



Navy Cash Training System Administration

Objectives

At the end of this unit, you will be able to:

- Name the Navy Cash hardware components
- Describe the functionality of Navy Cash serial devices
- State the purpose of the Navy Cash software programs
- State where to get support for Navy Cash system problems

SysAdmin Responsibilities

- Responsibilities of the Navy Cash system administrator include:
 - Set up of user accounts
 - Support Disbursing in network issues as required
 - Perform routine (daily) backups
 - Perform routine system maintenance
 - Initiate (weekend) EOD if required
 - Support troubleshooting routines

User Accounts (cont)



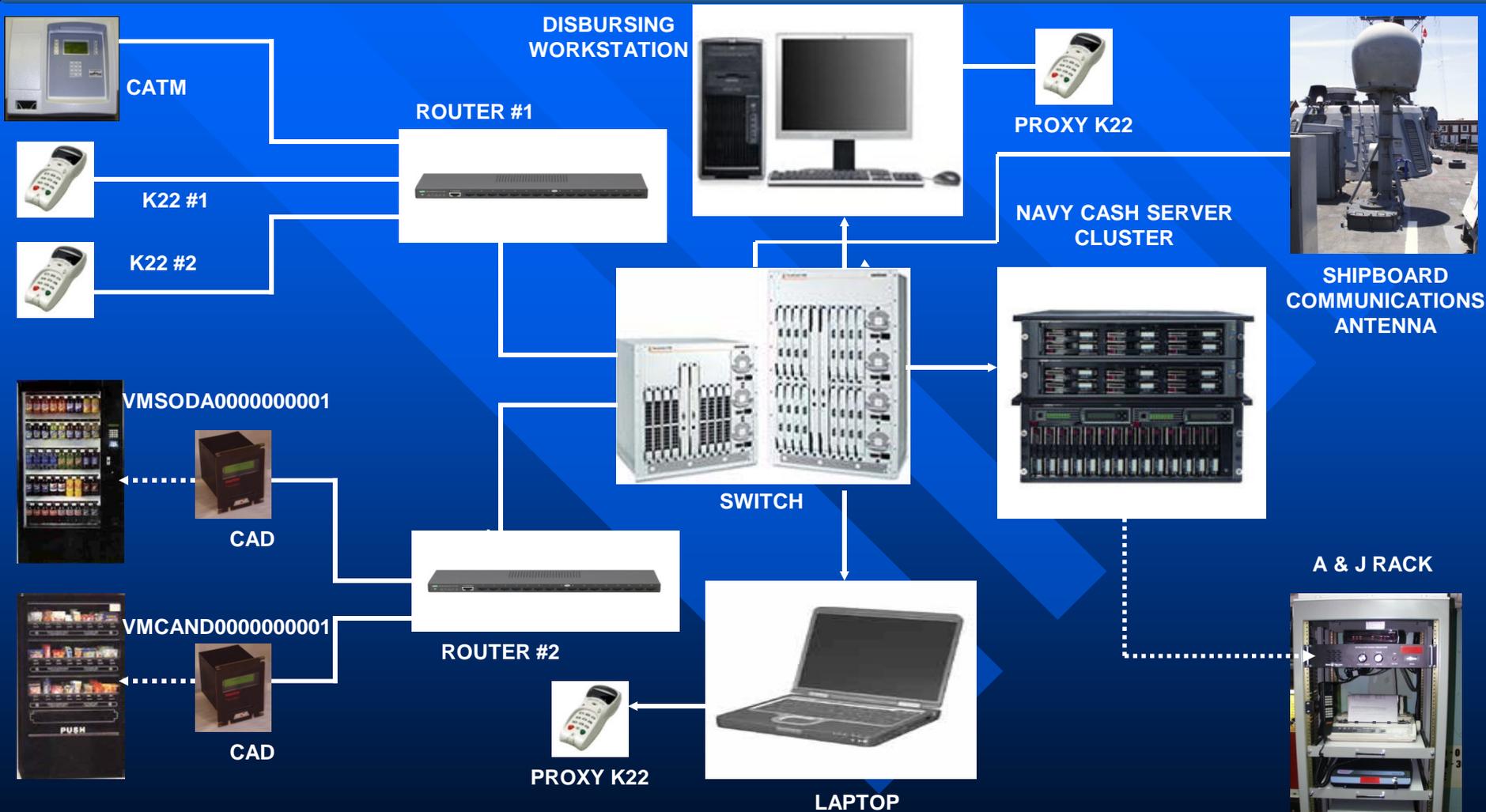
Navy Cash System Hardware

Navy Cash System Hardware

- (1) HP Compaq DL380 Server with *two* nodes
- (1) HP Compaq Modular Smart Array 500 Cluster Storage Unit
- HP Business Workstation
- HP Business Laptop
- Digi Router
- Card Access Device (CAD)
- Point of Sales Device (K22)
- Cashless ATM (K80)



