Business & Enterprise Systems

WE run the Systems that run the AIR FORCE...moving MONEY, MANPOWER, and MATERIEL

PEO BES & AF Logistics Success Story (ILS-S)

MITS 2018

Robert (Tony) Nicholson
Program Manager ILS-S Re-Platform
PEO BES AFLCMC/HIAR
Robert.Nicholson.18@us.af.mil

Paul Saladna
Chief Architect ILS-S Re-Platform
NTT Data
Paul.Saladna@nttdata.com
WE run the Systems that run the AIR FORCE…moving MONEY, MANPOWER, and MATERIEL

Integrated Logistics System Supply (ILS-S)

Who We Are
• Portfolio Manager: HQ AFMC/A4N (Ms. Kim Brown)
• Functional Advocate: HQ AF/A4LR (Mr. Colquitt Lawrence)
• Senior Material Leader: Col. Alvin Burse
• Program Manager: Mr. Tommie Ellis
• Lead Functional: Ms. Antoinette Briggs
• Lead Engineer: Mr. James Harbison
• Contracting Officers: Mr. Richard Ashley, Ms. Lexie Potter
• Industry Partners: DSD, DATUM

What We Do
• Defense Business System—IT Retail Supply
• Enterprise wholesale and retail asset visibility
• Mission Capable (MICAP) Management
• Serialized Tracking Nuclear Weapons Related
• Mobility, Chemical, Biological, Radiological, Nuclear
• Sustainment + ACAT III FIAR, Wrapper, SBSS Re-Platform

Who We Support
• 18K End Users
• 107K Logistics Customers
• 40 Interface Partners
• Global Mission - 275 sites

Transformed ILS-S to modern system to support AF needs
ILS-S SBSS Re-Platform

- Previous SBSS Technical Upgrade Events
  - 1964: UNIVAC 1050 II (Assembler)
  - 1985: Migrated UNISYS 1100/60 (COBOL 74 / DMS)
  - 1990s: COBOL 74 to COBOL 85; SuperStructure

- Re-Platform Requirement
  - Reduce annual ILS-S (SBSS) Infrastructure Costs
  - Posture ILS-S to support future compliance mandates
  - 4 COAs; Re-Platform (Lift and Shift) approved Nov 2012

- Results
  - 🎉 Cost: $2M under budget
  - 🎉 Schedule: Met all dev/test milestones; fielded 5 months early
  - 🎉 Performance: Met/exceeded all Key Performance Parameters
  - 🎉 Requirement: Annual infrastructure costs reduced $25M
Why was Re-Platform Successful?

**Prep Steps**
- SBSS “green screens” to ES-S (2007)
- Interface “Wrapper” (2016)
- Automated test scripts (2014-2016)

**Risk Reduction**
- A4 Customer commitment! Control scope, No BPR
- Staggered implementation schedule

Teamwork Critical Success Factor!
- **Gov’t**: PK, EN, JA, FM/Cost, DT/OT, DISA, CIE, IA, Interfaces, AFMC/A4 & Users, Our Leadership
- **Industry**: Array/NTT, CENTECH, DSD Labs, A&AS, Oracle, Attachmate

---

*WE run the Systems that run the AIR FORCE...moving MONEY, MANPOWER, and MATERIEL*
WE run the Systems that run the AIR FORCE...moving MONEY, MANPOWER, and MATERIEL
So What’s Next?

- **Be Flexible**
  - Tiered Sustainment
  - Logistics consolidation
  - New capabilities

- **Task Order Awarded Feb ’18**
  - Technical SME Support (DATUM)
  - Java, Oracle, RHEL, Web development
  - Initially funded Basic Sustainment
  - Can add support based on customer need

- **Support Agile**
  - Evolve what we do already

- Saved $642M
  - Story boards, iterative development, integrated CTR/GOV
  - Early user feedback, automated testing, combined DT/OT
  - Utilized blend of RUP, XP, PEO BES BPD concepts

*WE run the Systems that run the AIR FORCE...moving MONEY, MANPOWER, and MATERIEL*
ILS-S selected as “Start Small” for Logistics Mission Area
“Start Small” Approach

- Evolve what we do already
  - Iterative-Incremental development and delivery
  - Monthly delivery of “minimum viable capability”
  - Product Backlog---but shift as needed
  - Iterations vs Sprints
  - Learn…lessons roll to next Iteration(s)
  - Seven Iterations May – Dec 2018
### Iteration 1 (V5.0.2)

- 4 weeks fielding cycle
  (TRR I to Production)
- **Stakeholder Buy-In**
  - Information Assurance
  - Lead Development Test
  - Documentation
  - Engineering Review
  - Fielding Approval
- 2 weeks cycles if possible

