Information Technology Systems Criteria

Tri-Service Panel

Fred Skroban – USAISEC

John Peltz – NAVFAC Atlantic

Information Technology Systems Criteria

- Introductions
- Planning for the Future
- Governing Documentation
- Commercial Standards
- Industry Trends and Developments

Fred Skroban

- "SME" for Implementation Engineering
- US Amy Information Systems Engineering Command – Fort Detrick Engineering Directorate
- Background:
  - Employed At ISEC-CONUS/FDEO/FDED Since February 1990
  - Background in DATA QA and Test, BRAC Design, DPI Relocations, and I3A Implementation Program
  - UFC/UFGS Telecommunications Working Group Member

John Peltz, P.E.

- NAVFAC Atlantic Electrical Engineer
- Background
  - Employed with NAVFAC since 1987
    - Design Division
      - Electrical Designer and Supervisor M/E Spec
    - Engineering Innovation Criteria Office (EICO)
      - Special Assistant for Elec. Engr.
    - Capitol Improvements Elec. Engr.
      - Special Assistant for Elec. Engr.

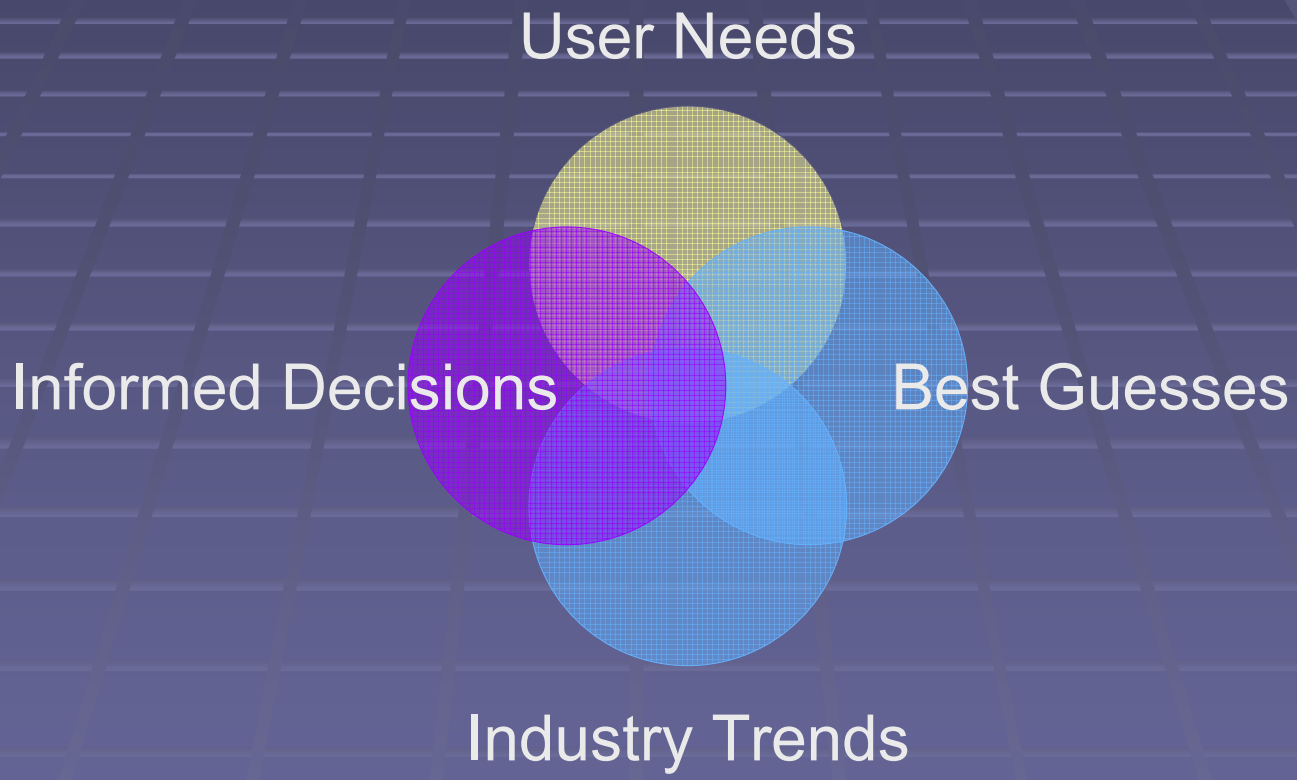
Planning for the Future

- Graduated from WVU
- Going to be an "Electrical Engineer"
- Have a wife, 2-3 kids, Nissan Maxima, and a schnauzer
- Live in a development in NJ

