





Navy Cash Training

Disbursing Unit 6: Maintenance Procedures





Objectives

- Provide an overview of Navy Cash Equipment
- Explain hardware maintenance and troubleshooting procedures
- Discuss how to replace damaged or lost parts and components
- Discuss Distance and Online Support
- Explain software maintenance procedures
- Discuss Casualty Reporting procedures



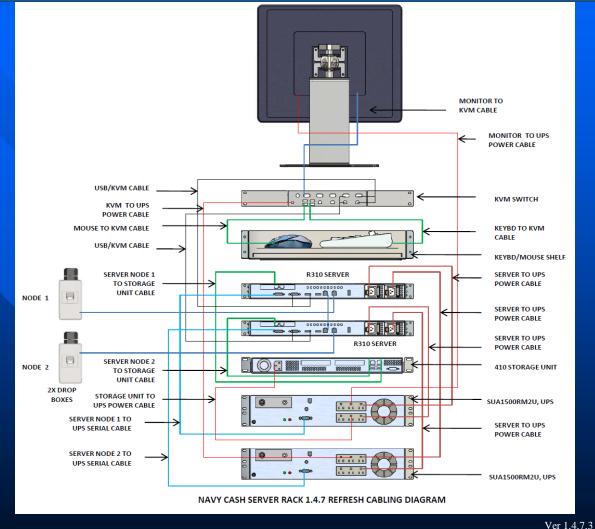


Equipment Overview



Navy Cash Server

Typical Set-up (cabling diagram)





System Equipments

Server



- Rack-mounted in Disbursing or Supply
- Made up of two servers or "nodes"

Switches or Routers



- Mounted behind the Kiosks
- Minimal Disbursing interaction required





Card Accepting Device (CAD)

- Installed in Vending Machines
- Uses SAM to interact with the Chip on a Navy Cash Card
- Uses a SD Card to store transactions when offline
- 3 Hidden Buttons
- Can function in online or offline mode





MT 280 Point of Sale Device

- Used by ships' merchants to record sales transactions
 - Can be operated online or offline
- Operates with one SD card and one SAM Chip





Navy Cash Kiosk

- Used to move funds between home bank and Navy Cash Card
- Used to make PIN changes
- Used to Check-in to the ship
- Requires continuous network connection to Navy Cash Server to process a transaction
- Uses a SAM to interact with the Chip on a Navy Cash card







Powering System On/Off



Navy Cash Server Setup



■ Node 1

■ Node 2

Overland StorageUnit

NAVY CASH SERVER RACK 1.4.7 REFRESH CABLING DIAGRAM



Power-on Sequence



- Power on the Overland Storage Unit
- Power on the 1st node and log in
- Power on the 2nd node and log in
- Launch Failover Cluster Manager and ensure resources show ONLINE

Note: For more detailed procedures, refer to your Navy Cash Quick Info sheet attached to the Navy Cash Server





Power Off Sequence



This procedure
assumes that Node 1
is in control

- Start at Node 2 and perform Windows shut down sequence
- Switch to Node 1 and perform Windows shut down sequence
- Power-off the NAS / RAID

Note: For more detailed procedures, refer to your Navy Cash Quick Info sheet attached to the Navy Cash Server



MX-925 Sign On



MX 925 Sign On



- Power on the MX-925
- Ensure MX-925 is paired with workstation or laptop
- Ensure MX-925 is
 Online with the Ship's network via the Navy
 Cash Server



MT 280 Sign On



- Power on the MT-280
- Ensure MT-280 is communicating with Navy Cash Server
- Requires at least one configured merchant
- If no merchant is configured, "No Configured Merchant" message is displayed





Power On CADs and ATMs

- CADs and Kiosks should remain powered on at all times unless performing maintenance
 - CADs are simply plugged in the vending machine with no power switch
 - Kiosks are plugged to the UPS







Hardware Maintenance Procedures



Ownership

- Navy Cash Accountable Officer (DISBO) and Navy Cash Deputy
 - Own, operate, and maintain Navy Cash servers, workstations, laptops, POSs, Kiosks, CADs

