A Tale of Two BUILDERS

Navy & Marine Corps “BUILDER” Implementations

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Introductions

- Panel
- Presentation

Case Study

- Background and History
  - Change Driver
  - Objectives
- Approaches To Implementation
- Data Collection and Maintenance
  - Art and Science
  - Observations and Lessons Learned
- Wrap Up
  - Last Words from Navy and Marine Corps Leaders

Change Drivers

- 2003 GAO Report to Congressional Committees
  - DEFENSE INFRASTRUCTURE: Changes in Funding Priorities and Strategic Planning Needed to Improve the Condition of Military Facilities

- Need for Condition Assessment Process Improvement
  - Reliable
    - Objective / Repeatable / Consistent
  - Auditable
  - Efficient

Background

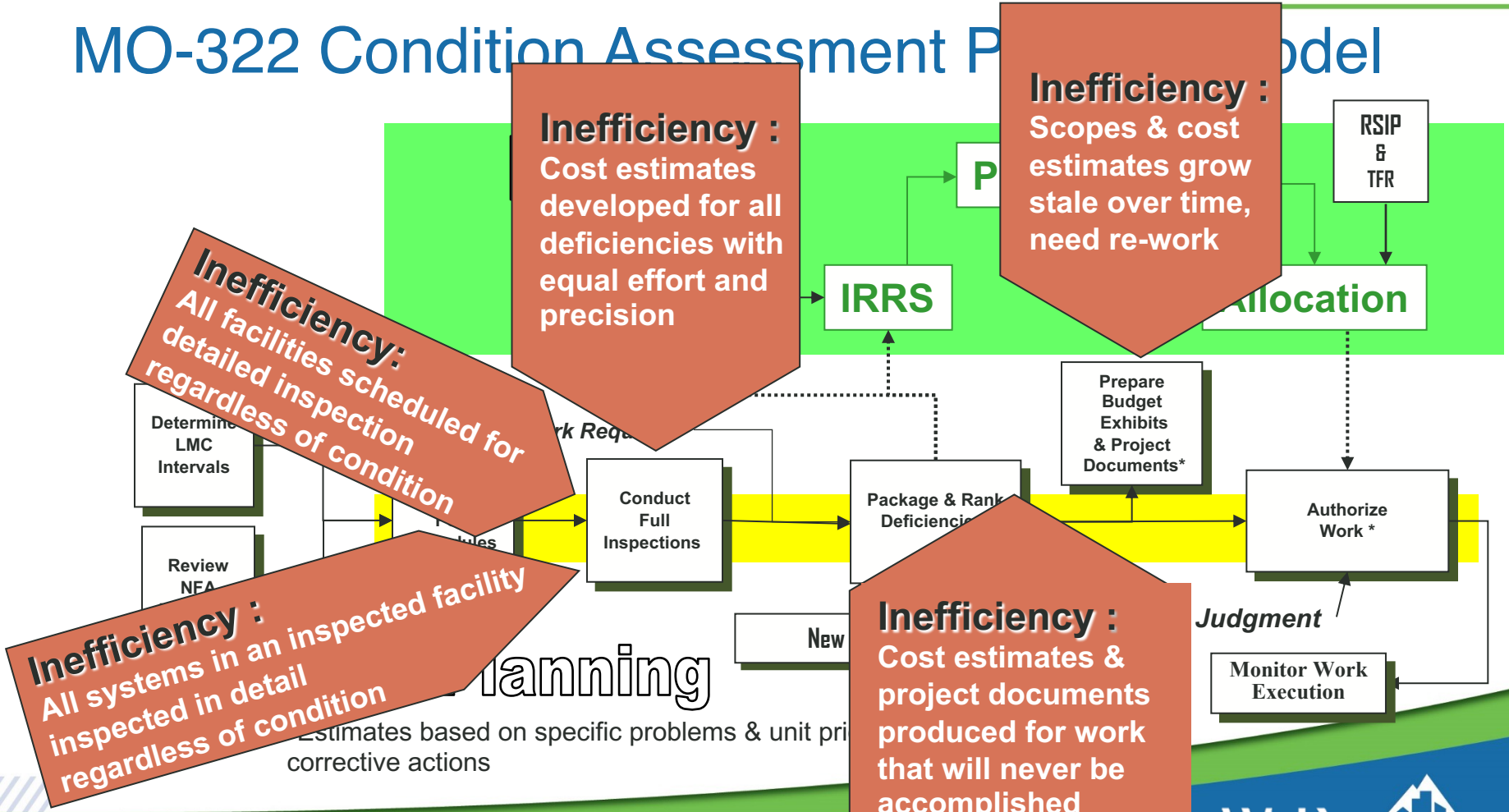
- Circa 2003 – NAVFAC Studying and Investing in EMS Technologies (EMS later becomes SMS)
- 2003 – NAVFAC Charters the FCAP Working Group (FCAP later becomes ICAP)
- FCAP WG Objectives:
  - Perform BCA to determine most cost effective and objective method of performing facilities assessments Navy-wide. Solution must be compatible with SRM construct.
  - Develop revised policy/doctrine
  - Implement quickly
- Vision
  - To incorporate an objective, consistent, forward-looking, and mission-dependent approach to Navy facility condition assessment in order to increase planning and execution efficiency and deliver better capability to the warfighter.

