

FRED-C

Forensic Recovery of Evidence Data Centre

Features:

- Faster than a local hard drive
- Significantly faster than a Windows Server
- 2.5 to 3GB/Minute
- FRED-C Forensic Data Centers are individually designed to meet your requirements



Faster than a Local Hard Drive

Image a hard drive directly to a Forensic File Server 25% faster than you can image to a local hard drive...DIRECTLY to the server over standard Copper Gigabit Ethernet. There's no need to image to your workstation and then copy it up to a slow server.

Significantly Faster Than a Windows Server

A Forensically Optimised Network Operating System 300% faster than Windows Server running on the same hardware!

6.6Gb/minute Imaging Speeds From Four Workstations Simultaneously

Real-world forensic benchmark utilising Tableau Imager (TIM) to image drives connected to the UltraBay II on our FRED Workstations.

Keep Your Existing Clients

Use the same Operating Systems on your desktop as always (i.e. Windows 7). Our Forensic Network Operating System integrates seamlessly with your existing clients.

Centralised File Storage

Consolidate your storage investment. No need to buy lots of standalone hard drives to pass around your lab. No wondering where that case data is. Stop wasting money on individual hard drives or portable RAID arrays.

Centralised Access Control/Security

Decide who has access to what evidence from a single vantage point. Determine which investigators have access to which cases and optionally log all access to your evidence.

Centralised File Sharing

Allow multiple investigators to work on a single case using a single set of Data Files.

Centralised DATA Backup

Backup and Restore data from a single vantage point into a single offline repository using a 16 tape LTO-4 Ultrium robotic tape library. Maintain your data in two separate locations at all times (online and offline).

Completely Configured

It's a complete network in a rack including all TCP/IP services (DNS / DHCP). Just connect your workstations with Cat 5e or Cat6 Gigabit Ethernet, load the network client, and you're ready to go! We establish a proven storage architecture that makes your access control simple and your backup activities manageable. We even set up your backup jobs and establish your automatic drive mappings for you. Instead of imaging to a local hard drive (i.e. "D:") you simply use your network drive letters instead (i.e. "R:").

About FRED-C

FREDC is our Forensic Recovery of Evidence Data Center. FREDC provides fully integrated processing power and flexibility far beyond any forensic solution available. The highly customizable modular solution is capable of housing up to 8 completely independent forensic processing systems. Up to 192TB of high speed RAID arrays in a single rack (or more with additional racks). The system houses a completely integrated Gigabit Ethernet Forensic Network in less than a 2 by 3 foot footprint. It is fully extensible to provide forensic network services and storage to pre-existing forensic workstations in your network. An integrated, retractable, 17 inch LCD/Keyboard module. Custom systems include a selection of the following: 32.0 terabyte RAID-5 Array w/Hotspare, Forensic Recovery of Evidence Device - Rackmount Module (FREDRM) and number of users for your network.

The design of FREDC allows for customization to meet almost any forensic requirement. In a simple implementation, FREDC includes a single Forensic File Server with a high capacity RAID array to act as centralised storage for forensic images. A FRED Rackmount Module (FREDRM) functions as a forensic processing workstation. A typical FREDC configuration might employ a single FREDRM combination to serve as a centralised point of image acquisition for the entire FREDC system. One or more additional FRED Rackmount Modules (FREDRM) can then be included to support the processing of multiple forensic images (or a single image with multiple examination processes being performed at the same time!). If all this FREDRM stuff sounds confusing, give us a call and we'll help design a configuration that meets your requirements.

Since all of our FRED systems use the exact same motherboard and system devices, Operating Systems (ours or yours) are completely interchangeable between the platforms (FREDRM, FRED, FREDDIE, FRED Sr, or FREDM). Whether you modify our pre-installed operating systems, or install your own, the same resulting O/S images can be installed on any of your FRED systems!

All of the processing modules and File Server in the FREDC system are connected via a high speed Gigabit Ethernet backbone. This Gigabit Ethernet backbone is capable of throughput 10 times faster than standard 10/100 Ethernet connections. Whether you are moving forensic images to or from the file server, or processing image files already stored on the server, this state-of-the-art transport mechanism will get the job done in record time!