Ships IT

- Owns, operates, and maintains the ship's network configuration
- Has primary responsibility to support Navy Cash network and communication issues





Training

- Navy Cash Accountable Officer (DISBO)
 - Ensures Navy Cash Deputy and Ship's IT are trained on Navy Cash Operations, maintenance, and troubleshooting
 - Refresher courses are provided by Engility
 Corporation (Navy Cash Contractor) in Fleet
 Concentration areas on a regular basis





Preventive Maintenance

Daily

- On Navy Cash Server, Check Failover Cluster Management
 - » A change of nodes could indicate a failure of a component or failure of NC service
- Check the status of Round Trips
 - » Engage Ship's IT if a pending batch is not completed within 6 hours



Preventive Maintenance (cont.)

Weekly

- Wipe down all unit screens
- Clean card readers in the MT 280s, KIOSKs, and CADs
 - » Use card reader cleaners





Troubleshooting NC Equipment

- Communication Issues
 - Refer to Communications Troubleshooting Guide
 - » Appendix S of NC SOP
- Basic Troubleshooting
 - Refer to NC SOP, Pub 727
- Technical Support
 - Phone: Navy Cash CSU 1-866-662-8922
 - E-mail: navycashcenter@frb.org

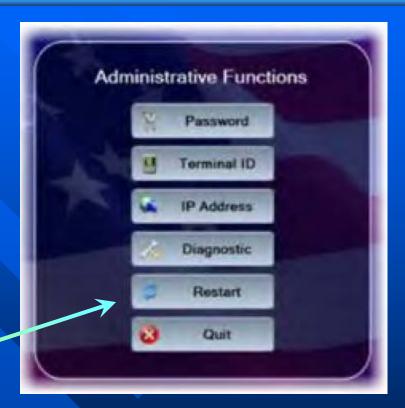




Troubleshooting NC KIOSK

Restart Feature

- Touch the "Restart" button on the Admin Menu to re-initialize all Kiosk application components
- This should be the <u>first</u> step in troubleshooting the Kiosk to determine if a simple reinitialization fixes the problem





Start-up Messages

- Series of screens which shows the current state of the Kiosk as it starts up
- Examples of Start-up Error Messages
 - » Out of Service-C1 main card reader cannot be activated
 - » Out of Service S2 SAM is detected but cannot be activated
 - » Out of Service N1 network communications cannot be established
 - » Out of Service T1 Terminal ID for Kiosk is not set





Error Messages

When Kiosk is inoperable, it shows an "Out of Service" message followed by an error code

Error Code	Reason for Out-of-Service Status
C1	General card reader error.
D1	Error creating database.
D2	Error opening database.
D3	Database on device is more recent than application database version. Application needs to be updated.
D4	Error updating database.
D5	Application database version does not match version of database on device.
D6	Error getting database version.
D7	General database error.
DF	Database capacity has been exceeded.
B1	Error creating backup database.
B 2	Error opening backup database.
В3	Backup database on SD card is more recent than application backup database version. Application needs to be updated.
B4	Error updating backup database.
B 5	Application database version does not match version of backup database on SD card.



ErrorCodes

Error Code	Reason for Out-of-Service Status
B6	Error getting backup database version.
B 7	General backup database error.
BF	Backup database capacity has been exceeded.
S1	SAM not present.
S2	Error powering on SAM.
S3	Maximum number of allowed SAM errors reached. Please clean or replace SAM.
N1	Network initialization error.
NN	Network down. No response from Navy Cash server.
P1	General PIN pad error.
SD	SD card not present.
T1	Terminal ID has not been set.
C21	Chip-to-chip failure after first card entered. Message being sent to server.
C2D	Chip-to-chip failure after second card entered. Message being sent to server.
C2E	Chip-to-chip failure after first card reentered. Message being sent to server.
CP	Change PIN – shown during a PIN change.
GT	General transfers – shown during transfers.
CR	Card removal error



DiagnosticScreen

- Displays

 information that
 can be helpful in
 troubleshooting
- Any error or abnormal state is shown in <u>red</u>

