





# Joint Information Environment (JIE) & Coast Guard

Rear Admiral Bob Day, CG CIO & Director CG Cyber Command

22 May 2013 AFCEA-GMU C4I Center Symposium



# JIE

- •J= Jolly
- I= Interesting
- •E= Endeavor

Especially for U.S. Coast Guard!!!

# JIE

- •J= Jeopardy
- •|= |f
- E= Evaded

For All!!!



Pick a team.....but I have to be on both to do my job!!!!

# All Sorts of Opinions

We are getting Googled

We are getting Scroogled

# RADM Day's Opinion

- This just the next, and correct, evolution of IT infrastructure and services.
- JIE lays the needed framework to:
  - Drive much needed configuration and standards.
  - Significant enhances security and the ability to defend our critical networks and assets.
  - Enhances full interoperability and joint training.
  - Facilitates implementation of mobility and big data.
  - And "can" provide much needed efficiencies to "hopefully" reinvest in new capabilities.

# RADM Day's Opinion

"JIE and HSIE is going to help me solve some of my most pressing C4IT problems by establishing enterprise wide mandates that programs cannot ignore"

## What's Problems?

Resources are going to continue to shrink.

We cannot afford the programs we have and the way we currently manage IT.

Configuration Management.

Poor processes and adhoc compliance at all levels result in inefficiencies and significant security weaknesses.

Command & Control.

Current processes have too many layers and as a result are too slow to meet performance mandated by US Cyber.

Workforce Skills.

We are not responding to the change signal for the work force skills and competencies needed in current/future environment.

## \$'s for FY13-XX

C4IT Budget:

FY10 \$436M FY11 \$476M FY12 \$483M FY 13 (projected) \$486M

The numbers are deceiving. For example, FY13 includes \$16M for St. Elizabeth's move, support \$'s for new assets coming online (FRC, NSC, R21 maintenance). Reality is that we have lost over \$53M in budget during FY11-12 (efficiency mandates) have required significant cuts to some services and elimination of many new initiatives. FY14-15 projections are downright scary.

- 20% HQ personnel reductions have really hurt capacity.
- C4ITSC and Field reductions slated for FY14/15.

# **Configuration Management**

- The negative impacts of our current state (poor) have been fully demonstrated by several recent events.
  - Misconfigured personal folders. Almost 4 months since identified and we still have not fixed. C4IT budget at risk for \$300K as a results of privacy concerns.
  - Wireless routers and prohibited devices routinely found connected to CG One. Time to ID and remediate these serious security risks is unacceptable.
  - Applications and systems installed with no ATO or security packages routinely identified.

# **Configuration Management**

- Our processes for proposing, developing, and implementing changes need improvement and when fixed, must be followed by all.
  - Distribution Group script debacle is a perfect example of the havoc than can result as well as the significant overall cost and potential mission impact to the CG.
  - 1000's of man-hours are spent remediating errors that should have never occurred if proper CM was followed.
     Open personal folder issue, vulnerability remediation, and constant re-imaging of workstations because of security issues waste our workforces time.

# **Configuration Management**

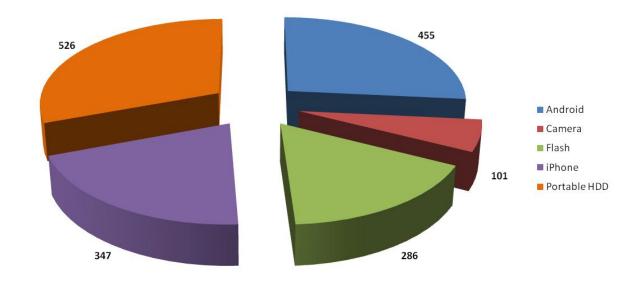
- Lack of user and administrator accountability for poor security and CM performance is contributing to the overall problem.
  - OPSEC violations especially user names and passwords.
  - USB devices.
  - Rogue software including executables.
  - Unaccredited systems.
  - Lapsed ATO's.
  - Failure to use mandatory procurement sources.
  - "Reply All" use during last weeks DG event.

We must put some tooth into CM/Security programs!