The Keyboard/Display/KVM module acts as a single point of access and control for the whole system. Selectively monitor your File Server, check on your imaging job, or examine your processing jobs at the touch of a button. Why purchase multiple keyboards and monitors when a single KVM enabled device will allow you to switch between processes as needed.

Connectivity to the FREDC system is not limited to processors within the cabinet. Ethernet switches and patch panels allow convenient integration of existing network enabled forensic workstations and equipment. The high speed, high capacity of the FREDC RAID array(s) can be shared among all the workstations on your FREDC Forensic Network

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Technical Data FRED-C:-

FRED-C Forensic File Server Module

The File Server operates as the core of the integrated Forensic Network and can be used as a central storage facility for Forensic Images as well as applications software for use by the FRED Rackmount Modules (FREDRM). The FRED modules in the FRED cabinet perform the actual imaging and processing tasks, while the Forensic File server stores the images and case work. Multiple forensic clients, internal or external, can access case and image files simultaneously without duplicating information on several workstations. File and Image storage space is centralised by the file server reducing the need for large storage requirements at the forensic workstations. The Forensic File Server Module is typically supplied with an internal 1.5TB RAID-6 array for **operating system storage**. One or more standalone RAID Array Modules are provided for high speed **online storage for your case files**.

FRED-C Forensic Recovery of Evidence Device Module

The FRED-RM module has all the processing functionality of a FRED system integrated into a rackmount module. Although the FRED-RM module is specifically designed to focus on the processing of forensic evidence, FRED-RM includes an integrated UltraBay to acquire a forensically sound (write-protected) image of IDE, SATA, and SCSI drives using your choice of Forensic Imaging software. Furthermore, IDE, SATA, and SCSI drives may be connected/removed from the UltraBay without having to shut down the workstation or leaving the GUI. The UltraBay is exclusively available with Digital Intelligence FRED systems and is not available separately or from any other source. The FRED-RM Module will also acquire data from CD-ROM and DVD-ROM media.

FRED-C Retractable Keyboard/17 inch LCD Display Module

This device is an integrated Keyboard and LCD Display. When the Keyboard/Display module is not in use, it may be folded down and retracted into the cabinet for storage and security.

FRED-C 3000 KVA UPS Module

One or more of these modular Uninterruptible Power Supplies can be installed to maintain FRED-C system uptime in the event of a power failure or fluctuation. Larger UPS units are available if needed to support multiple RAID arrays or FRED-RM systems.

FRED-C Gigabit Ethernet Switch Module

This Gigabit Ethernet Switch (10/100/1000 Mb/Sec) is capable of moving data between the integrated network components at speeds up to 10 times greater than standard Fast Ethernet switches. In addition, the individual ports of this network switch fall back to 10 Mb/Sec speeds as required to maintain compatibility with slower network devices.

FRED-C RAID Array Module

The FRED-C RAID Array Module provides high-speed access of up to 32.0 terabytes (28TB RAID-6) of online storage. Multiple RAID arrays can also be employed to bring total FRED-C online storage to 256 terabytes and beyond.

Baseline FRED-C Specifications

FREDC's standard configuration includes Dual Intel Xeon Processors. FREDC also includes state-of-the-art storage, backup and remote access solutions:

- **42U Cabinet: 84" High (without wheels), 23 1/2" Wide, 36" Deep**
- **32.0 Terabyte RAID Array Module (28.0 Terabyte RAID-6)** - 16-Bay, 3U Rackmount RAID Enclosure (Fiber Channel Attached / Multilane SAS Cascaded) with sixteen 2000 Gb, 7200 RPM hard drives in Hotswap removable drive trays.
- **LTO-4 Ultrium Robotic Tape Library** - LTO-4 Ultrium Drive, 16 Slot Library, 800 GB (Uncompressed) / 1600 GB (Compressed) per tape, Up to 25.6 TB Total Online Backup Capacity, LVD SCSI Interface
- **48 Port Gigabit Ethernet (10/100/1000 MB/S) Rackmount Network Switch** • **24 Port Rackmount Network Patch Panel (2)**
- **KVM over IP Remote Access Module** – Complete Keyboard, Video and Mouse control of any device in the rack from anywhere on your Forensic Network.