Outcome of Plans

- Telecommunications/ IT/ Electronics Engineer - MSIT
- Wife, 4 boys, 2 horses, 2 goats, 7 sheep, sheltie, and a rabbit
- Sentra, mini-van, and pick-up truck
- 7+ acres in rural PA

Planning a Solid Foundation



Information Technology Systems Criteria

- Governed by
  - UFC-3-580-01 - Telecommunications Building Cabling Systems Planning And Design
  - UFC-3-580-02 - Telecommunications Systems Outside Plant Cabling System Planning And Design – DRAFT
  - UFC-3-580-10N - Design: Navy and Marine Corp Intranet (NMCI) Standard Construction Practices

Information Technology Systems Criteria

- Governed by – cont.
  - UFGS 16710 – Building Telecommunications Cabling System
  - UFGS 16711 - Telecommunications Outside Plant (OSP)
  - UFGS 16402 – Interior Distribution System
    - Electrical Systems Supporting Structure
  - UFGS 16720N - Administrative Telephone Equipment, Inside Plant

Commercial Building Cabling Standards

- ANSI/TIA/EIA-568-B Series - Cabling
- ANSI/TIA/EIA-569-B - Pathways
- ANSI/TIA/EIA-606-A - Administration
- ANSI/TIA/EIA-862 – Building Automation
- ANSI/TIA/EIA-526-7 – SM Fiber Testing
- ANSI/TIA/EIA-526-14-A – MM Fiber Testing
- ANSI/TIA/EIA-942 – Data Centers

