a good bet in the long run. A smarter approach is to be prepared.

From an IT perspective, the best preparation for protecting data from local disasters is remote mirroring. While all enterprises must protect data by periodically making copies using one or more techniques (e.g., backup, snapshots), mirroring goes the "extra mile" by adding distance and real-time replication to the equation. It provides a current or near-current copy of critical data far enough away to be isolated from local disasters. For instance, a data center in New York might mirror to a site in Colorado. A storm or power outage that hit the East Coast would not reach the Rockies. Remote mirroring minimizes recovery time from major disruptive events and mitigates the potential for data loss. It is good business practice. Moreover, industry regulations may encourage or require it, such as in financial services.

Remote mirroring deployments are most common in larger enterprises, primarily because of the historical cost and complexity of these solutions. The price tag can be high, even running into the millions of dollars, not to mention ongoing management and communication costs. However, small- and mid-sized enterprises (SMEs) increasingly want remote mirroring, but their IT budgets and staff are limited. They need solutions that fit within their means, which is the need that MiraLink is targeting.

MiraLink for Remote Mirroring

MiraLink, headquartered in Portland, Oregon, provides remote mirroring and disaster recovery solutions. Founded in 1994, its focus has been to develop and refine remote mirroring solutions. It has a portfolio of 3 patents and 24 pending in this area, and its products are now in their third generation. They offer a combination of performance, ease of use, and cost that is particularly suitable for SMEs.

Appliance Architecture

Unlike many other mirroring solutions that run on host servers or storage arrays, MiraLink offers an out-of-band appliance that connects to host servers directly or through a SAN (storage area network). It receives host writes and transmits them over an IP connection to a target appliance at a remote site.

IN THIS ISSUE

- Be Prepared 1
- MiraLink for Remote Mirroring 1
- Conclusion 2

This architecture is not intrusive to the existing infrastructure, nor does it create a point of failure in the data path. A solution can be up and running in one or two weeks.

Synchronous without Limits

Its "virtual synchronous" capability provides a synchronous copy (i.e., one that is fully current with production data) at any distance without slowing application performance. To accomplish this, it stores writes locally in an intelligent buffer before transmitting across the WAN, as the connection and bandwidth allow. The result is a synchronous copy – between the source and target appliances. The target itself becomes fully current when the production application ceases and the buffer has an opportunity to flush.

Enterprises normally choose between the distance and performance limitations of synchronous mirroring or the lag time and data exposure of asynchronous mirroring. It is an "engineering tradeoff". However, MiraLink's design does not impose this tradeoff.

No Host Software

MiraLink does not run agents or drivers to run on host servers. Instead, it leverages write mirroring features in the operating system or host bus adapter.[1] The appliance is self-contained in this regard. This approach simplifies installation. It also makes the solution acceptable to IT administrators who do not want additional agents or software on host servers because they consume processing resources and may interfere with the application.

Broad OS, Application, and Storage Support

MiraLink is OS independent, supporting *Unix*, *Linux*, *Windows*, and even mainframe. It supports the range of application and data types – structured (database), semi-structured (e-mail), and unstructured (file systems). It is also independent of the production storage system. Therefore, MiraLink can mirror data in nearly any environment. It displaces the need to deploy different solutions to accommodate heterogeneous systems.

Data Consistency

MiraLink processes writes in the same order at the remote site, creating an exact copy of production data. This data consistency minimizes the possibility of data corruption and speeds the time to recover.

Minimal Bandwidth Requirements

MiraLink can use remote communication links with minimal bandwidth and availability levels by buffering data during peak loads and temporary disconnects. Depending on application requirements and an enterprise's acceptable risk profile, it can work with a connection as low as a 56 kbps. This may allow the use of existing communication links instead of than upgrading, which saves on operating costs.

Low Price

The MiraLink appliances start under $10,000 for a source-and-target pair.

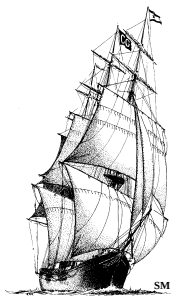
Product Line

The MiraLink product line consists of:

- *MiraLink 500* – Appliance containing up to 600 GB of low-cost SATA capacity.
- *MiraLink 1000* – Appliance containing up to 600 GB of high-performance SCSI capacity.
- *MiraLink 2000* – Appliance that scales to 6.4 TB in an external SATA array.
- *MiraLink 3000* – Appliance that scales to 10+ TB in an external SCSI array.

Conclusion

Remember that business continuity depends on maintaining access to data, and data access depends on effective protection and recovery. If you want to be prepared to recover quickly from a local disaster, the best solution is remote mirroring. The good news is that it may no longer be beyond your reach. So, **consider MiraLink. It offers solid and practical remote mirroring appliances, even for those with modest IT budgets and staffing.**



[1] In smaller configurations, the MiraLink appliance can serve as primary storage, as well as the mirroring device.

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About the Author

Michael Fisch **is Director of Storage and Networking for The Clipper Group.** He brings over ten years of experience in the computer industry working in sales, market analysis and positioning, and engineering. Mr. Fisch worked at EMC Corporation as a marketing program manager focused on service providers and as a competitive market analyst. Before that, he worked in international channel development, manufacturing, and technical support at Extended Systems, Inc. Mr. Fisch earned an MBA from Babson College and a Bachelor's degree in electrical engineering from the University of Idaho.

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