[FCAP CONOPS, 2004]

Solution = EMS (SMS) Methodology

- Navy Invests in BUILDER Development (2002 to Present)
  - Early investments
    - Classification conversion to UNIFORMAT II
    - Framework update to Web-based platform

MO-322 Condition Assessment P odel



Redesigning an EMS (SMS) Enabled Process

- FCAP Working Group Redesigns the Facility Condition Assessment process
  - Redesign Blueprint – Circa 2005
  - Pilots 2006-2007
  - Enterprise-wide push 2008-2015

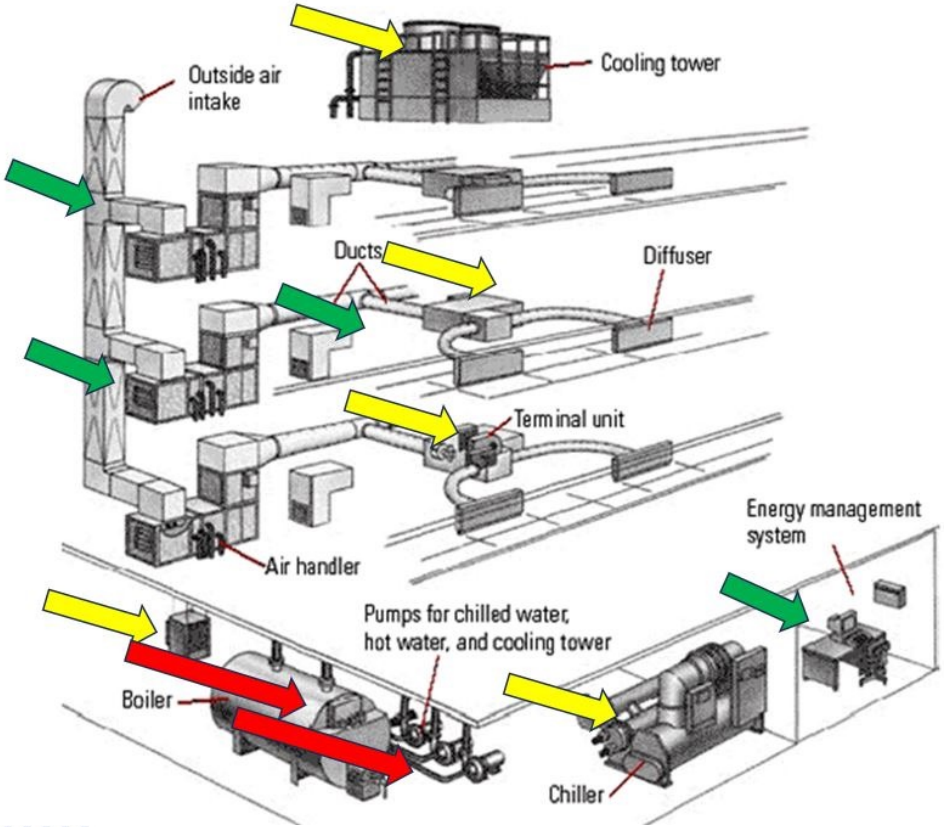
- Marine Corps Leadership Monitoring Navy Progress
  - Pilots 2007-2009
  - Enterprise-wide push 2010-2015