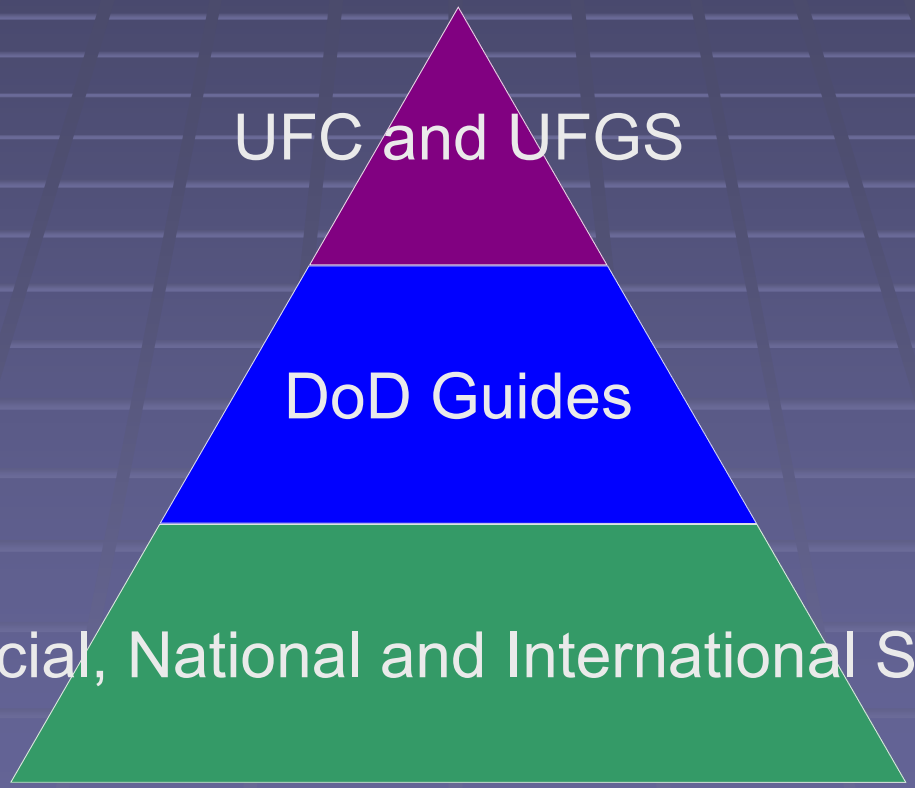
Commercial Outside Plant Standards

- USDA Rural Utilities Service (RUS) Standards
- ANSI/TIA/EIA-758
- Telcordia Documents
- Lucent Documents
- IEEE
- IEC/ISO
- EN

DoD Guides

- Installation Information Infrastructure Architecture (I3A) Guide
- UFC 3-580-10N, Design: Navy and Marine Corp Intranet (NMCI) Standard Construction Practices

Standards Process



IT Procurement Process

- I3A Guidance
  - MCA
  - I3MP
  - Modularity
  - Range Modernization
- NMCI (Data) combined with BCO/G6 (Voice)

US Army Guides

- Installation Information Infrastructure Architecture (I3A) Guide
  - Premise Wiring
  - OSP
  - Voice Switch Central Office and Remote Offices
  - Network Architecture
  - Network and Systems Management
  - Information Assurance and Security

ISEC-FDED MCA Role

- Provide IT functional, technical and program management support to HQDA (CIO/G6 and HQDA G3 and ACSIM), USACE districts, IMA/RCIO's and DOIM's to support planning and programming
- Synchronization of Army Information System Programs I3MP, DSSMP, range projects etc.
- Work with the USACE Districts on each MCA and BRAC project
- Providing external guidance and direction on information system design, assess, plan and execute

US Army I3MP Effort

- Installation Information Infrastructure Modernization Program (I3MP) –
  - OSP
  - Telecommunications Rooms
  - Data
  - Voice
  - ADRP
  - TLA Stack

DSSMP is the current contract vehicle

DSSMP is not a program

US Army I3MP Effort – cont.

- Site Survey
  - Dial Central Office (DCO) and Main Communications Node (MCN)
  - Manholes and Cable Route
  - Building Telecommunications Rooms
  - DOIM Operations
  - User Needs

Army Modularity

- Determine Where Permanent vs. Temporary Facilities Will Be Constructed
  - Determine Type Of IT Solution (Direct Bury vs. MH And Duct, FSO, etc.)
  - Validate The IT OPA Dollars Being Requested
  - Validate The IT OPA Shortfall Potential

Range Infrastructure

- Participating on the Army Range Tech Team to ensure the integrated planned and execution process that supports Range Transformation
- HQDA G3 agreed to fund the range connectivity of 10,000 LF or less from the nearest main post connection point
- HQDA CIO/G6 agreed to fund the range connectivity for greater than 10,000 LF as an Un-Financed Requirement
- UFR validation to the CIO/G6 is based on Tech Team review, design phases and certification of DD1391's

Navy and Marine Corp Intranet (NMCI) Contract

- Awarded 6 Oct 2000.
- Seven year base period plus an optional three-one year extension period.
- “Seat management" contract.
- Ensures standardization and interoperability- Provides all 'IT' hardware and software, operations, training, maintenance and system upgrades.
- Navy conference 21 Sept. 2005 to update the standard and address lessons learned.

UFC 3-580-10

- UFC 3-580-10, Design: Navy and Marine Corp Intranet (NMCI) Standard Construction Practices
  - General guidance and planning information.
  - Summary of requirements to prepare DoN space.
  - ANSI/EIA/TIA standards.
  - Supports Cat 5e horizontal cabling wired to the T568A configuration.
  - Fiber optic home run not supported.
  - Work area outlets are provided with 1-voice and 1-data jack in a single wall plate.