# High Risk Device Usage

Month	Android	Camera	Flash	iPhone	Unencrypted HDD	Total
Oct - 2012	281	89	424	190	14,334	15,318
Nov - 2012	304	64	280	397	4,678	5,723
Dec - 2012	250	60	175	279	1,729	2,493
Jan - 2013	455	101	286	347	526	1,715

**High Risk Device Usage** 



## **Command & Control**

- The nature of the Cyber threat, expectations of US Cyber, and the criticality of our IT systems to mission execution requires C2 that:
  - Has real time situational awareness.
  - Is guided by doctrine and standardized TTP.
  - Has a single point for contact and reporting.
  - Is recognized by all as the authoritative entity.
  - Works at near machine speed.

Our current IT management structure and processes do meet these C2 requirements.

## Workforce

- Consolidation, Virtualization, As A Service, and budget will require significant shifts in the organization, skills, and duties of our IT workforce.
- New emphasis include cyber security processes, managing and leveraging "big data".
- As systems collapse so will the workforce. The days of being a "server hugger" are almost over.

- The budget and oversight environment is going to force the following:
  - Consolidation of like requirements into single programs of record and termination of legacy/program specific systems.
  - Centralization of IT budgets and procurement.
  - Use of Agency wide services like Defense Enterprise E-mail even if more expensive than current systems.
  - Mandatory use of Agency centralized procurement vehicles.
  - Pervasive oversight and reporting.

This will significant changes in our current processes and overall organizational structure.

- Implement and maintain ruthless configuration management to include the following:
  - Establish new levels of segregation of administrator permissions and authorities. Strict qualification standards and oversight for enterprise level and complex functions.
  - New paradigms for change requests, development, and implementation.
  - Mandatory compliance. Short term waivers provided for only the most urgent operational needs after centralized risk based review is conducted.
  - Mandatory use of security appliances (HBSS etc.).

## This will be a significant culture change!!!!

## Revamp Command & Control:

- Centralize tactical command and control by collapsing multiple operational watches and extracting C2 functions from product lines.
- De-layer current C2 to create a single point for situational awareness, reporting (both up and down), and authoritative tasking.
- Operationalize C2 with standard procedures (QRC's) mirrored on C2 processes from US Cyber/Fleet Cyber Command.
- 24x7x365 organization focused on assessing the operation of the enterprise, generating required responses in minutes.

## Design and build the future workforce:

- Emulate Navy Information Dominance framework and competencies. Blending of IT, Intel, and Operations skills.
- Leverage DoD schools where possible.
- New career paths and likely new assignment and retention policies because of the significant training investment.

# RADM Day's Opinion

"These are not technology challenges, they are cultural and will require revamped business processes. Thus, it will be very challenging".

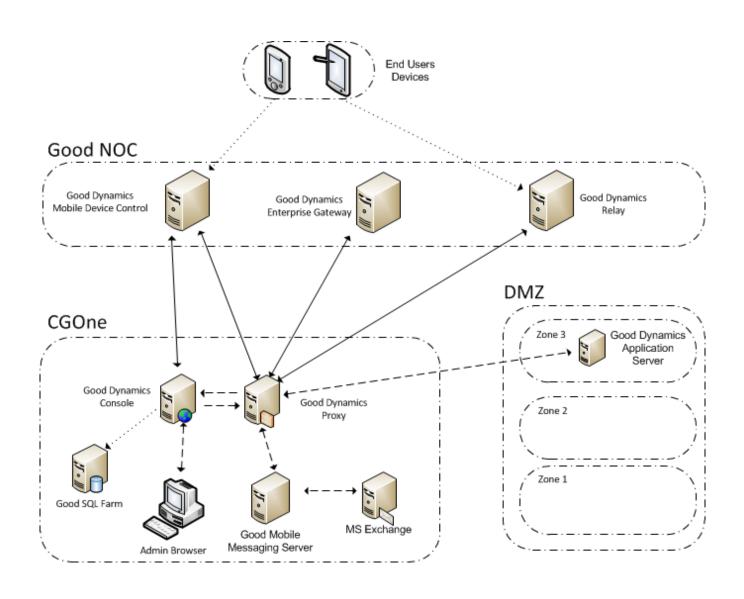
# Mobility



# **Leveraging Others**

- Leveraging DOD progress
  - Working with DOD as DISA creates iOS5 STIG
  - DOD/DISA application store
    - Secure provisioning and distribution of "vetted" applications
  - DISA Smartphone training for users
  - DISA Set up Internet Proxy
- DOD initiatives and successes
  - iOS5 STIG gaining traction
  - DOD implementing pilots similar to our Wireless Email
- Apple iOS moving along in the FIPS certification