General

- Current date/time (*GMT*)
- Kiosk application version
- Device database version
- Operating system information
- SAM status (present/not present)
- Chip version (if card inserted)
- Chip date (if card inserted, mm/dd/yyyy format)

Network

- Terminal ID number
- Device IP address
- Port
- Network connectivity status (online / offline)
- Server log-on status (logged on / not logged on)

Hotlist

- Hotlist size (number of entries)
- Date / time of last hotlist update (GMT mm/dd/yyyy hh:mm)

Queue

- Total number of items in queue
- Number of transactions in queue
- Number of errors in queue
- Number of reversals in queue
- Number of card burn messages in queue
- Number of any other messages in queue
- Message queue capacity remaining (percentage)



Kiosk Diagnostic Screen





- Severe troubleshooting may be necessary:
 - Issue with PIN pad, network card, smart-card reader, or when access to Windows Operating System
 - Technical Support:
 - » Navy Cash Central Support Unit (CSU)
 - Phone: 1-866-662-8922
 - navycashcenter@frb.org





Troubleshooting POS

- Rebooting the POS should always be the first step in troubleshooting
- Clean or replace SAM chip
- Replace SD card
- Replace any faulty POS with a new unit. Each ship is issued several spares.





NAVY CASH

Troubleshooting POS (cont.)

- Error Messages:
 - Error Initializing SAM
 - » May occur during POS initialization because SAM is not present
 - Action: Install SAM in POS device
 - Error Authenticating Card
 - » Card is blocked
 - Action: Have cardholder report to Disbursing





Troubleshooting POS (cont.)

- Error Messages (cont)
 - Examples:
 - » SD Card Error SD card is not present or SD card message queue is full
 - Action: Install SD card or if POS is offline and SD card is full, plug POS into network connection point
 - » SAM Error SAM needs to be replaced
 - Action: Clean SAM or replace SAM
 - » Boot up Errors (various) occur when starting POS
 - Action: Insert good SAM or SD Card, or reboot POS





Troubleshooting CAD

- Verify if ship's network is up
 - If network is down, do not cycle power
 - CAD can operate in offline mode
- Verify if routers are powered on
- Check the cables from the CADs to the routers
- Cycle power to the vending machine (turn off and turn on vending machine)
- Clean SAM chip or Replace SAM chip
- Check SD card
- Replace CAD from stock





Troubleshooting CAD (cont.)

- For Technical Assistance
 - Contact Navy Cash Central Support Unit (CSU)
 - CSU will assign a case number that will be used to track the trouble call
 - CSU will handle trouble call directly or forward it to the proper person
 - Use Navy Cash Trouble Call Worksheet





Troubleshooting CAD

■ Failed CADs

- When directed to return CAD to NC Depot, record the traceable tracking number and date shipped on the Trouble Call Worksheet
- Include Case # assigned by CSU and equipment serial number





Troubleshooting CAD

Stuck transactions

- When directed, CADs with stuck transactions are sent to Cogent Systems
- Record the traceable tracking number and date ship on the Trouble Call Worksheet
- Include Case # assigned by CSU and equipment serial number
- Sales Officer will retain a copy of the Trouble
 Call Worksheet with monthly report





Troubleshooting CAD

Card Readers

- Proper cleaning of the card readers can significantly reduce the incidence of card readers failing to read a Navy Cash Card
- Shipboard Network or NC Server down for extended period
 - Revert to accepting cash (if authorized by CO)
 - Replace CAD with a dollar bill validator and/or turning on the coin changer





Troubleshooting CAD

- Error Messages are displayed if:
 - SD Card is not present
 - CAD is disabled
 - Vending Machine is out of stock
 - System Error
 - Examples:
 - » Out of Service-SD no SD card in the CAD
 - Insert SD card
 - » CAD Disabled no communications between CAD and MDB interface