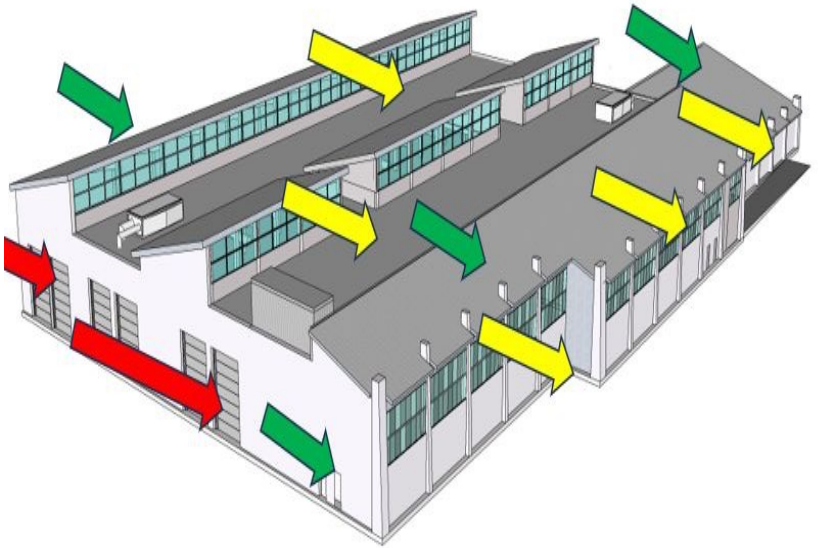
Redesigned Process

- Concepts
  - "Triage" of investment opportunities
  - Condition "vectors"
    - Magnitude – urgency of investment in terms of time
    - Direction – identification of facility elements needing investment

- Efficiencies
  - Incorporated into everyday maintenance
  - Parametric cost estimates
  - Identifies investment requirements over both tactical and strategic planning horizons
  - Just-In-Time detailed work requirements

