



## Enova SecureNAS

### Model: T1

### Secure Network Storage & File Server Specification 1.1



The **Enova Technology SecureNAS** (the picture above shows model T1) is a real-time encrypted networked storage server that equips with proven data-at-rest security, advanced security architecture, secure authentication, and access control. It integrates Enova Technology's latest **X-Wall MX**<sup>1</sup> on the backplane of a high performance hardware RAID 5 or RAID 6 storage sub-system while the KEYS and CERTIFICATES are delivered securely via a remote Key Server which runs under Windows XP Pro, Windows Vista, and/or Windows Server 2003. As simple as a notebook computer running XP Pro can act as the Key Server which provides enterprise-class key management system. The entire high performance hardware RAID 5 and/or RAID 6 storage sub-system is secured by **X-Wall MX real time full disk encryption** processor thus the

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<sup>1</sup> X-Wall MX comes with SATA interface and AES ECB or CBC 256-bit strength. Reference to Enova Technology web link [http://www.enovatech.net/support/download/X-Wall%20MX\\_FAQ\\_v4.pdf](http://www.enovatech.net/support/download/X-Wall%20MX_FAQ_v4.pdf) for details.

overall disk IO throughput is unaffected. Each of the SATA disk drive that connects to the high performance hardware RAID 5 or RAID 6 storage sub-system is real-time encrypted with NIST (USA) and CSE (Canada) certified AES 256-bit strength under either ECB (Electronic Code Book) or CBC (Cipher Block Chaining) mode of operation. As the keys that operate each individual SATA disk drive are not stored permanently inside the system, attempts to remove each individual drive to get to the sensitive data will be proven futile. Furthermore, stolen of the entire **SecureNAS T1** presents absolutely no harm to the data stored inside the disk drives as the KEYS and CERTIFICATES will need to be delivered via a remote Key Server upon power on authentication for which a proven Public Key Infrastructure (PKI) architecture has been deployed.

The **SecureNAS T1** boasts a 16TB<sup>2</sup> capacity and can be extended more with upcoming models. The high performance hardware RAID configuration is set at either RAID 5 or RAID6. Two or more full duplex Gigabit Ethernet ports, which can be trunked together through software settings that offers multiplied bandwidth a standard Gigabit Ethernet could offer, are provided for TCP/IP connection.

**SecureNAS T1** supports native CIFS, NFS, and AppleTalk file protocols thus it merges nicely into your existing Gigabit Ethernet network. Applications running over CIFS and NFS can be

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<sup>2</sup> Disk drives are not included in the **SecureNAS T1 System**



easily migrated into the **SecureNAS T1** without modifications; Authentication service such as Active Directory Service (ADS) can be integrated nicely with the **SecureNAS T1** as the cryptographic operations are done on the data read/write commands and are not on the Packet level thus compliance to the ADS is automatic and transparent; Encryption is done real-time with dedicated NIST and CES certified hardware AES 256-bit cryptographic processor in either ECB or CBC mode of operation to ensure that all Data-At-Rest (DAR) are properly secured with US and Canada government certified AES hardware; No performance degradation over disk IO operations due to heavy cryptographic operations; And enterprise key management system is provided for authentication and key management to each network connected **SecureNAS T1** through a working Key Server.

### Security Features

- Dedicated hardware real-time AES 256-bit cryptographic processor for each connected SATA disk drive on the backplane controller, encrypting every data block written to the disk while decrypting every data block read out from the disk drive without performance degradation;
- Key Server that authenticates the **SecureNAS T1** remotely through certificate exchanged. The keys and credentials that operate the **SecureNAS T1** stays on the Key Server. The **SecureNAS T1** does not have any KEYS after powering down;
- The Key Server can be installed on a standard laptop running Windows XP or Vista; or on a

high end machine running Windows 2003 Server;

- Optional Backup Key Server can duplicate every parameters that Key Server is operating;
- The remote License Server, which operates separately from the Key Server, creates licenses files for each connected **SecureNAS T1** and Key Server such that only pre-defines functions and features can be properly executed;
- Optional Secure File Transfer Protocol allow secure transportation of selected files and folders remotely from **SecureNAS T1** to another through standard Ethernet connection;

### NAS Features

- 19" rack-mountable 3U chassis with up to Sixteen (16) hot-swappable SATA II hard drives
- Generic CIFS, NFS, and AppleTalk file protocols;
- Hot spare and automatic hot rebuild;
- Two standard Gigabit Ethernet ports that allows standard LAN or WAN configurations; Trunking/ Failover/Load-balance modes for option;
- High performance hardware RAID 5 and 6 configurations;
- Front-end LCD panel for RAID setting & ENC status;
- Java-based GUI for centralized data and storage management;
- Share management and permission with advanced ACL setting;



## Hardware Technical Specifications

<b>Model Name:</b> <b>SecureNAS T1</b>
<b>Product Description:</b> <b>Secure Network Storage File Server</b>
<ul style="list-style-type: none"> <li>◆ Powered by Enova <b>X-WALL MX 256</b> AES 256-bit real-time full disk encryption engine certified by NIST (USA) and CSE (Canada) for ECB (Electronic Code Book) and/or CBC (Cipher Block Chaining) mode of operation</li> </ul>
<ul style="list-style-type: none"> <li>◆ Default two Gigabit Ethernet ports</li> </ul>
<ul style="list-style-type: none"> <li>◆ Up to Sixteen hot-swappable SATA II (3Gb/s, NCQ support) hard drives</li> </ul>
<ul style="list-style-type: none"> <li>◆ High performance hardware RAID 5 and RAID 6 configuration to ensure data integrity</li> </ul>
<ul style="list-style-type: none"> <li>◆ Two(2) redundant 700W hot-swappable power supplies with PFC</li> </ul>
<ul style="list-style-type: none"> <li>◆ Real-time drive activity and status indicators and environmental monitoring unit</li> </ul>
<b>Connectivity</b>
<ul style="list-style-type: none"> <li>◆ SMB</li> <li>◆ CIFS over TCP/IP</li> <li>◆ NFS over UDP/IP</li> <li>◆ Novell Netware</li> <li>◆ AFP over Apple Talk</li> <li>◆ Mac Zones</li> <li>◆ FTP &amp; HTTP file transfer</li> <li>◆ DHCP, NAT, Internet gateway, &amp; WINS Server</li> </ul>
<b>General</b>
<ul style="list-style-type: none"> <li>◆ File Server Independent and peer-to-peer operation</li> </ul>

<ul style="list-style-type: none"> <li>◆ Localized and multiple language support with multi-node Management GUI</li> </ul>
<ul style="list-style-type: none"> <li>◆ Supports NIC, trunking, load balance, and fail over</li> </ul>
<ul style="list-style-type: none"> <li>◆ Supports Microsoft ADS / PDC and Unix NIS accounts import</li> </ul>
<ul style="list-style-type: none"> <li>◆ SNMP/MRTG management and notification</li> </ul>
<ul style="list-style-type: none"> <li>◆ Online firmware upgrade</li> </ul>
<ul style="list-style-type: none"> <li>◆ CLI management via Telnet or SSH</li> </ul>
<b>Power requirements</b>
<ul style="list-style-type: none"> <li>◆ AC 90V ~ 264V Full range</li> </ul>
<ul style="list-style-type: none"> <li>◆ 10A ~ 5A, 47 ~ 63Hz</li> </ul>
<b>Physical Dimension</b>
<ul style="list-style-type: none"> <li>◆ 133(H) x 482(W) x 730(D) mm</li> </ul>