Navy Cash Basic System Diagram

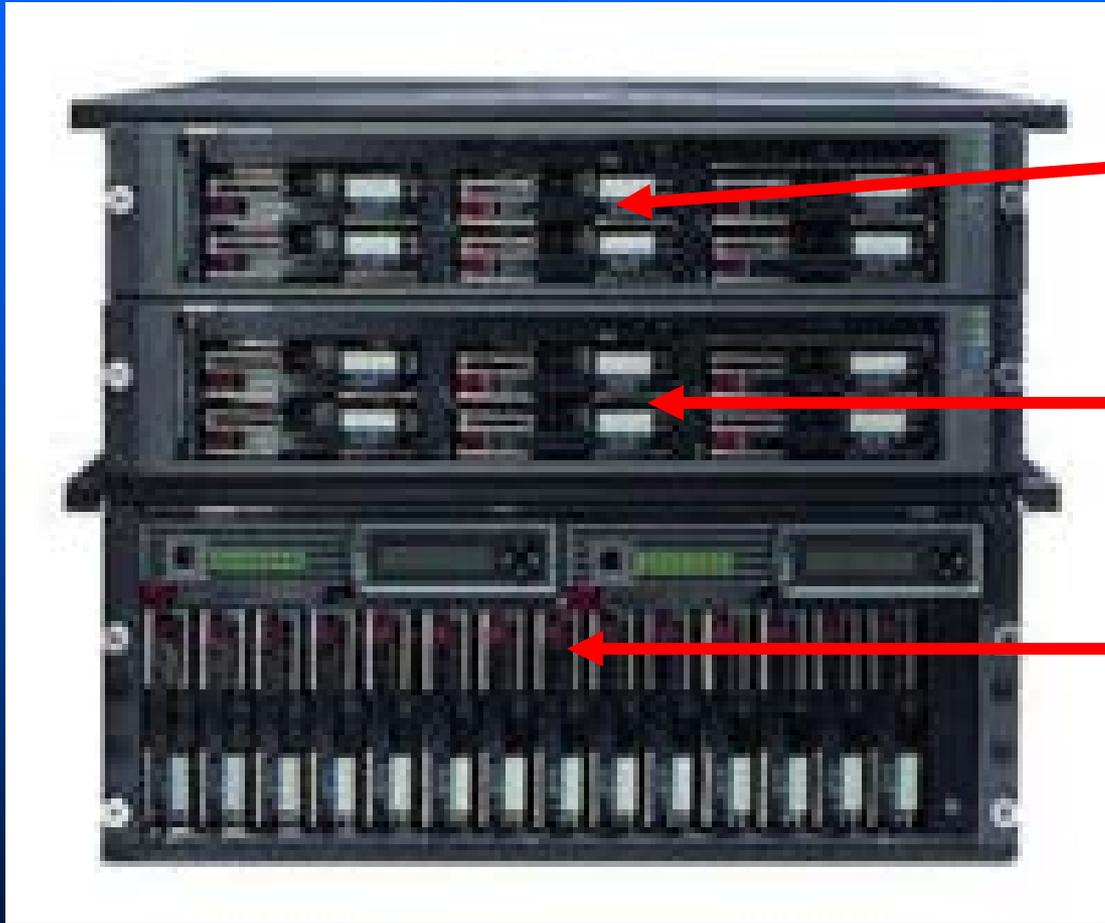


Clustered Server

- A clustered server is a combination of two nodes and a modular smart array
It's purpose is to provide a highly reliable and redundant system.



Example of a Clustered Server Layout

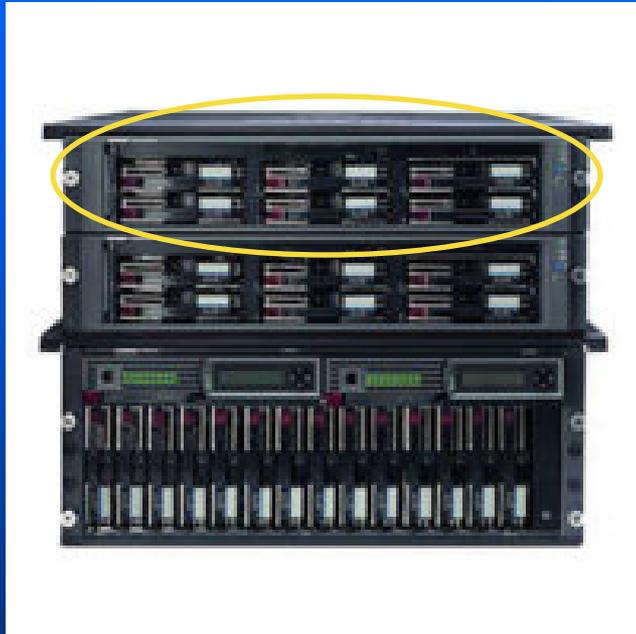


■ Node 1 (Primary)