Condition Map

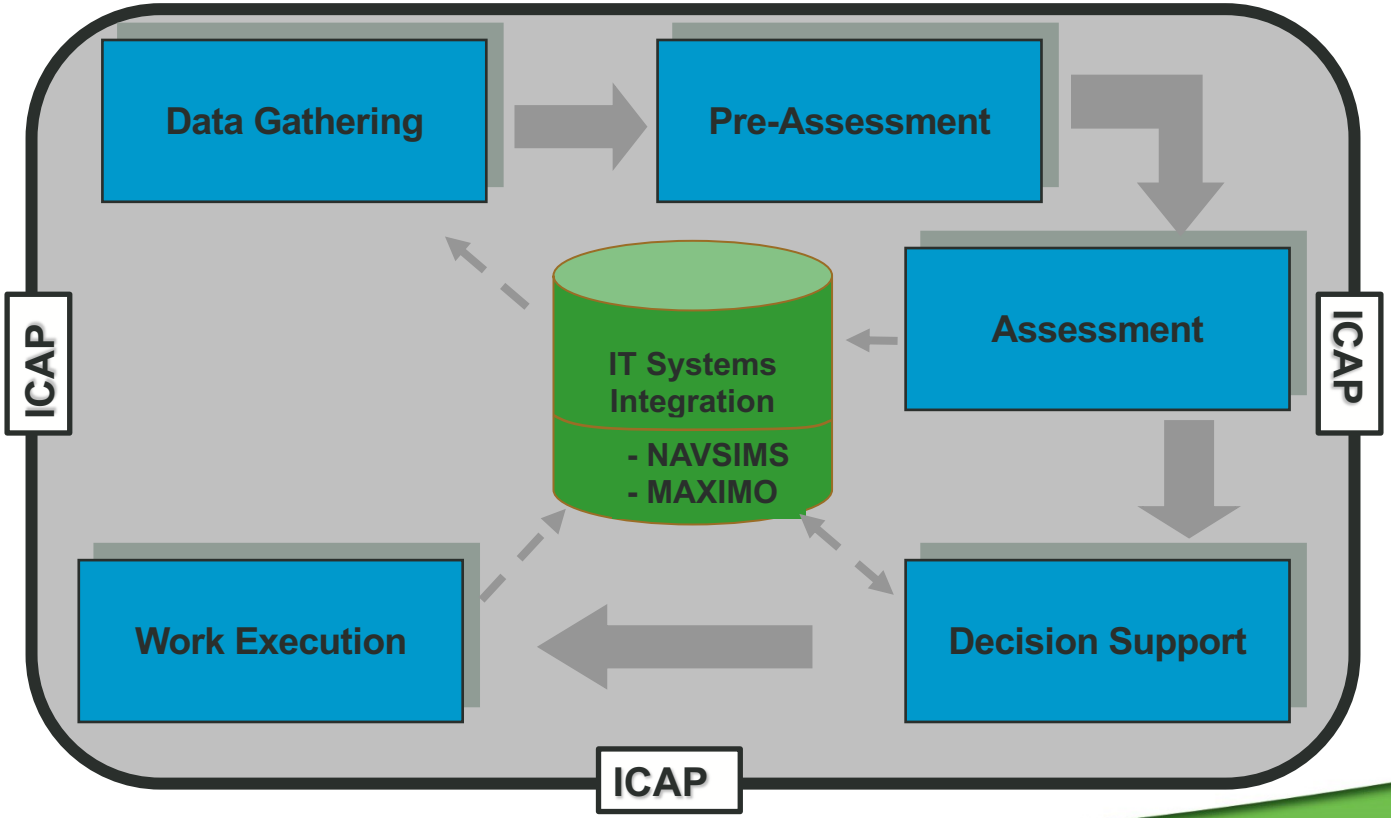




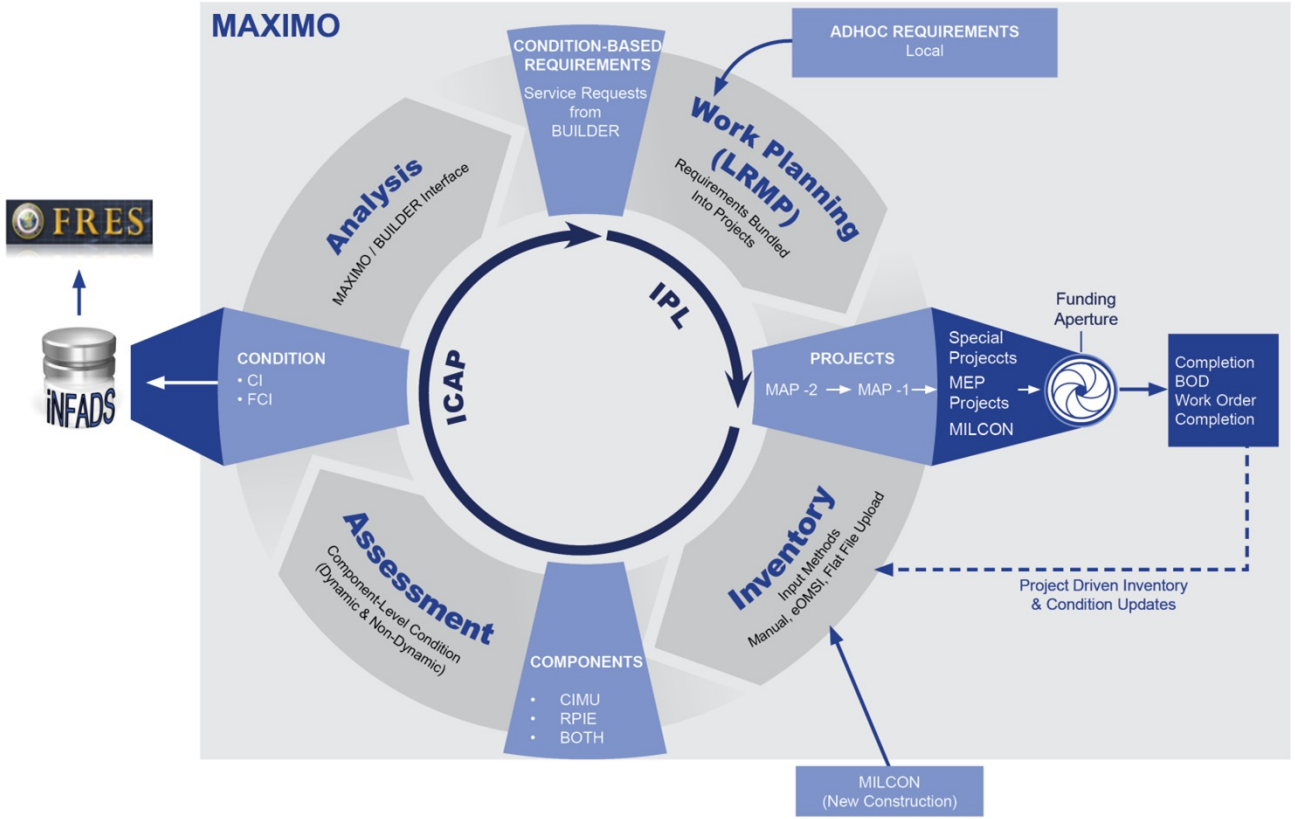
Implementation – Navy

- Initiated Circa 2006
- Decentralized Data Collection Management
- Centralized Analysis
- IT Integration
- Installation Resource Augmentation

