

Tom Holub of WSTF TDRSS is faced with two separate TDRSS storage projects at WSTF. In discussing these projects with Tom it became apparent that a redeployment of resources was required to address additional requirements not previously discussed. The projects are as follows;

TDRSS customer scheduling system

The TDRSS customer scheduling systems (Figure 1) are comprised of systems in a traditional multi-tier architecture. This two level tier presently employs the use of 2 - HP3500's at the top level providing the customer interface. The second layer provides Oracle services on 2 - HP 9000's.

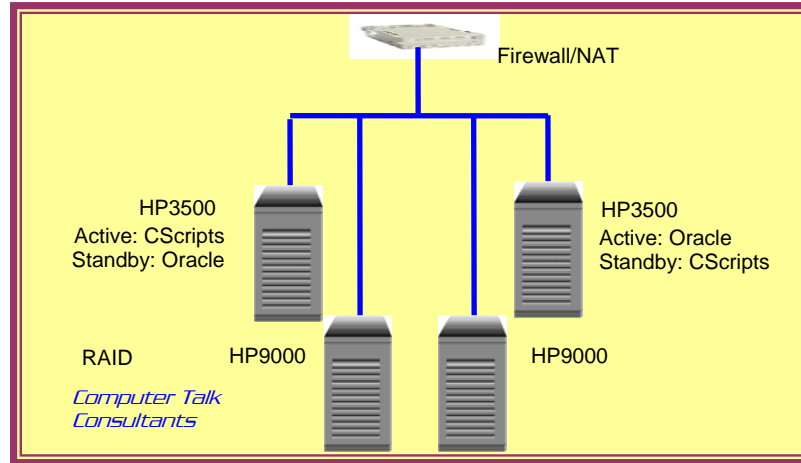


Figure 1 – Existing

In both tier levels one system is in standby mode and requires significant user intervention for a “fail over” to provide continues service for the customer. Data is “copied” once a day at midnight and at worst case can be 23 hours old (primarily the Oracle data base). Secondly, the Oracle database has soon to outgrow the capacity of the existing drives on the HP 9000's.

We discussed a topology providing the following requirements and specifications;

- 1) Required storage space for Oracle data base (not Binaries)
- 2) Reducing the administrative intervention required for providing continuous operation.
- 3) Reducing the system cost.
- 4) Increase the system performance and number of customer requests.

After further discussion Tom agreed to the following features and functions;

- A.) The top tier would reutilize the existing HP3500 systems. The systems would continue housing the customer interface scripts, but would also provide for the Oracle binaries. The configuration would be as shown in figure 2; Figure 3 represent having both in an active state but is very dependent on the Oracle licensing and configuration.
- B.) The second tier would be a NFS device “NAS” that would provide for the oracle database. This “NAS” would be Intel based and would incorporate PCI RAID storage. This tier would also incorporate the use of a tape backup system for protecting the Oracle database information, and be independent of tier 1.