■ Node 2

■ Cluster Array

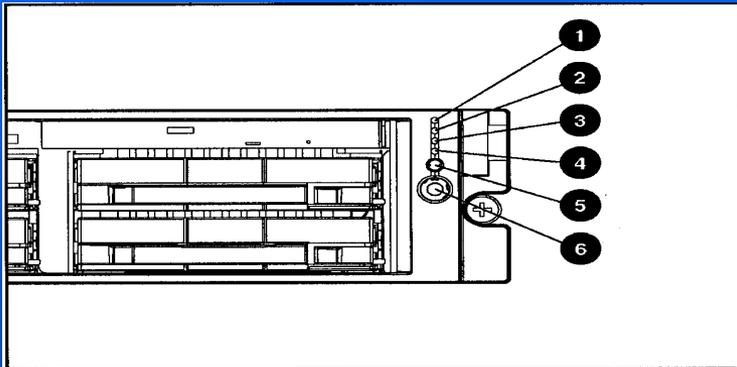
DL380 Server



*Servers are delivered
pre-configured*

- Each Compaq DL380 Server consists of:
 - Intel Xeon 3.6 or higher GHZ Processor
 - 10/100MB NIC (w/ 2 ports)
 - 10/100/1000MB NIC (w/ 2 ports)
 - 2x 72.8 GB Drives
 - CD-ROM Drive
 - Floppy Drive
 - AIT/DAT Tape Drive