IT Design Steps

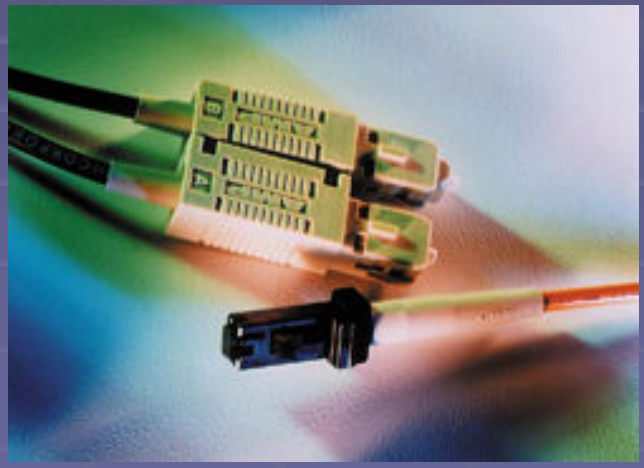
- Determine Building Usage and Occupant's Needs
- Utilize Standards Based Cabling and Technology
- Design to UFC, DoD, and Commercial Standards
  - Lengths
  - Technology Types
  - Constraints

IT Design Steps- Cont.

- Establish a Robust Supporting Structure
  - Outside Plant – Match to Post Infrastructure
  - Maximize Fiber and Sub-Duct for Growth
  - Building Telecommunications – “Flood Wiring”
  - Maximize Re-Usable Structures

IT Design Steps- Cont.

- Cable to Support Current Needs and Growth
- Inject new technologies where appropriate



Industry Trends

- Voice over IP (VoIP)
  - Moving Voice Switching Out to User Buildings
- Wireless LAN (WLAN)
  - IEEE 802.11 a, b, and g
- Power over Ethernet (PoE)
  - Provide Power for IP Phones and Wireless Access Points (WAP)
- Free Space Optics (FSO) for OSP

Affect on IT Design

- VoIP and PoE
  - Need for Continuous Power
  - Greater Power Draw
  - Higher Heat Load
  - More Racks or Cabinets
- Wireless
  - Location of WAP
  - Must Meet DoD Security Requirements

Affect on IT Design

- FSO
  - Distance
  - Installation Stability
  - Inside Window – Reflection or Distortion
  - Atmospheric Effects & Impairments
  - Eye safety
  - Security

Recent Standards

- TIA/EIA-569-B Commercial Building Standard For Telecommunications Pathways And Spaces
  - Added Telecommunications Enclosure
  - Added Information on Furniture Systems
- TIA/EIA-942 Telecommunications Infrastructure Standard For Data Centers

In The Works

- TIA committee TR-42 Working on Standard for 10GBase-T Cabling
  - Technical Service Bulletin (TSB) for “Augmented” Cat 6 – Not Yet Ratified
  - IEEE 802.3an – 10GBASE-T Shielded and Unshielded – Not Yet Published
- ISO/IEC Standard for STP cabling, designated as Class F
- TIA/EIA has not yet formed a task group to explore the standardization of ISO/IEC 11801 Class F as Category 7

In The Works – cont.

- TIA committee TR-42 Working on Standard Wireless Access Points
  - Technical Service Bulletin (TSB) "Telecommunications Cabling Guidelines for Wireless Access Points" – Not Yet Ratified
  - WAP At The Center Of Each 55 by 55 Foot Square Grid - up to 20 users
  - Based on ISO/IEC TR 24704 "Information Technology Customer Premises Cabling for Wireless Access Points"

Question and Answer Time

Contact Information

- Frederick M. Skroban II
  - USAISEC-FDED
  - 301-619-6487
  - frederick.skroban@us.army.mil
- John Peltz, P.E.
  - NAVFAC Atlantic
  - 757-322-4208
  - John.peltz@navy.mil