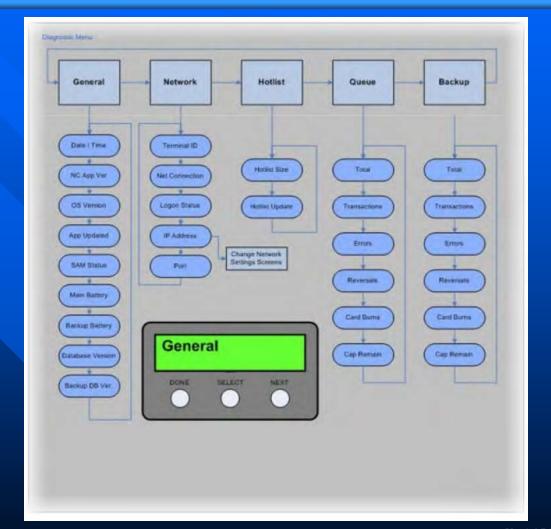




Troubleshooting CAD

☐ CAD Diagnostic Screen

Provide tools that can be helpful in managing, diagnosing, and solving problems with the CAD





Navy Cash Trouble Call Worksheet

- Navy Cash Trouble Call Worksheet
 - Used in reporting hardware, software, communications, or operation
 - Completed form lays out information
 DISBO/Deputy DO needs before contacting CSU
 - Case number assigned by CSU and equipment serial number should be included with all returns





Trouble Call Worksheet

Ploa	NAVY CASH T se be prepared to provide Retain	the informati		entral S		DESCRIBE THE NATURE or error codes if poss
	Phone: E-Mail: Fax:	(866) 61 (866) 66 navycas (813) 53	shcenter@frb.org	9		
OTCnet Paper Check Conversion OTCnet CUSTOMER SERVICE TEAM (866) 945-7920 (302) 323-3159 DSN: (510) 428-6824 fiscalservice.otcohannel@citi.com		428-6824	ROM CONTACT APPROPRIATE FLEET ASSISTANCE TEAM SAN DIEGO: (619) 556-5725/5733 PEARL HARBOR: (800) 473-751 YOKOSUKA: 011-8146-816-7965 NORFOLK: (757) 443-252			DESCRIBE ANY TROUBL
SHIP NAME	DA	TE OF CALL			MAYPORT: (904) 270-7178 TIME OF CALL	SOP, SYS ADMIN M
SHIP LOCATION/PORT (AND	COUNTRY IF DEPLOYED)	CASENUM	IBER (obtained from	CSU)	NAME OF CSU REPRESENTATIVE	
CALLER NAME		RANK/RATE	PHONE E-M		IAIL ADDRESS	
POINTS OF CON	TACT SO TECHNICAL OR FI	ELD SUPPOR	RTREPRESENTATI	VE CAN	CONTACT SHIP IF REQUIRED	
LOCATION	NAME	RANK/RATE	PHONE		E-MAIL ADDRESS	SHIPPING INFORMATION When directed to return
DISBURSING OFFICE						Gemalto Cogent), record in Trouble Call Worksheet as number, and a return additions, include the national forms include the national for the return ship.
SALES OFFICE SUPPLY OFFICE				+		SHIPPING A SAIC ATTN: Nav
EMO/ADP OFFICE				$^{+}$		7580 Metro San Diego Phone: (61
QUARTERDECK				+		TRACEABLE TRACKING
15 A 111 DOMAN DE COOR EN	DENIZIEV ODEOLEIG EOLIDE	HENT MODE	NUMBER AND CO	DIAL N	UNIO CO	NAME OF POINT OF CO
IF A HARDWARE PROBLEM, SERVER:	SWITCH	MENT, MODE	L NUMBER, AND SE	-	DSK:	RETURN ADDRESS (reco
SERVER. SWI		WITCH			ook.	RETURN ADDRESS (rect
WORKSTATION: UP:		IPS:			DS DEVICE:	CITY
DISPLAY:	KVM SWIT	TCH:		C	AD (VENDING):	NUMBER OF TRANSACT
LAPTOP:						
OTHER:	ROM:	ROM:			Cnet SCANNER:	Trouble Call Worksheet v14