# **CG Mobility Network Infrastructure**



CG Electronic Flight Bag Initiative



# Future CG Mobility



# The CG Mobile App

## "Public Facing"

- Direct Public Outreach
- Access to CG resources where people use them most.
- Available for free via Android and IOS App Stores.
- Leverages the power of smartphone technologies.



# Proposed Initial Use Cases

#### 1. "Call the Coast Guard" Button

- Dials one of the 35 CG Sectors based on the phone's current location.
- Gives advice on how and when to report certain incidents / displays lat/lon during the call. (Warning Disclaimer regarding cell-coverage and use of CH-16)

#### 2. Fill out a FLOAT PLAN

- Option to email the plan to a responsible party
- Instructions on how to use a float plan effectively

#### 3. Submit an "NRC Report" (Oil Spill / Security Incident / Other)

- Optional "Dial the NRC" button
- Emails NRC Report contents along with present location.

#### 4. Submit a location-based ATON Discrepancy Report to the Nearest CG Sector

- Emails location and optional picture of the aid (Non Real-time disclaimer)

#### 5. Request a Vessel Inspection (from the CG Auxiliary)

- Emails form data to the Aux.

#### 6. Alerts & Notices to Mariners

- Pulls information as a news feed based on the phones current location.

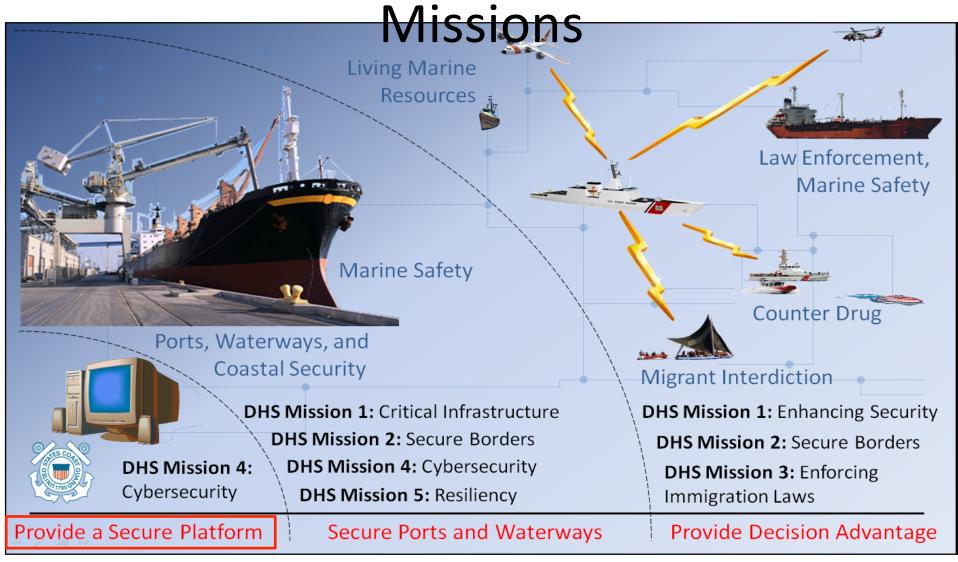
#### 7. <u>Boating Safety Tips, News & Information</u>

- 8. Navigation Rules & Information
- 9. America's Waterways Watch



# Cyber









# Computer Network Defense

- CSOC operating at TS/\$6100.)
  - Real time comms w/ key cyber centers
    - USCYBERCOM (.mil)
    - DHS SOC (.gov)
    - National Cybersecurity & Communication Integration Center (NCCIC) (MCIKR)