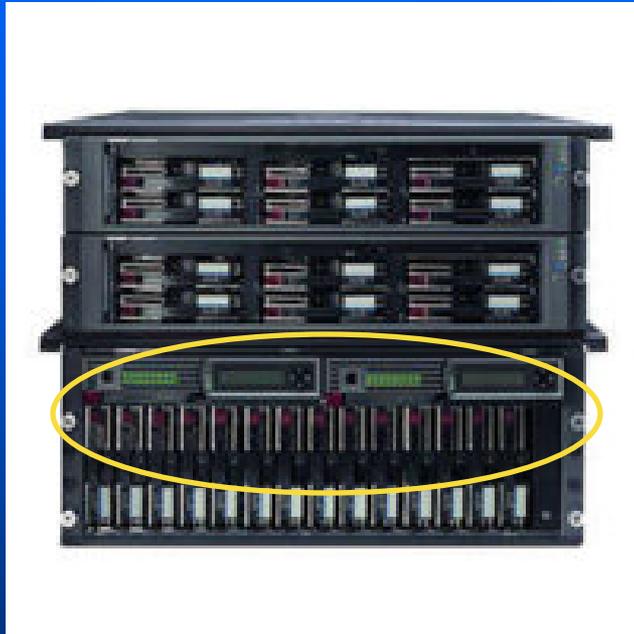
DL380 Server Controls and Indicators



- Each node has its own separate controls and indicators.

- Item 1: Internal health
 - Item 2: Power supply
 - Item 3/4: NIC 1 and NIC 2 link/activity
 - Item 5: UID (Unit ID) LED button (blue = activated)
 - Item 6: Power on/standby
- * green = normal, amber = degraded/system shutdown, red = critical

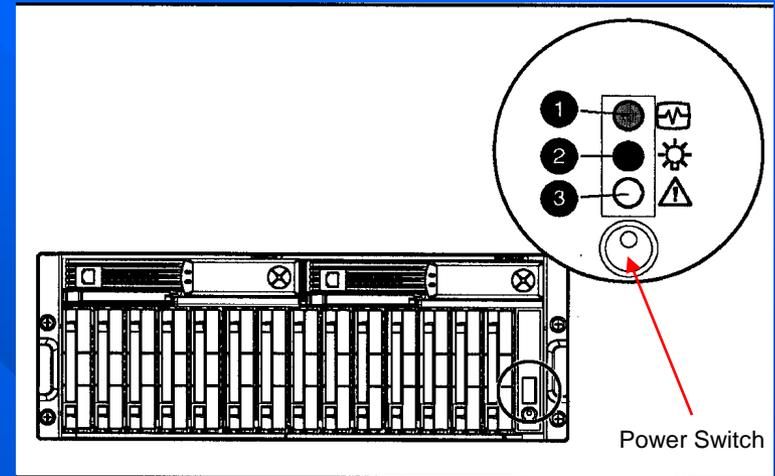
Cluster Storage Unit



- Compaq Modular Smart Array 500 Cluster Storage unit consists of:
 - 4x 72.8GB SCSI II drives
 - 1x 72.8GB SCSI II spare
- RAID (Redundant Array of Independent Disk) Configured
- The hard drives are hot swappable, meaning they can be removed and replaced while the system is operating

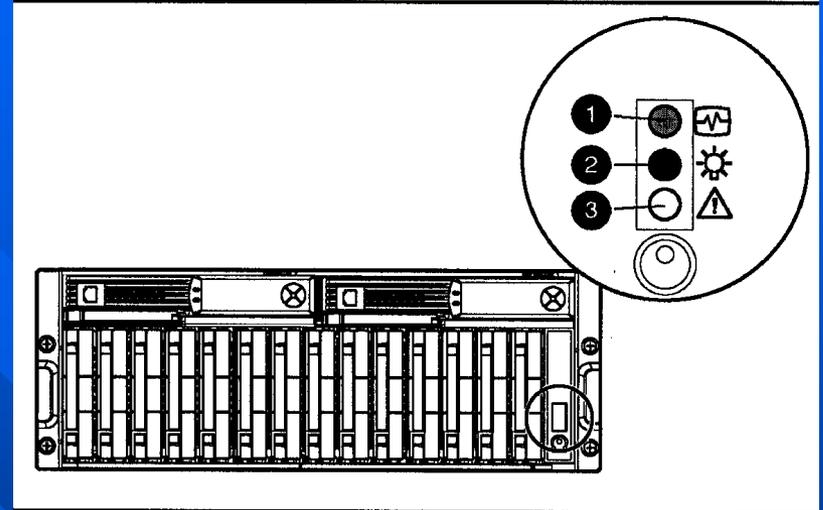
Cluster Storage Array Controls and Indicators