Redefining Ingenuity

DESCRIBE THE NATURE OF THE HARDWARE, SOFTWARE, COMMUNICATIONS, OR OPERATIONAL PROBLEM (include any error messages or error codes if possible—attach any printouts or screen prints as needed)									
DESCRIBE ANY TROUBLESHOOTING STEPS YOU I SOP, SYS ADMIN Manual, Maintenance CD, MRC									
SHIPPING INFORMATION									
When directed to return failed equipment via trace. Gemalto Cogent), record the tracking number and date Trouble Call Worksheet annotated with the case numbe number, and a return address to get equipment back to transactions, include the number of transactions on the insured for the return shipment.	shipped below. With r assigned by the CS ship (recommend pro	all Nav SU, the e oviding	y Cash equipme equipment serial address for ship	nt returns, re number, PO 's LSR). For	member to include a copy of this C with e-mail address and phone POSs or CADs with stuck				
SHIPPING ADDRESS NAVY CASH DEPOT SAIC ATTN: Navy Cash Depot 7580 Metropolitan Drive, Suite 207 San Diego, CA 92108 Phone: (619) 881-5408 (Shipment related issues only)			SHIPPING ADDRESS GEMALTO COGENT Gemaito Cogent ATTN: Ryan Settle, Navy Cash Equipment Return 3300 Acom Street Williamsburg, VA 23188 Phone: (757) 564-4604 (Shipment related issues only)						
TRACEABLE TRACKING NUMBER	l-	DATE SHIPPED							
NAME OF POINT OF CONTACT	E-MAIL ADDRESS			PHONE NUMBER					
RETURN ADDRESS (recommend providing address for ship's Logistics Support Representative (LSR) at the Logistics Support Center (LSC))									
CITY			STATE	ZIP CO	DE				
NUMBER OF TRANSACTIONS (for POSs OR CADs w	ith stuck transactions) E	STIMATED DOI	LAR VALUE	(for stuck transactions)				
Trouble Call Worksheet v14	Page 2	of 2			11-Jan-1				

Central Support Unit (CSU)

- When on-site troubleshooting cannot remedy the issue, contact the Navy Cash CSU for further support:
 - The Navy Cash CSU issues a case number when receiving a trouble call
 - The Navy Cash CSU determines the severity of the issue and the response necessary to assist
 - The Navy Cash CSU will provide phone support, a tech visit or trainer visit if deemed necessary to fix the problem
 - Ensure to utilize the Navy Cash Trouble Call
 Worksheet when contacting the Navy Cash CSU





Central Support Unit (CSU)

- When contacting the Navy Cash CSU, always have:
 - Precise description of the problem
 - List of troubleshooting procedures that have been tried (i.e. power up/down server, switch nodes, cycle power on Kiosk or vending machines, etc.) and the results
- Note: The more specifics provided, the better the assistance that will be provided in troubleshooting and correcting the problem.





Distance/On-site Support



Distance/On-Site Support

■ Tier 1 Support

- Provided by Navy Cash CSU, 24/7
 - » Answers calls and takes basic info about any technical problem
 - » Forwards trouble calls to Navy Cash Technical Support (NCTS)
 Team
 - » CSU assigns a case number, tracks problem

■ Tier 2 Support

- Provided by Navy Cash Technical Support Team
 - » Provides troubleshooting guidance to the fleet via phone and email
 - » Assisted by Navy Cash Depot





Distance/On-site Support

□ Tier 3 Support

- Onsite technical assistance
- Resolve Navy Cash-specific problems that cannot be resolved over the phone or e-mail
- Generally used when all other Distance Support troubleshooting efforts have been exhausted
- Provided by Treasury Agent NCTS and Navy
 Cash Depot





Distance/On-site Support

Critical Issues

- CSU forwards issue to NCTS immediately
- Examples are:
 - » One server node is down and cannot transfer control to second node
 - » Cluster Administrator NCP and NCService resources are offline
 - » All Navy Cash Kiosks are offline
 - » All devices are offline (POS, Kiosks, and CADS)
 - » Communication/no round-trip (i.e. 5 or more days) issues
 - » End of Month (EOM) issues (within last 4 days of month)
 - » SPO affecting multiple members
 - » Any issue involving Admiral, CO, or XO





