

ClearSight Networks Newsletter



ClearSight External Newsletter
May 2009

The Highest Performing Network Time Machine with Latest High-Speed, Stream-to-Disk and Advanced Encryption Technologies

ClearSight is first to announce the industry's first long-term network recorder based on 6 Gb/s (Gigabit per second) SAS (Serial Attached SCSI) drive technology, the fastest mechanical disk technology available in the industry. The [Network Time Machines](#) have always been designed around the RAID (Redundant Array of Independent Disks) standard to maximize capture performance; now using 6 Gb/s SAS drive components, ClearSight's network recorders are now able to capture and warehouse massive amounts of network data faster and more securely than any other solutions in the marketplace.



[6Gb/s SAS-based NTM](#)

As network traffic volumes continue to escalate, the disk technologies that have traditionally been used to store captured network information are being pushed closer to their capacity and speed limits. With enterprise deployments increasing the speed and volume of data they can transfer, it becomes critical for network and application management tools to support these data-intensive, highly-demanding environments. By transitioning to 6 Gb/s SAS storage technology well before market adoption of this specification takes place, ClearSight enables the highest network performance.

ClearSight's NTM provides support for all deployed Ethernet data rates, including 10 Gb/s, which further enables data center consolidation and virtualization. Now, with the use of 6 Gb/s SAS technology, the high capture rates and large storage capability of the NTM product will continue to keep pace with these newer networks. This new NTM will also leverage the encryption capabilities of 6 Gb/s SAS drive technology that uses the Advanced Encryption Standard (AES). Customers that use the NTM will be reassured to know that even the most sensitive of captured network data is guarded against theft and unauthorized access.

[more](#)

SATA and SAS Drive Technologies: What Are The Differences?



Some of ClearSight's [Network Time Machines](#) use SAS (Serial Attached SCSI) drives for the RAIDed storage subsystem to warehouse the captured network traffic. Some other models use SATA (Serial ATA) drives. Most folks are aware that SAS drives are higher performing than SATA drives, but there are other key differences as well.

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Let's go back in time. It is 2002, and the two major drive standards at the time were ATA/IDE and SCSI. Virtually every desktop and notebook computer at the time used ATA/IDE drives. SCSI drives, more reliable and higher performing than ATA/IDE drives, were used in high-end server applications.

Both ATA/IDE and SCSI are parallel bus technologies; when data is transmitted (or received) over these buses, it is done through a large number of wires. This is the reason why ATA/IDE and SCSI employed flat but clunky wide ribbon cables to connect controllers to the drives; ATA/IDE used 80-wire cables and SCSI used 68-wire cables.



SAS and SATA are serial bus technologies; they transmit and receive data, one bit at a time, over a set of differential pair wires. On the surface, it would appear that parallel buses would outperform serial ones. But this is not the case. It has to do with the fact that at higher speeds, parallel buses suffer from an electrical phenomenon known as inter-symbol interference; this condition greatly reduces the reliability of the data transmitted over parallel buses at high speeds, making such bus types difficult to scale as the speed increases. Serial bus technologies, on the other hand, are much more amiable when it comes to speed scalability. Today there are 6 Gb/s SAS and 3 Gb/s SATA drives available – 3 Gb/s SATA serial buses offer around two times better throughput than the fastest ATA/IDE buses.

On the serial side, SATA is a more cost-efficient drive technology than SAS. The price differential is large; on a cost per GB basis, SAS drives cost 10-15 times more than SATA drives. The main reasons for this are that SAS drives are often more reliable and have better performance characteristics than SATA drives.

SAS drives are typically faster than SATA drives. 6 Gb/s SAS drives have been shipping for nearly 9 months now, whereas 6 Gb/s SATA drives are not expected to become available until sometime in 2010. SAS drives also spin at a higher rate. Drives that spin at a faster rate (RPM or rotations per minute) provide better performance. SAS drives come in 7.2K (7200 rotations per minute), 10K, and 15K RPM models, whereas SATA drives are available in 5.4K, 7.2K, and 10K RPM configurations.