Process / IT Integration - Navy



CBM Cycle


MAXIMO
CONDITION-BASED REQUIREMENTS
Service Requests from BUILDER
ADHOC REQUIREMENTS
Local
Work Planning (LRMP)
Requirements Bundled Into Projects
Analysis
MAXIMO / BUILDER Interface
FRES
iNFADS
CONDITION
• CI
• FCI
ICAP
IPL
PROJECTS
MAP -2 → MAP -1
Special Projeccts
MEP Projects
MILCON
Funding Aperture
Completion
BOD
Work Order
Completion
Inventory
Input Methods
Manual, eOMSI, Flat File Upload
Project Driven Inventory & Condition Updates
Assessment
Component-Level Condition (Dynamic & Non-Dynamic)
COMPONENTS
• CIMU
• RPIE
• BOTH
MILCON
(New Construction)

Inspection Resources – Navy

- "Shops" Staff
  - Condition rating incorporated into planned maintenance job plans for dynamic equipment
- Facilities Management Specialist (FMS)
  - Oversee the inspection process in their AOR
  - Inspect assets in their AOR not in the planned maintenance program

Implementation – Marine Corps
Keep It Simple

- BUILDER Implementation Initiated Circa 2007
- Centralized Data Collection Management
- Decentralized Analysis
- IT Systems Not Integrated
  - BUILDER Data Shareable with USMC Max (Maximo)
  - BUILDER Was Migrated From CERL To Marine Corps Servers ~ 2015
- Installation Resources Status Quo

Inspection Resources – Marine Corps

- BUILDER Data is Refreshed by Contracted Support
  - BUILDER Data is Refreshed Approximately Every Four Years

- Existing Installation Personnel
  - Responsible to develop maintenance plans with additional analytic/decision support capability
  - BUILDER Training Provided for Installation Resources Periodically

Data Maintenance Impacts and Observations
(Third Party Perspective)

- Centralized Management
  - Standard Business Rules Across the Enterprise
- Decentralized Management
  - Similar But Varied Business Rules Across the Enterprise
- Multi-purpose Process
  - Added Complexity to Sectioning
- Single-purpose Process
  - Increased Communication Between Planners and Shops

The Last Word

Organization Perspective and Vision: Navy FCA

- FCA Program Status
  - $150B in PRV for RPA Type Buildings & “building-like” non-specialized RPA Type Structures
  - $93B in component-assemblies in Maximo (Navy does not do component-sections)
  - $20B in SMS Requirements (considered reportable DM&R backlog strictly from BUILDER)
  - 98% complete for RPA Type Buildings **Inventory with “recurring” assessments*
  - 67% complete for RPA Type Structures **Baseline-only assessments (besides UICAP, SIIP)*
  - ‘ICAP Summary Reports’ are NAVFAC-prepared Customer-level Statements of Inventory Completeness
    - Displays customer Inventory by FAC Type / Shore Capability / Geo-Location / Navy Mission Line of Effort
- Vision
  - Use Facility Investment Model to determine where to invest as a function of CI, FAC & ST Rate
  - Eliminate (Demo/Divest) facilities that pose unacceptable risk or are a drag on Navy’s portfolio
  - Together, this is known as “Shore CBM”
- Way Ahead
  - Assess facilities w/mix of field ratings (GAR), machine captured run-hrs & Asset Age-basing
  - Leverage Advanced Analytics from Navy Smart Grid

Navy Tools: BUILDER, Tableau and FIM (FRES)

- Navy BUILDER policies and standards (est. by OPNAV)

Analyzed Building Systems	Standard	Minimum CI For Repair	Max RSL for Replacement
Envelope and D-Systems	High	80	1
Interior and Site Features	Low	60	1
Shell/Structure	Repair Only	50	Does Not Apply

- ICAP Summary (Tableau-Hosted)
  - Component-assembly level view of Inventory Quality – All RPA Types
- FRES FIM (Navy-wide Facilities Invesment Model)


SMS
SUMMIT
THANK YOU
DIGON
SYSTEMS
Stantec
Alpha
Facilities Solutions
TETRA TECH
Jacobs
WSP
POND