#### Table

<table>
<thead>
<tr>
<th>ID</th>
<th>Task Mode</th>
<th>Task Name</th>
<th>Duration</th>
<th>Start</th>
<th>Finish</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td></td>
<td>ILS-S Sustainment v.5.0.2</td>
<td>23 days</td>
<td>Thu 5/18</td>
<td>Thu 5/31</td>
</tr>
<tr>
<td>2</td>
<td></td>
<td>PMO CVI &amp; F3</td>
<td>14 days</td>
<td>Fri 5/18</td>
<td>Thu 5/31</td>
</tr>
<tr>
<td>3</td>
<td></td>
<td>Functional/Product Baseline</td>
<td>1 day</td>
<td>Tue 5/18</td>
<td>Tue 5/18</td>
</tr>
<tr>
<td>4</td>
<td></td>
<td>Fortify (Code Scan) N/A</td>
<td>1 day</td>
<td>Tue 5/18</td>
<td>Tue 5/18</td>
</tr>
<tr>
<td>5</td>
<td></td>
<td>TRR I Minutes/Checklist</td>
<td>2 days</td>
<td>Wed 5/18</td>
<td>Wed 5/18</td>
</tr>
<tr>
<td>6</td>
<td></td>
<td>CCB Coordination</td>
<td>1 day</td>
<td>Tue 5/18</td>
<td>Tue 5/18</td>
</tr>
<tr>
<td>7</td>
<td></td>
<td>Release Request Letter</td>
<td>3 days</td>
<td>Thu 5/18</td>
<td>Thu 5/18</td>
</tr>
<tr>
<td>8</td>
<td></td>
<td>Software installed to F3</td>
<td>1 day</td>
<td>Fri 5/18</td>
<td>Fri 5/18</td>
</tr>
<tr>
<td>9</td>
<td></td>
<td>CVI Test</td>
<td>4 days</td>
<td>Mon 5/7/18</td>
<td>Thu 5/10</td>
</tr>
<tr>
<td>10</td>
<td></td>
<td>DISA STIGs requested as needed</td>
<td>4 days</td>
<td>Fri 5/18</td>
<td>Fri 5/18</td>
</tr>
<tr>
<td>11</td>
<td></td>
<td>Appropriate artifacts to IA/SCAR</td>
<td>1 day</td>
<td>Fri 5/18</td>
<td>Fri 5/18</td>
</tr>
<tr>
<td>12</td>
<td></td>
<td>AF Form 636</td>
<td>5 days</td>
<td>Mon 5/11/18</td>
<td>Wed 5/14</td>
</tr>
<tr>
<td>13</td>
<td></td>
<td>CVI TR (Test Report)</td>
<td>5 days</td>
<td>Mon 5/11/18</td>
<td>Fri 5/15</td>
</tr>
<tr>
<td>14</td>
<td></td>
<td>RTM/QC Scripts/ITD</td>
<td>5 days</td>
<td>Mon 5/11/18</td>
<td>Fri 5/15</td>
</tr>
<tr>
<td>15</td>
<td></td>
<td>QT&amp;E (F4)</td>
<td>4 days</td>
<td>Mon 5/14/18</td>
<td>Thu 5/17</td>
</tr>
<tr>
<td>16</td>
<td></td>
<td>Final User Manual Updates</td>
<td>1 day</td>
<td>Mon 5/14/18</td>
<td>Sun 5/14</td>
</tr>
<tr>
<td>17</td>
<td></td>
<td>TRR II Minutes/Checklist</td>
<td>1 day</td>
<td>Mon 5/14/18</td>
<td>Sun 5/14</td>
</tr>
<tr>
<td>18</td>
<td></td>
<td>Sprint Software (on CD for CM)</td>
<td>1 day</td>
<td>Mon 5/14/18</td>
<td>Sun 5/14</td>
</tr>
<tr>
<td>19</td>
<td></td>
<td>Software installed to F4</td>
<td>1 day</td>
<td>Mon 5/14/18</td>
<td>Sun 5/14</td>
</tr>
<tr>
<td>20</td>
<td></td>
<td>QT&amp;E Testing</td>
<td>3 days</td>
<td>Thu 5/17/18</td>
<td>Thu 5/19</td>
</tr>
<tr>
<td>21</td>
<td></td>
<td>Production (F6)</td>
<td>23 days</td>
<td>Thu 5/18</td>
<td>Thu 5/31</td>
</tr>
<tr>
<td>22</td>
<td></td>
<td>Security Clearance</td>
<td>2 days</td>
<td>Mon 5/21/18</td>
<td>Tue 5/22</td>
</tr>
<tr>
<td>23</td>
<td></td>
<td>UET Concurrence (N/A)</td>
<td>0 days</td>
<td>Tue 5/22/18</td>
<td>Tue 5/22</td>
</tr>
<tr>
<td>24</td>
<td></td>
<td>QLR (Quick Look Report)(IDTO Tes</td>
<td>3 days</td>
<td>Fri 5/18/18</td>
<td>Fri 5/22</td>
</tr>
<tr>
<td>25</td>
<td></td>
<td>Eng Go Package to LE</td>
<td>17 days</td>
<td>Wed 5/18/18</td>
<td>Wed 5/23</td>
</tr>
<tr>
<td>26</td>
<td></td>
<td>Eng Go Recommendation</td>
<td>3 days</td>
<td>Wed 5/24/18</td>
<td>Thu 5/25</td>
</tr>
<tr>
<td>27</td>
<td></td>
<td>Fielding Approval Memo</td>
<td>1 day</td>
<td>Thu 5/26/18</td>
<td>Thu 5/26</td>
</tr>
<tr>
<td>28</td>
<td></td>
<td>Production installed to F6</td>
<td>2 days</td>
<td>Thu 5/31/18</td>
<td>Thu 5/31</td>
</tr>
</tbody>
</table>