### CSOC Sensors

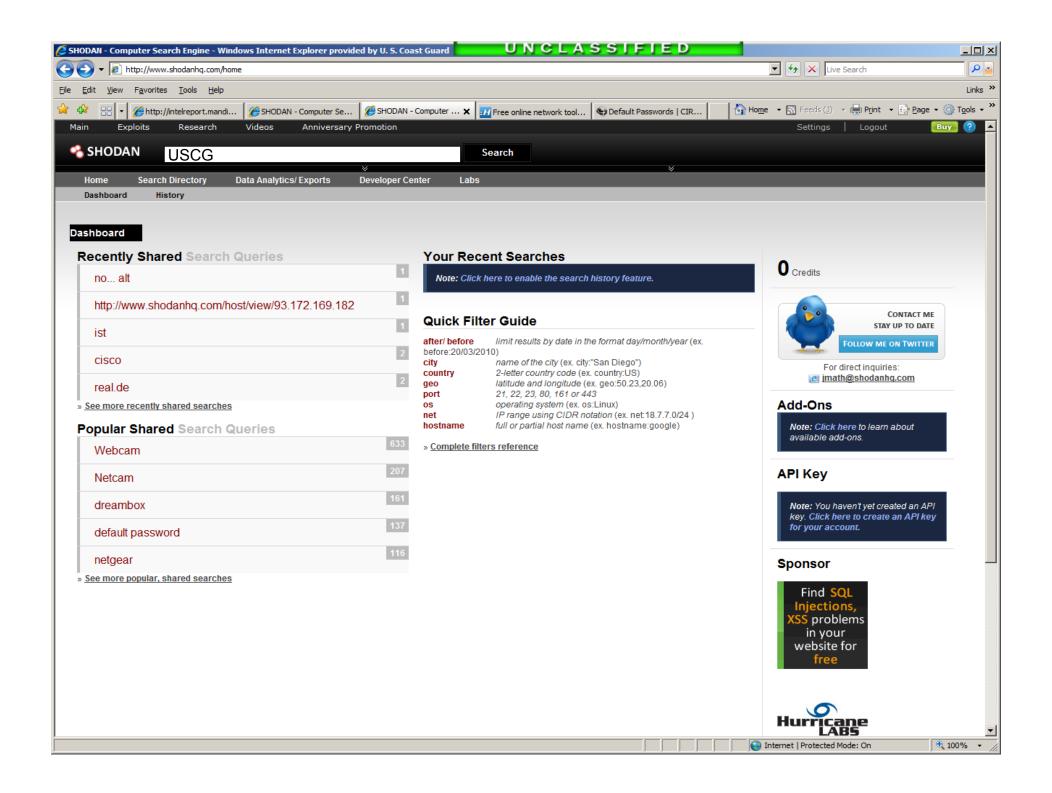
- DOD Trusted Internet Connections
- MALWARE Host Based Security Services (HBSS)
- Upgraded Intrusion Detection Systems
- Data Loss Prevention (DLP) System used for OPSEC