Baseline SERVER-RM Specifications

- **4U Rackmount Enclosure (10 Bays, Dual Redundant 500W P/S)**
- **Motherboard:** Dual Intel Xeon Processors (2xLGA771 sockets supporting 32 & 45nm Intel Xeon 5500/5600 Series Quad & Hex Core CPU's), Intel 5520 chipset IOH & ICH10R I/O Controller
- **18 DIMM slots supporting DDR3 800/1066/1333 Registered ECC Memory 144Gb Max**
- **Two Intel Xeon 5620, (2.4 GHz 12Mb), Quad-Core CPU's (8 Processors Total)**
- **24.0GB Dual Channel 128-bit DDR2-667 Registered ECC Memory**
- **Aspeed AST2050 8Mb Graphic Controller**
- **Four 10/100/1000 Mbs Gigabit Ethernet Network Adaptors (intel)**
- **6 Ports (6 drives) Primary 3.0 Gb/s Serial ATA (SATA) Controller** • **4 Port (16 channel) SAS Controller Card**
- **1 Serial (COM1) Port** • **5 USB 2.0 Ports** 2 back mounted, 3 front mounted • **1 RJ-45 Port for iKVM** (requires ASMB4 card) • **2 PS/2ports** (keyboard/mouse)
- **1x500Gb 7200 RPM 3.0Gb/s SATA Hard Drive in shock-mounted tray** – Disaster Recovery Drive • **DVD +/- RW / CD +/- RW Dual-Layer Combo Drive**
- **1.5 TB internal RAID-6 Array** (for operating system only) • **1 Shock-Mounted SATA Removable Hard Drive Bay** • **2xRAID Chassis with 5 removable drive bays each** (10 total)
- **Yosemite Backup software** • **Suse Linux Enterprise Server (5 user)**

Baseline FRED-RM Specifications

- **4U Rackmount Enclosure (10 Bays) 1100 Watt Modular Power Supply**
- **Intel i7 960 CPU (Quad Processor) 3.20Ghz, 8M Cache, 4.80GT/s Intel QPI**
- **5 x PCI-Express (x16), 1 x PCI-Express (x1) Slot**
- **Dual 10/100/1000 Mbs Gbe Network Adaptors**
- **8 Channel High Definition Audio Controller**
- **2 Port (2 Drives) Marvell PCIe SATA 6.0 Gb/s Controller** • **6 USB 3.0 / 2.0x Ports** 3 Front Mounted, 3 Back Mounted,
- **11 USB 2.0/1.x Ports** – 8 back mounted, 3 front mounted (1 writeblocked)
- **1 FireWire IEEE 1394a (400MB / s) Ports** (1 Back Mounted) • **3 FireWire IEEE 1394b (800 MB / s) Port** 2 Front Mounted, 1 Back Mounted, (1 WriteBlocked)
- **2x Shock Mounted SATA removable Hard Drive Bays (IDE capable)** • **Digital Intelligence UltraBay II Hardware Write-Blocker:** - Integrated IDE Drive Write Blocker -Integrated SATA Drive Write Blocker -Integrated SCSI Drive Write Blocker -Integrated USB WriteBlocker -Integrated FireWire IEEE 1394b WriteBlocker
- **Digital Intelligence Integrated Forensic Media Card Reader** – One Switchable Read-Only/Read/Write (MSC, MS Pro, SMC, CFC, MD, XD, SDC, and MMC Memory Card compatible)
- **1 x 300 Gb 10,000 RPM 3.0 Gb/s SATA Hard Drive in Shock-Mounted Tray** – OS Drive • **1 x 1.5 Tb 7200 RPM 3.0 Gb/s SATA Hard Drive in Shock-Mounted Tray** – Data Drive
- **1x Hotswap Shock Mounted Universal Removable Hard Drive Bays (IDE/SATA Capable)**
- **BD-R/BD-RE/DVD ± RW/CD ± RW Blu-ray Burner Dual-Layer Combo Drive** • **USB 3½" Floppy Diskette Drive with Write Protect Switch**
- **Extendable/Retractable Imaging Workshelf** with integrated ventilation

As all FRED-C Forensic Data Centres are individually designed to meet customer specifications and requirements.