- **5/1/18**: Fielding Approval
- **5/31/18**: Production installed to F6
WE run the Systems that run the AIR FORCE…moving MONEY, MANPOWER, and MATERIEL

Key Points

- **ILS-S aligns with BES Strategic Vision, 2018-2021**
  - OPERATE systems in cost effective manner
  - INTEGRATE existing and future technologies
  - INNOVATE by adopting new technologies
  - “Our customer needs us to go faster… …and I agree!” Col. Al Burse, HIA SML

- **Possible to accomplish a lot with:**
  - Right people, process and tools & contract type
  - Integrated industry partner/government teams
  - Scope control

- **Possible to ship usable capability early & often…but:**
  - PMO does not control many critical processes; need ongoing stakeholder & leadership support
  - Pre-scheduled monthly Iterations may not always be what’s best for the user
Supply Modernization
Technical & Business Objectives

- Complex: Subject of 2003 book “Modernizing Legacy Systems”

- Technical Challenge:
  - 5 Unisys mainframes to Red Hat Enterprise Linux
  - 1.2M lines of COBOL to Java
  - 235 DMS records to Oracle
  - 80 host bases

- As-Is > To-Be: Integrate existing enterprise, no degradation in service

- Timeline:
  - 24-month: Initial operational capability (2 host bases)
  - 9-month: Full operational capability (78 host bases)

- No margin for error: Firm-fixed price
Supply Modernization
Technical Approach

- Incremental: Delivery & fielding
- Frontload risk: Wrap and adapt
- Battling marketecture: Vendor showdown
- You are doing it wrong: Size to your mission
- Build the foundation: It is all about the data

- Code conversion:
  - Don’t cross the streams
  - Garbage in, garbage out
  - Bridge the communication gap

- Automation: continuous integration & testing
Supply Modernization
Benefits & Lessons Learned

Benefits:
- Before: Maintained existing business processes
- During: Minimized program risk
- After: Uniform testable & sustainable architecture

Lessons learned:
- DMS locking is much different than Oracle locking
- DISA separation of database and application server
- Reports are not always “reports”

Lesson confirmed:
- Risk: Never let assumptions drive architecture
- Complexity: Eliminate accidental, minimize essential
- Incremental: Can take many different forms, but is always risk minimizing
Development Process Evolution

- Incremental: RUP to RAX & the SEP
- Value: Process should have meaning, everything has a cost
- Litmus test: Know your primary objective
- You are doing it wrong: Size to your organization
- Alignment: Align process to organizational and mission objectives:
  - Find out where you are
  - Take a small step toward your goal
  - Adjust your understanding based on lessons learned
  - Repeat
- Team: People matter and automation is critical

WE run the Systems that run the AIR FORCE...moving MONEY, MANPOWER, and MATERIEL
Cloud Migration

- Mission objective: FDCCI compliance

- Technical requirements:
  - Eliminate DISA replica GFE contractor development environment
  - Security first
  - Software must be deployed across CIE Dev Zone and DISA
  - No collateral damage to other activities (in parallel to FIAR, sustainment, & modernization)

- YAGNI: The simplest thing that can possibly work

- Incremental: Minimally viable

- You are doing wrong: Size to your architecture
How to speed capability delivery?

- Have a mission objective
- Process should be less prescriptive and more descriptive
- Incremental small steps, evaluate, adjust, repeat
- Automate along the way
- Remember, you are doing it wrong…
Questions