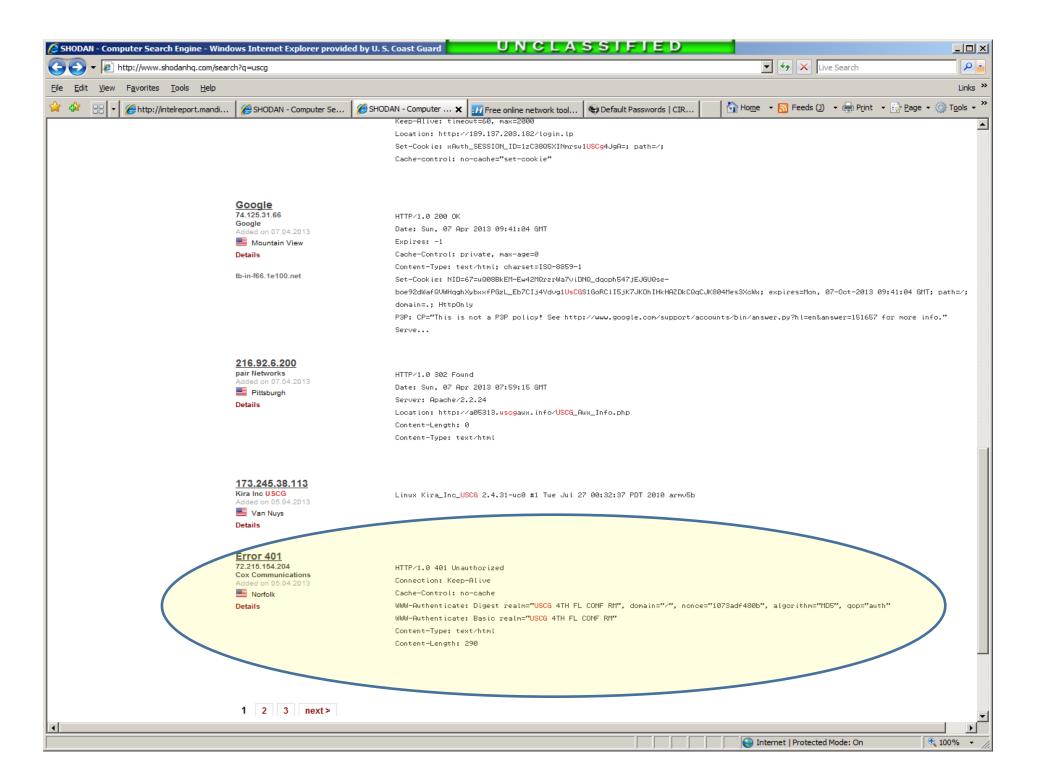
## **SHODAN**

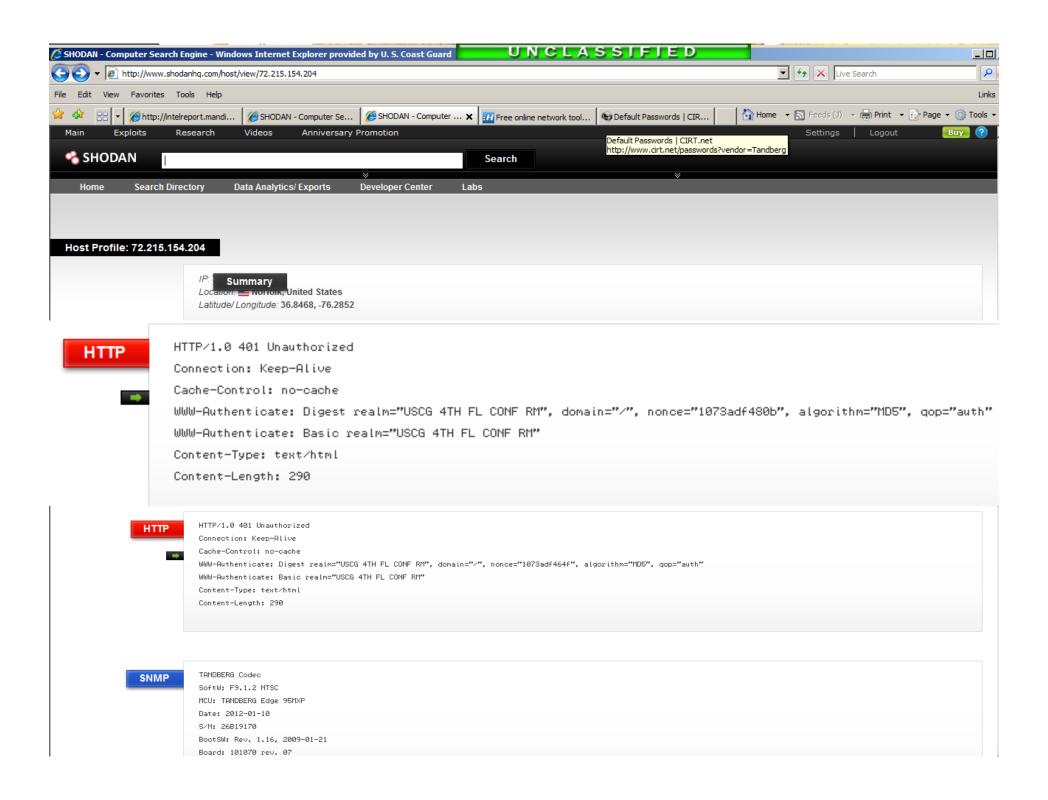
# Internet Control System Indexing Site Risk to Maritime CIKR