Remote Access

□ GotoAssist

- Browser-based service that enables NCTS (or NC Depot) to access and control the Navy Cash system remotely
- Allows NCTS (or NC Depot) to troubleshoot and resolve issues and provide technical support
 - » NCTS sends a secure e-mail to DISBO with a unique remote session key code and provide instructions
 - » DISBO must maintain an updated POC information on the Navy Cash Disbursing Website





Remote Access

- Remote access support is limited to:
 - » critical issues
 - » system back-up failures
 - » security audits
 - » preparations for security inspections

» <u>Note:</u> For critical issues, it is recommended that DO <u>calls</u> CSU rather than sending an e-mail to ensure that case is escalated properly.





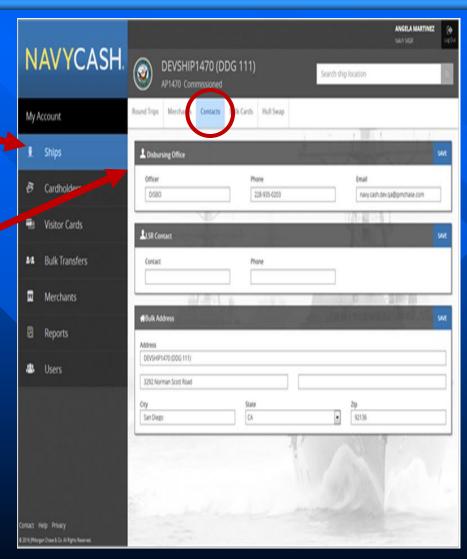
Disbursing Contact Info

Navy Cash Disbursing Website

Under Ships

> Contacts Tab

Ensure POC
Information shows
updated information





Replacing Damaged/Lost Components



Replacing Damaged/Lost Components

- Spare components are provided as a part of the NC installation
 - Part for Part replacement policy (return the bad device before a replacement is sent)
- The Sales Officer is responsible for all CADs
- Disbursing Officer is responsible for all MT 280s
- Navy Cash Depot maintains replacement spares
 - A DD Form 200 (Financial Liability Investigation of Property Loss) is required before replacing a lost device





Shipping Equipment



Shipping POS Device

- Packaging MT 280 for shipment
 - Shipping/Mailing MT280
 - » Remove rechargeable lithium-ion battery
 - » Imbedded lithium-metal back-up battery is *installed* in MT 280
 - Ship via traceable means (UPS, USPS, FedEx, etc)
 - Treated as air shipments
 - Include an Accompanying Lithium Battery Document





Shipping POS Device

ACCOMPANYING LITHIUM BATTERY DOCUMENT

This package contains lithium cells or batteries in the following configuration (check applicable). LITHIUM ION LITHIUM METAL Maximum of: Maximum of: . 20 Watt-hours (Wh) per cell: and . 1 gram (g) of lithium metal per cell; and · 100 Wh per battery 2 g of lithium per battery Cells or Batteries Only Cells or Batteries Only (ICAO/IATA Packing Instruction 968, Section II) (ICAO/IATA Packing Instruction 965, Section II) Cells or batteries in a package. Cells or batteries in a package. without electronic equipment without electronic equipment Package Limit: Package Limit: ≤ 2.7 Wh = 2.5 kg or • ≤ 0.3 g = 2.5 kg or > 2.7 Wh but ≤ 20 Wh = 8 cells or > 0.3 g but ≤ 1 g = 8 cells or > 2.7 Wh but ≤ 100 Wh = 2 batteries > 0.3 g but ≤ 2 g = 2 batteries Cells or Batteries Only Cells or Batteries Only (ICAO/IATA Packing Instruction 965, Section IB) (ICAO/IATA Packing Instruction 968, Section IB) Cells or batteries in a package. Cells or batteries in a package. without electronic equipment without electronic equipment Contained With Equipment Contained With Equipment (ICAO/IATA Packing Instruction 966, Section II) (ICAO/IATA Packing Instruction 969, Section II) Cells or batteries contained in a package Cells or batteries contained in a package with associated electronic equipment with associated battery-powered equipment with the batteries not installed in the equipment Contained In Equipment Contained In Equipment (ICAO/IATA Packing Instruction 970, Section II) (ICAO/IATA Packing Instruction 967, Section II) Cells or batteries installed in equipment Cells or batteries installed in equipment This package must be handled with care. A flammability hazard exists if the package is damaged. . If this package is damaged in transportation, it must not be loaded until the condition of the contents can be verified. The batteries contained in this package must be inspected for damage and may only be repacked if they are intact and protected against short circuits. For more information about the batteries contained in this package, call the following telephone number: + 1 (866) 662-8922 Name and Address of Shipper (optional) Name and Address of Consignee (optional)