- Cluster Storage Array
 - Power switch at bottom right supplies power to the *Cluster Storage Array*.
- Item 1: Shared Storage Module
(green flashing = operating normally, green/off = not operating normally)
- Item 2: System power
(green = power on, off = in standby mode or power removed)
- Item 3: Fault
(amber = fault detected, off = no faults)



Cluster Storage Array Controls and Indicators (cont)

Note: Only the first 4 drives will be lit; the fifth drive will only light up when another drive fails.

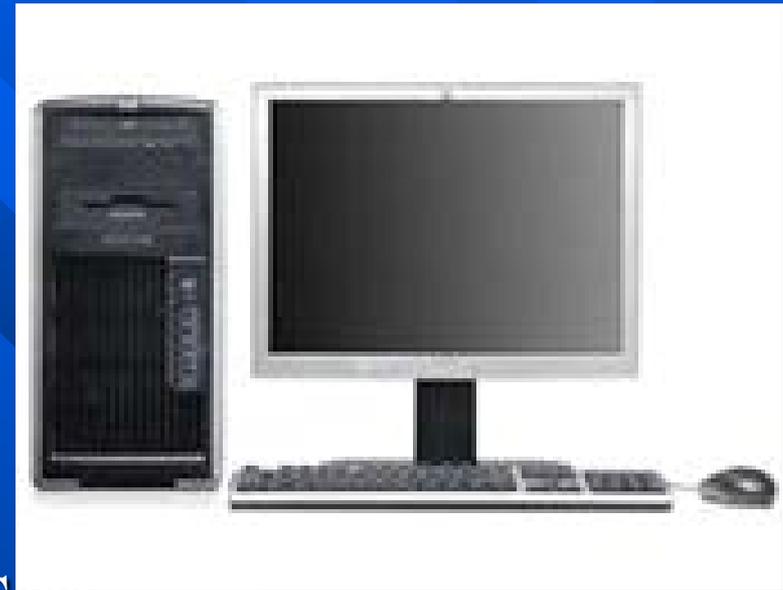


If the 5th drive is lit then call the Navy Cash Call Center for assistance.

HP Compaq Business Workstation

HP Compaq Business Workstation consists of:

- Pentium 4, 3.2 or higher GHZ Processor
- 80 GB Hard Drive
- 512 MB Memory
- Floppy Drive
- DVD ROM
- (2) Serial Ports
- (1) Parallel Port
- (6) USB Ports
- (1) 10/100 LAN Interface Card



HP Compaq Business Laptop

HP Compaq Business Laptop

- Pentium M, 2.8 or higher GHZ Processor
- DVD/CD
- (1) Serial Port
- (2) USB Ports
- (1) 10/100 LAN Interface Card



Note: The laptop is to be used as a spare if the workstation is down and for no other purpose.

DIGI Port Server TS8/16 Router

- The DIGI router enables users to connect to asynchronous devices
- The DIGI router contains:
 - AUI or 10BaseT Ethernet
 - 16 asynchronous ports
 - Single 5-in-1 synchronous serial port



Ship's Switch Configuration

- Network adapters and switch ports must have matching duplex levels and transfer speed settings. Do not set switch ports to “auto”.

Navy Cash Serial Devices

Asynchronous Data

- All of the Navy Cash serial devices utilize asynchronous data transmissions, or data that is transmitting in one direction at a time.

Because of this, none of the following devices use IP addresses. They utilize a configuration file located on the servers.

The Navy Config file is used to determine the location of the devices in the system.