SAS is a full duplex communication protocol, meaning that it can transmit and receive information at the same time. SATA is a half duplex protocol – it can only transmit or receive at any given time. Full duplex protocols offer better performance. Here is a table that summarizes the differences between the SAS and SATA drives.

	SATA Drive	SAS Drive
Duplex	Half-Duplex	Full-Duplex with Link Aggregation
Top Rotation Speed	10,000 RPM	15,000 RPM
Top Capacity	2 TBs	1 TB
Data Rates	1.5 Gb/s 3.0 Gb/s 6.0 Gb/s (in 2010)	3.0 Gb/s 6.0 Gb/s 12.0 Gb/s (in 2013)
Availability	Single port drive	Dual port drive
Bus Connection	Point to Point Port Multiplier	Point to Point (multi-initiator and expanders)
Hot Plug	Yes	Yes

Have a question? Or would you like to learn more? Drop me a line at swong@clearsightnet.com.



[Download the Video](#)

- Using ClearSight Analyzer Reports for Network Data Analysis



[Download the Video](#)

- Using ClearSight Analyzer for Postcapture Analysis



[Download the Video](#)

- Creating and Applying ClearSight Analyzer Filters



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Past Issues

- Mar 2009
- Jan 2009
- Nov 2008
- Sep 2008
- Jul 2008
- May 2008
- Mar 2008

Introducing Network Time Machine 7.0 and ClearSight Analyzer 7.0



[Network Time Machine 7.0](#)

The emergence of more VoIP services over the next few years may attract organizations to use mobile VoIP more frequently. Meeting the challenge of maximizing the quality of service (QoS) related to voice transmissions in wireless communications, ClearSight is now able to deliver a high quality end-to-end mobile VoIP experience. The [NTM 7.0](#) captures and analyzes data from audio and visual network transmissions - such as video conferencing, multimedia entertainment services, telemedicine, surveillance, live video broadcasting and video-on-demand - and makes meaningful measurements using MOS, R-values and other metrics.

Innovation and growth are cornerstones to ClearSight's NTM family of solutions. ClearSight has recently expanded the NTM feature set into the 10 Gb/s Ethernet arena; extended its reach to small- and medium-sized businesses (SMBs) with the availability of ClearSight [Network Time Machine \(NTM\) Express](#), a turn-key data capture and analysis system for enterprises looking for a cost-effective network recorder appliance; and enabled a new level of interoperability with Wireshark, a popular software protocol analyzer. We also recently announced the world's fastest and most secure NTM using RAIDed 6 Gb/s Serial Attached SCSI (SAS) drives and supporting hardware level data encryption.

[more](#)

Miercom's NoJitter UC Product Review and Test Results At Voicecon

Unified communications (UC) is a business trend to simplify and integrate all forms of electronic communications. Back in March, Miercom delivered a presentation on UC (titled: *Unified Communications: Results from the Lab*) at VoiceCon in Orlando. ClearSight is proud to be one of the measurement tools used in Miercom's testing of various UC offerings.

[more](#)

ZC Sterling Corporation Uses ClearSight Products

With headquarters in Atlanta, Georgia and operations in California, Florida, Iowa, Nebraska, New Mexico and North Carolina, ZC Sterling Corporation (www.zcsterling.com) is a leading provider of specialty insurance and technology-enabled solutions for the mortgage servicing industry.

The company provides hazard insurance tracking and outsourcing services, voluntary homeowners insurance, customized real estate tax services, back office business process outsourcing, customer care solutions and Hispanic call center services for lenders, mortgage servicing organizations and homebuilders nationwide.

With an extensive nationwide network of contact centers, ZC Sterling depends on VoIP technology as a more cost-effective alternative to traditional phone services. However, the company was finding that it faced challenges inherent with VoIP service, including intermittent lapses of audio, echo, and other problems which had potential to negatively impact ZC Sterling's quality of service. Problems of this type are not uncommon for companies deploying VoIP technology.