## Computer Talk Consultants

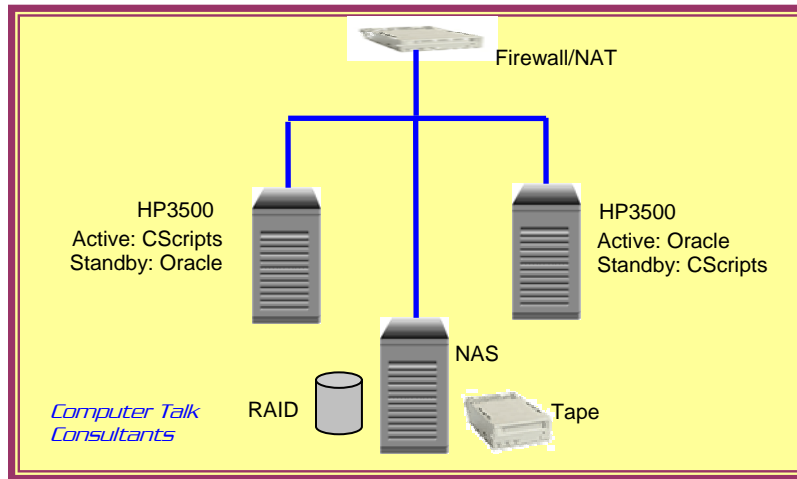


Figure 2 – Proposed solution A

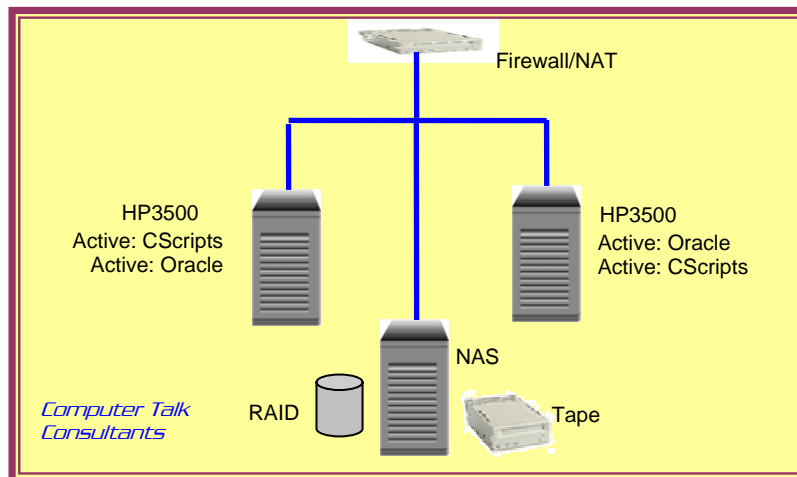


Figure 3 – Proposed solution B

### TDRSS Customer Data Format Converter;

The TDRSS Customer Data Format converter at present offers customers a “bent pipe” converted delivery of data. At present data is taken from downloads or tape in a NASCOM format then processed by one of two Antec systems and delivered to the customer via TCP/IP (Figure 4).

TDRSS has identified the following requirements and specifications;

- A.) Number of Antec systems will increase from 2 to 4.
- B.) “Bent pipe” or tape data shall reside on Antec systems for re-delivery.
- C.) All saved data shall be available for delivery from any of the 4 Antec systems.

The Antec systems are an Intel based system with a current operating system of Windows 4.0. The next generation systems that are the planned replacements for the current ones at TDRSS have W2K as the operating system.

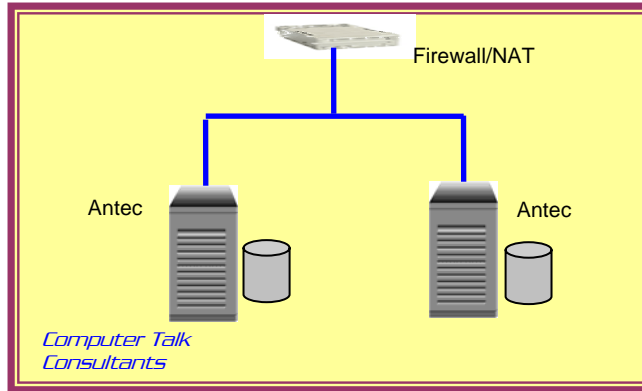


Figure 4 – Present Antec System

The solution discussed at WSTF, as shown in figure 5 is the deployment of a Wintel system. This system shall be based on W2k and provide SMB shares to the present and future Antec converters. Incorporated in the Wintel solution shall be a PCI IDE RAID storage system with a minimum of 4 IDE drives with a tape backup.

The system when deployed will provide TDRSS the ability to direct requests to any of the 4 converters through the utilization of the existing firewall and NAT services.