Note: Make no changes to the Navy Cash config file.

Card Access Device (CAD)

- Located in various vending machines
- Slot for card insertion
- 3 Hidden keypads show:
 - Version status
 - Terminal ID number
 - Transaction/Error status
- Can function in *online* or *offline* mode



K22 Point of Sale (POS) Device

- Perform sales and refund transactions on this unit at or in merchant locations, Disbursing, and with foreign vendors
- Functions in *proxy* mode (attached to computer) or *normal* mode (stand-alone)
- In *normal* mode, may be used *online* or *offline*



K22 Point of Sale Device (cont)

- Alphanumeric keyboard and LED screen
- Two slots for cards (only the top slot is used)



K80 Cashless ATM

- Transfers money to and from chip, strip and home bank
- Must be *online* with connection to server in order to function
- Transactions are immediately logged with server



Navy Cash System Software

Software Programs

Do **not** install any other software on the server, workstation, or laptop unless directed to do so by the Navy Cash Call Center.

Software Programs (cont)

- The following programs are loaded on each node:

Windows 2003 Server Enterprise Edition

- **Microsoft Cluster Server (MSCS)**

- Oracle 10.2.0

- » Configured with Oracle Failsafe to prevent downtime. Oracle Failsafe Manager is used to startup & shutdown the data base.

Note: Yellow text indicates that you will be able to interact with that program

Software Programs (cont)

- The following programs are loaded on each node:
 - **Navy Cash Listener/Parser (NC Service)**
 - » Provides communication between Navy Cash server and devices.
 - **Backup Exec 12.0**
 - » Provides backup services

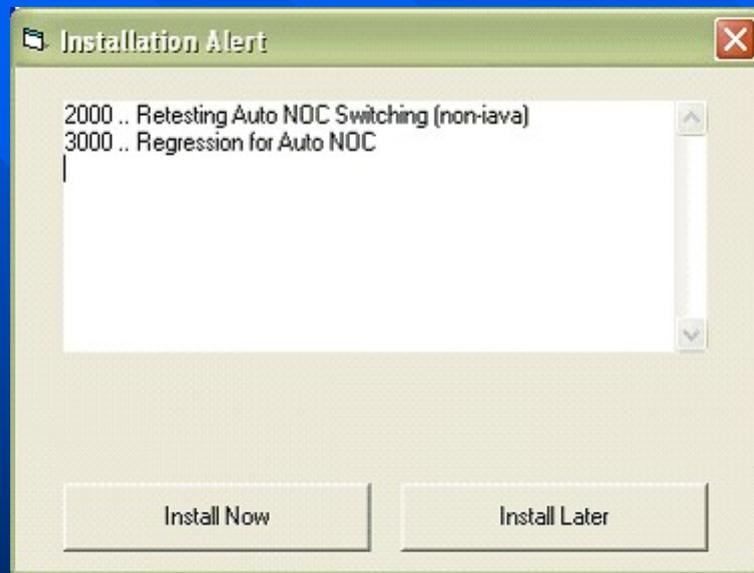
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Installation Alerts

- Installing IAVA and other Software Patches
- Software updates include Information Assurance Vulnerability Assessment (IAVA) and Bulletins (IAVB), DMLs (data fixes) applied to the ship Navy Cash database, and application patches applied to the Navy Cash system
 - DML patches will be transmitted to the ship and applied automatically without any user action
- When IAVA and other Navy Cash application patches have been pulled to the ship as part of the round trip process, the “Installation Alert” pop-up window will appear the next time an authorized individual logs into the Disbursing Application

Installation Alerts (Cont)

- *Installation Alert* is a semi-automated mechanism for applying software updates to the Navy Cash system on the ship



- The installation process is initiated by clicking “*Install Now*”, or delayed until a more suitable time by clicking “*Install Later*”

Installation Alerts (Cont)

- IAVA and Navy Cash application patches must be installed as soon as practicable, ideally after the end of the retail business day
- The status of each patch will be transmitted back to shore automatically. Log files from installed patches will show a summary of the activity that occurred during the installation.
- IAVA patches require Navy-Wide compliance monitoring to ensure mitigation of security vulnerabilities. The Navy Cash team ashore must report compliance on each IAVA/B within established deadlines.