Disposal of POS Batteries

Disposal

- Dispose depleted batteries (or batteries that will no longer be used) locally following proper procedures
- Likewise, recalled, damaged, or defective batteries must be disposed following local procedures
 - » Do not mail or ship these batteries under any circumstance





Software Maintenance Procedures



Software Maintenance

IAVA

- Information Assurance Vulnerability Management
- Important in maintaining security posture of Navy Cash system
- All known vulnerabilities must be patched effectively and in a timely manner

Installation Alerts

- Provide an automated mechanism of applying software updates (includes IAV patches)
- Ideally, install patches at end of business day





Software Maintenance

WSUS (Windows Server Update Services)

- Enable IAV and other software patches to be provided remotely and applied automatically
 - » Install bug fixes and any new functionality

Anti-Virus Definitions

- Symantec (or McAfee) anti-virus Live Update solution on Navy Cash Severs, Laptops, and workstations
 - » Configured to automatically retrieve virus definitions on a daily basis directly from Symantec (or McAfee)
- Note: A patch should never be applied to the Navy Cash system without direct assistance of Treasury Agent NCTS or Engility.



Software Maintenance

Navy Cash Laptops

- Digital Sender LAN drop is available:
 - » All spare laptops (including the Marine Disbursing laptop on LHA/LHDs) must be powered up and connected to the ship's network permanently
- Digital Sender LAN or dedicated LAN drop is not available:
 - » Disconnect workstation and connect laptop to network
 - » Laptop is powered up at least once each week for at least 48 hours
 - » Updates occur automatically, but some updates may require a reboot
- With regular updates, laptop will be ready if it is ever needed as a backup





Casualty Procedures



Casualty Procedures

- If off-ship communications go down, the NC system can run independently for several weeks
- Anyone with SPO will be credited by using the "Provisional Split Pay Option" under the Utility Function
- If the NC Server go down:
 - Use MT 280's offline (provided operator is logged on)
 - CADs will continue to work unless ship's power is lost





Casualty Procedures

- In a worse-case scenario, go back to using cash
 - Disbursing Office still carries cash
 - Replace CAD with the dollar bill validator and/or coin changer for each Vending Machine
- When the system comes back online, the NC server onboard ship will be updated via shore communications.





Casualty Reporting Procedures

- Casualty Report (CASREP)
 - CASREP message is sent by ship for urgent maintenance problems beyond shipboard capabilities
 - » include *NAVSUPSYSCOM MECHANICSBURG PA//41//* for action or information, as appropriate
- Replacement parts necessary to enable correction of the CASREP are:
 - shipped within 24 hours after acknowledgement of receipt of CASREP





Summary

- Organizational Level Maintenance
 - Ship is responsible for the initial efforts to troubleshoot, isolate, and correct problem
 - If device fails, ship is responsible for installing a spare in its place
 - » Selected spares are available on board the ship to replace failed equipment
 - In unable to repair, ship initiates a trouble call to Navy Cash CSU





Summary

Trouble Calls

- Ship is responsible for initiating a trouble call
- Navy Cash CSU assigns a case number and forward the call to a technician
- Support personnel cannot take action until a case number is assigned

Navy Cash Depot

- Maintains replacement parts
- Normally, spare parts are shipped business day following receipt of request
- Can expedite shipment the same day when emergency arises





Questions