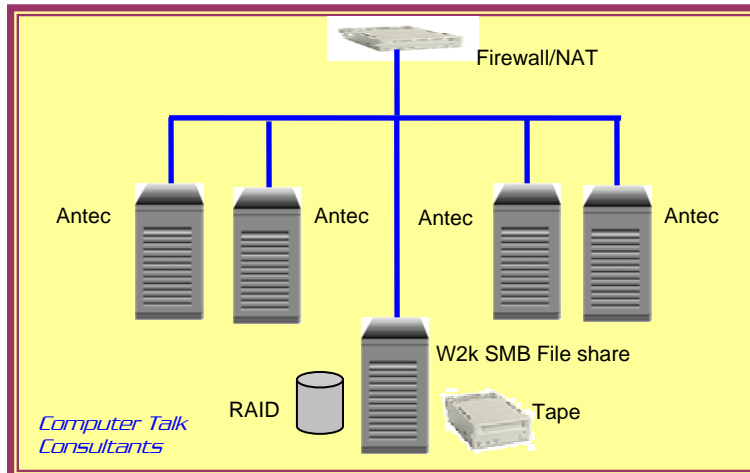


Figure 5 – Proposed Antec Solution

**NAS System Configuration (Both Projects)**

Case

CR1300	Access : Removable top (screws)
sku:CR1300	Door : n/a (Lockable)
SIZE : 19x21x7 (WxDxH)	Feet : n/a
Drive Bay :	Interior Qualities :
7 External 5.25"	Rail : n/a
1 External 3.5"	Air Filter : n/a
0 Internal 5.25"	Motherboard Clearance : 11"
0 Internal 3.5"	Motherboard Plate : Fixed
Exterior Qualities :	Fan Included : AC058x2
	Optional Fan : AC056MBx1



CR1300

Power Supply

<p>P500RXI2(I-Star) sku:P500RXI2                  Proprietary-PS2 500W hot swappable redundant ATX 2.03 compliance power supply. Size : 5 7/8" x 7 7/8" x 3 3/8"</p>	
<p>MFG. Model # : TC-500R8A</p> <ul style="list-style-type: none"> <li>- Input : 100V - 240V ~ 40A/20A, 50/60Hz</li> <li>- PS2 Hot-Swappable Redundant</li> <li>- True Redundancy: 2 x AC outlets</li> <li>- Dual Fans design : 2 x 8cm</li> <li>- +5Vsb = 1.5A</li> <li>- Support Intel V2.03</li> <li>- All output equipped with short circuit protection</li> <li>- Output overcurrent protection</li> </ul>	<ul style="list-style-type: none"> <li>- High MTBF</li> <li>- Power Plug : (Main) 24-pin, 8-pin, (12V) 4-pin</li> <li>- HD/CD Plug : 10</li> <li>- FD Plug : 2</li> <li>- Power Lead Length : 18"</li> <li>Meet : UL, VDE, CUL, CB, CE</li> <li>- Comply : FCC</li> </ul>



P500RXI2 (I-Star) -Dual Power Supply

## System Board

SY-P4X400 DRAGON Ultra Platinum  
Intel Socket-478 Pentium 4 Based VIA P4X400 Chipset ATX Motherboard With Hyper-Threading, 400/533MHz FSB, DDR400 and 8X AGP Support  
DDR400/333/266 SDRAM support, with adjustable voltage  
Embedded HiPoint IDE-RAID chip, providing ATA-133 IDE-RAID 0,1,0+1  
On board CMI 8738 providing 6-channel audio solution / optical and SPDIF output included for crisp digital audio  
Universal 8X AGP Pro with adjustable voltage  
Overclocking, CPU FSB adjustable by 1 MHz increment  
On board 10/100 Mbps Ethernet function by Realtek controller Ultra: USB 2.0 on board  
Free Bundled Features: Sigma Box featuring 4 front USB 2.0 ports, SPDIF Audio Connector, SOYO 8-in-1 CD Pack, ATA-133 IDE cables  
Adjustable CPU FSB, core voltage & multiplier via BIOS setup  
Adjustable DIMM voltage  
Adjustable AGP Pro voltage  
Advanced Management Capabilities: Software power off control, Power-on by keyboard, Power-on by Alarm, Modem Ring On  
  
Supports ATX12V power supply only  
Supports on-board Hardware Monitoring and includes Hardware Health Utility to streamline your PC management  
  
Supports WOL (Wake On LAN) function to simplify network management  
Suspend To RAM, Suspend To Disk



Soyo - P4X400 DRAGON Ultra Platinum Edition

## Storage

Western Digital 120 GB WD1200 UATA 100 8 MB Buffer  
Capacity: 120 GB  
Seek Time: 8.9 ms  
7200 RPM  
8 MB Buffer  
Data Lifeguard: WD's exclusive hardware, software and services designed to protect your data.  
Hard Drive Cable Included  
3 Year Limited Manufacturer Warranty

## Memory

1GB DDR400 SDRAM