Navy Cash System Requirements

IT21 Practices

- IT21 practices, with regards to auditing event logs and physical security, should be followed in addition to Navy Cash documentation.
- Do not apply IAVA patches *independently* on the Navy Cash server. Navy Cash Technical Support will provide all necessary and approved updates.
- When in doubt, contact the Navy Cash Call Center.

Static IP Assignment

- Each node is assigned it's own static IP address that resides on the ISNS backbone
 - ISNS provides backbone and off-ship connectivity required for Navy Cash. If there is no LAN connectivity, the server can not communicate with the Navy Cash devices

Ship Router Access

- An ACL addition must be made on the ship's router to allow the Navy Cash server (*both* node IP addresses) off-ship communication
 - Required for both Node 1 and Node 2 IP addresses
 - » Contact SPAWAR for current ACL entries
 - If the Navy Cash IP addresses are not given access off the ship via the ship's router, the server cannot send or receive updates

Power On/Off

Powering Equipment On/Off

- The server needs to be powered off/on every two weeks to free disk space
- The server will need to be powered off when you know power is going to be cut off to the area where the server is located

Note: You should never try and run the Navy Cash server powered by only the UPS. The purpose of the UPS is to allow for proper shut-down of the system if power is lost.

Power On Sequence



- **Step 1:** Power on the *Cluster Array* first (wait until bottom green light glows steady)
- **Step 2:** Apply power to the monitor
- **Step 3:** Power on the 1st node and login as nc-admin. Switch between the nodes by hitting “Scroll Lock” twice and then hit “1” for Node 1, “2” for Node 2, and “3” for Workstation.
- **Step 4:** Power on the 2nd node and login as nc-admin and verify in Cluster Administrator that all groups are online.

Power Off Sequence



- **Step 1:** Switch the view to Node 2 and perform a Windows shut down sequence. Wait for complete system shut down before continuing (system may auto-reboot, manually shut down at this point).

Note: This procedure assumes that Node 1 is in control

Power Off Sequence (cont)



This procedure
assumes that Node 1
is in control

- **Step 2:** Switch the view to Node 1 and perform the Windows shut down sequence. Wait for the system to completely shut down before continuing to the next step.
- **Step 3:** Power off the *Cluster Storage Array*

Navy Cash Support

System Support

- For information on system hardware, refer to the technical manuals and documentation
- System Administrator Guide
- Disbursing will handle the majority of technical calls on the Disbursing Application
- For support:
 - Tel: 1-866 6NAVYCASH
1-866 662-8922
 - Fax: 1-866 242-7301
 - Web: www.navycashcenter.com
 - Email: navycashcenter@ezpaymt.com
 - Navy Cash Call Center is Available 24X7

System Support

- Sources of information on system hardware can be found at:
- <http://fms.treas.gov/navycash/training.html> or Navy Cash System Admin Guide

Summary

- If the Navy Cash Service is down, neither the K80s or workstations will connect to the server.
- If any of the ship's hardware on which Navy Cash resides is swapped out, check that the settings allow Navy Cash to work:
 - ACL addition to allow Navy Cash server (both node IP addresses) communication off-ship
 - Require (any/any) to both IP addresses

Summary (cont)

- If swapping out ISNS hardware or upgrading (GIG-E, COMPOSE) software that affects the Navy Cash communication path off the ship, verify that the settings match the previous configuration so that Navy Cash continues to operate.
 - Notify Navy Cash Call Center if an upgrade is scheduled
- Ship's force must not reallocate the blades or switches devoted to Navy Cash