ZC Sterling understood the importance of network monitoring technology and needed to find a network monitoring technology that would effectively monitor its VoIP communication. The company turned to its partner Interactive Intelligence, a leading innovator in call center technology, for recommendations. Interactive Intelligence suggested several VoIP seminars to assess network monitoring software and VoIP troubleshooting.

[more](#)

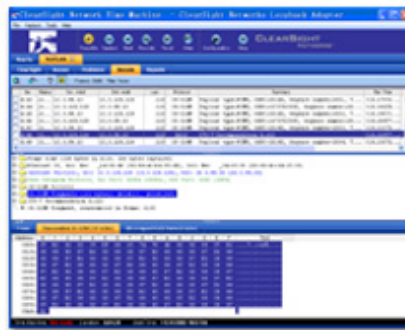
See What You are Missing; ClearSight Supports the Evolutionary 3G-324M Mobile Protocol

The new versions of [ClearSight Analyzer](#) and [Network Time Machine](#) provide support for the 3G-324M mobile protocol. A derivative of the International Telecommunication Union (ITU) H.324 protocol developed originally for the public telephone network, 3G-324M provides a key new feature: multimedia capability for newer 3G networks over its older 2G/2.5G siblings. At present, 2G and 2.5G support the delivery of video clips and pictures over packetized wireless networks such as GPRS or 1XRTT. However, these standards do not have the critical latency profiles required to support the next great thing in mobile telephony: two-way conversational and interactive video telephony. Enter 3G-324M.

In Japan, carriers and handset manufacturers have already begun to implement services and products around the 3G-324M standard, in order to provide conversational voice and video services to Japanese customers. Lead by carriers J-Phone and NTT DoCoMo and handset vendors Toshiba, SHARP, Sanyo and Panasonic, 3G-324M promises to usher in a new era in mobile communication. Look for the technology to shortly also make its way

across the Pacific into the United States, Europe and beyond.

In addition to providing protocol analysis support of this important new mobile protocol, the ClearSight Analyzer and Network Time products calculate MOS (Mean Opinion Score) for each 3G-324M conversation to help characterize and quantify QoE (Quality of Experience). These new tools will enable handset designers to accelerate their design, carriers to ensure interoperability and consumers to reap the benefits of this new technology sooner than ever before possible.



[3G-324M Support on NTM](#)

Keeping Up With the Dow Joneses



As machine-readable news algorithms gain more attention, firms and vendors alike must pay close attention to monitoring technologies to avoid the dual pitfalls of automated trading-latency and message loss.

In the securities markets, trading firms are constantly competing to obtain the most valuable information and to apply it in a way that optimizes the prices at which securities are bought and sold. Under these ideal conditions, firms can realize enormous trading profits.

Orders are often placed electronically, based on decisions made using a variety of data inputs such as news feeds, bid and ask prices, as well as trading volume history. In recent years, data inputs such as news feeds have become quite sophisticated. Much of the financial news available is distributed in a compact, machine-readable form (such as XML files) that can be quickly evaluated by software rather than a human reader -- often in a millisecond or less. Examples are Thomson Reuters' NewsScope and Dow Jones' Elementized News Feed.

If a trading firm sets out to optimize the entire trading process, it becomes important to manage the input data faster and more appropriately than other firms. However, certain questions arise at the outset.

[more](#)

News Flash

This section is aimed at keeping you informed with the most recent ClearSight news and articles.

ClearSight adds 3G mobile monitoring to Network Time Machine

(Network World - May 08, 2009) ClearSight Networks has updated its Network Time Machine (NTM) monitoring system to include 3G mobile voice traffic. Read the full article at [Network World](#).

ClearSight Networks Improves 3G Mobile VoIP Experience with Network Time Machine 7.0

(Enterprise Systems - May 07, 2009) ClearSight Networks today announced the release of version 7.0 of its network capture appliance, Network Time Machine (NTM), enabling network administrators to quantify voice quality on 3G mobile networks and meet the demands of increased network traffic and mobile internet services. Read the full article at [Enterprise Systems](#).