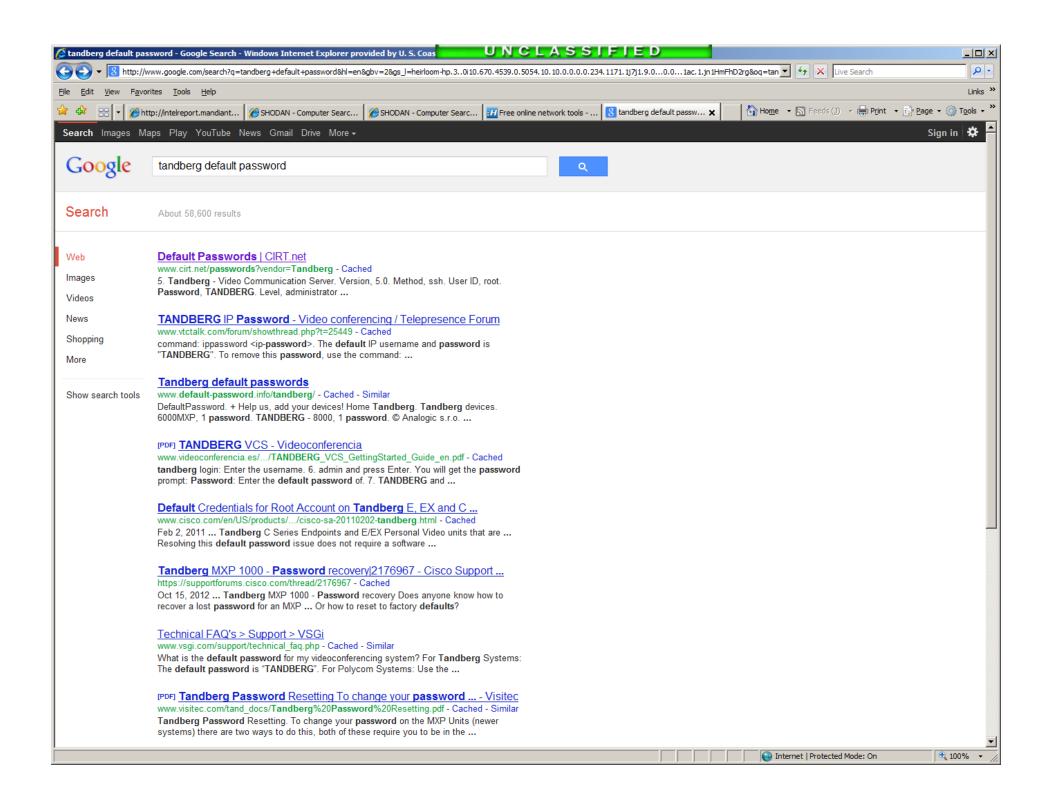


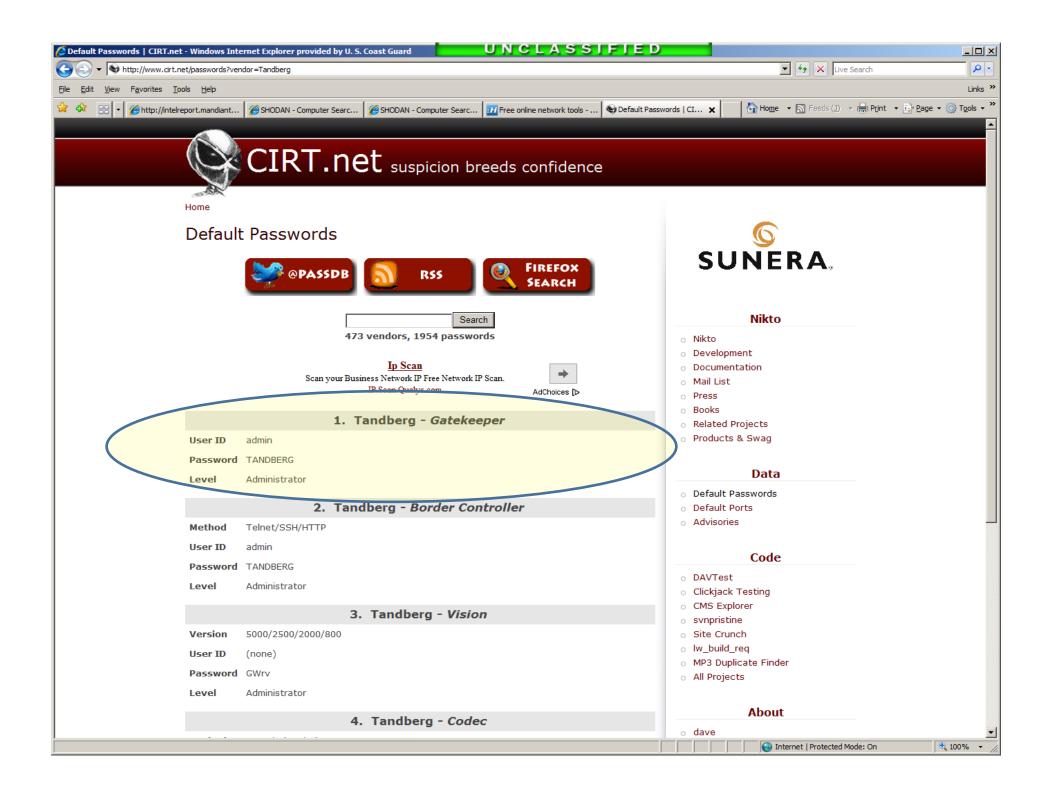
**USCG Non-Standard Systems** 













Phonebook System Status System Configuration Endpoint Configuration **△** Overview