Network Capture Appliance Upgrades for Higher Traffic Levels

(What'sNewInMobile.com - May 07, 2009) ClearSight Networks has upgraded its leading network capture appliance, the Network Time Machine (NTM). Version 7.0 of the NTM family enables network administrators to quantify voice quality on 3G mobile networks and meet the demands of increased network traffic and mobile Internet services. Read the full article at [What'sNewInMobile.com](#).

ClearSight Introduces Long-Term Network Recorder Based on 6Gb SAS

(StorageNewsletter.com - May 07, 2009) ClearSight Networks, provider of application and analysis tools for dynamic networks, announced the industry's first long-term network recorder based on 6 Gb/s (Gigabit per second) SAS (Serial Attached SCSI) drive technology, the fastest mechanical disk technology available in the industry. The ClearSight Network Time Machine (NTM) has always been designed around the RAID (Redundant Array of Independent Disks) standard to maximize capture performance; now using 6 Gb/s SAS drive components, ClearSight's network recorders are now able to capture and warehouse massive amounts of network data faster and more securely than any other solution in the marketplace. Read the full article at [StorageNewsletter.com](#).

ClearSight Networks Releases Version 7.0 of Network Time Machine (NTM) Market-Leading Network Capture Appliance

(Telecommunicationnews - May 07, 2009) ClearSight Networks, provider of application and analysis tools for dynamic networks, announced the industry's first long-term network recorder based on 6 Gb/s (Gigabit per second) SAS (Serial Attached SCSI) drive technology, the fastest mechanical disk technology available in the industry. The ClearSight Network Time Machine (NTM) has always been designed around the RAID (Redundant Array of Independent Disks) standard to maximize capture performance; now using 6 Gb/s SAS drive components, ClearSight's network recorders are now able to capture and warehouse massive amounts of network data faster and more securely than any other solution in the marketplace. Read the full article at [Telecommunicationnews](#).

McFly! ClearSight Updates Network Time Machine

(Xchange - May 07, 2009) ClearSight Networks has released version 7.0 of its network capture appliance, Network Time Machine. This latest enhancement enables network administrators to quantify voice quality on 3G mobile networks and meet the demands of increased network traffic and mobile Internet services. Read the full article at [Xchange](#).

ClearSight Shows 6-Gig SAS Capture Appliance

(Byte and Switch - Apr 22, 2009) ClearSight Networks, a worldwide provider of application and analysis tools for dynamic networks, today announced the industry's first long-term network recorder based on 6 Gb/s (Gigabit per second) SAS (Serial Attached SCSI) drive technology, the fastest mechanical disk technology available in the industry. The ClearSight Network Time Machine (NTM) has always been designed around the RAID (Redundant Array of Independent Disks) standard to maximize capture performance; now using 6 Gb/s SAS drive components, ClearSight's network recorders are now able to capture and warehouse massive amounts of network data faster and more securely than any other

solution in the marketplace. Read the full article at [Byte and Switch](#).

Voicecon 2009 Unified Communications Presentation: Miercom NoJitter UC Product Review and Test Results

(VoiceCon Orlando 2009 - Apr 2, 2009) A presentation given today by Rob Smithers, CEO at VoiceCon 2009 in Orlando, FL that shows how Miercom is featuring and using ClearSight Products. Read the full article at [VoiceCon Orlando 2009](#).

Does SOA Increase Security Risks?

(ebizQ.net - Mar 11, 2009) Companies need to be extra vigilant about their security profiles in these difficult times, and the last thing they need is for their SOA solution to increase their security risks. So the question is: does it, and if so, what can you do about it? Read the full article at [ebizQ.net](#).

**Network Time Machine, Network Time Machine Express, ClearSight Apex and Network Time Machine Atlas are registered trademarks of ClearSight Networks.
Wireshark is a registered trademark of Gerald Combs.**

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