Front Overview Streaming Text Chat

















#### WELCOME TO USCG 4TH FL CONF RM

#### Dial in numbers

My ISDN number 7576284132 My IP number 7579621504 My IP name 4TH FL CONF RM

My SIP URI

#### Usage

Video calls 1 of 3 Telephone calls 0 of 3 ISDN channels 0 of 4

Total bandwidth 128 kbps of 2304 kbps

#### System Information

System Name USCG 4TH FL CONF RM

Software version F9.1.2 NTSC

Product TANDBERG Edge 95MXP

Location

Contact Person

#### System Status

ISDN/BRI Line error

H.323 SIP

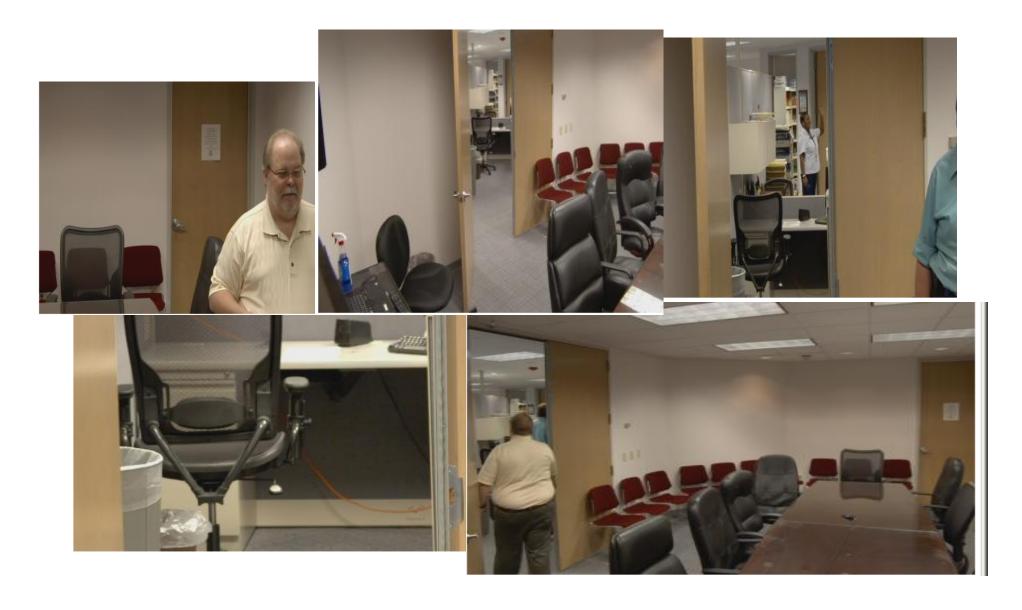
More More

More

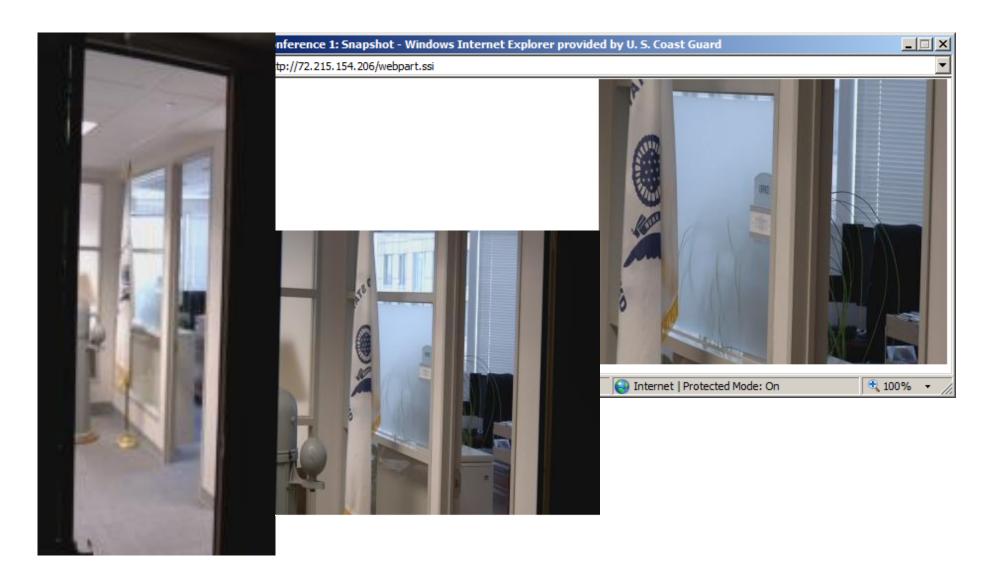
# No Active Call, using camera self-

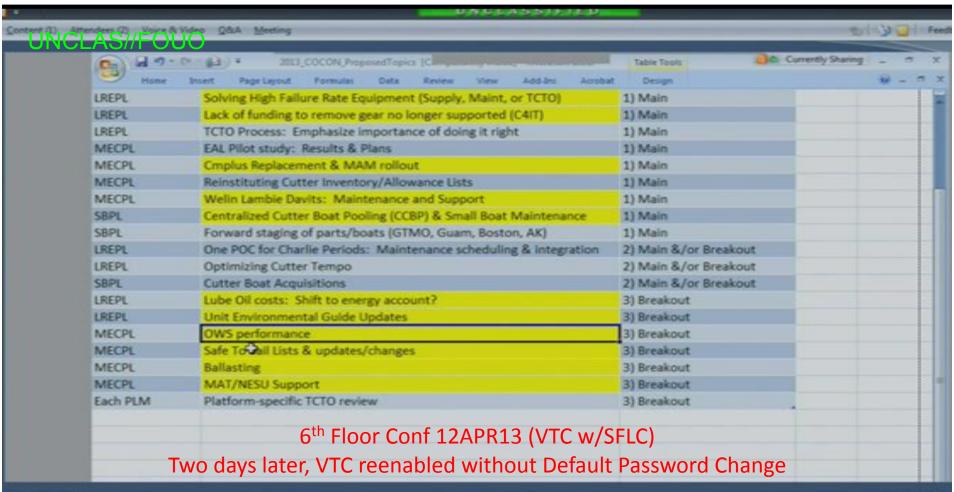


## 4<sup>th</sup> Deck camera control viewing office space adjacent to conference room



## 6<sup>th</sup> Deck camera control viewing office space adjacent to conference room







## **Questions?**

# ACT Achieving Cybersecurity Together "It's our Shared Responsibility".













