



NIEMOPEN



MILITARY OPERATIONS (MILOPS)

COMMUNITY OF INTEREST (COI)

Presented by:

Ms. Beth Smalley, IT Specialist

Ms. Darcy Staley, IT Specialist

Joint Staff, J-6

12 June 2025



NIEMOPEN

AGENDA

- Opening Remarks
- Project Governing Board (PGB) Minute
- NIEMOpen Business Architecture Committee (NBAC) & NIEMOpen Technical Architecture Committee (NTAC) Tools & Training Updates
- MilOps In Action
- Discussion & Vote on MilOps Governance
- MilOps Goals
-  Nominate Your Work
- Ideas for Next Meeting
- Discussion / Closing Remarks



PGB MINUTE



- NIEM in the News
 - IJIS NIEM 6.0 Webinar 22 May:
 - <https://www.youtube.com/watch?v=pP3qDd23sx4&t=2s>
 - Forensics domain endorsed by PGB 29 May:
 - [https://github.com/niemopen/oasis-open-project/blob/main/pgb-meeting-minutes/2025/29-may-25/\(FINAL%20Brief\)%2029%20May%202025%20PGB%20Mtg%20Brief%20-v9%205-28-25.pdf](https://github.com/niemopen/oasis-open-project/blob/main/pgb-meeting-minutes/2025/29-may-25/(FINAL%20Brief)%2029%20May%202025%20PGB%20Mtg%20Brief%20-v9%205-28-25.pdf)
- Statuses
 - NIEM Model Version v6.0 PS02 NIEM Model v 6.0 PS02 Approved by PGB
 - <https://github.com/niemopen/niem-model>
 - Motion to Identify 3 Statements of Use for PGB to use as predicate for Candidate OASIS Standard approved 29 May 25
 - Naming & Design Rules (NDR) v6.0 PSD01
 - Motion to Advance NDR from Draft to Project Specification approved 29 May
 - <https://github.com/niemopen/niem-naming-design-rules>
 - MOMS release pending GTRI contract award by OASIS

MILOPS IN ACTION



Supported Exploratory Meetings

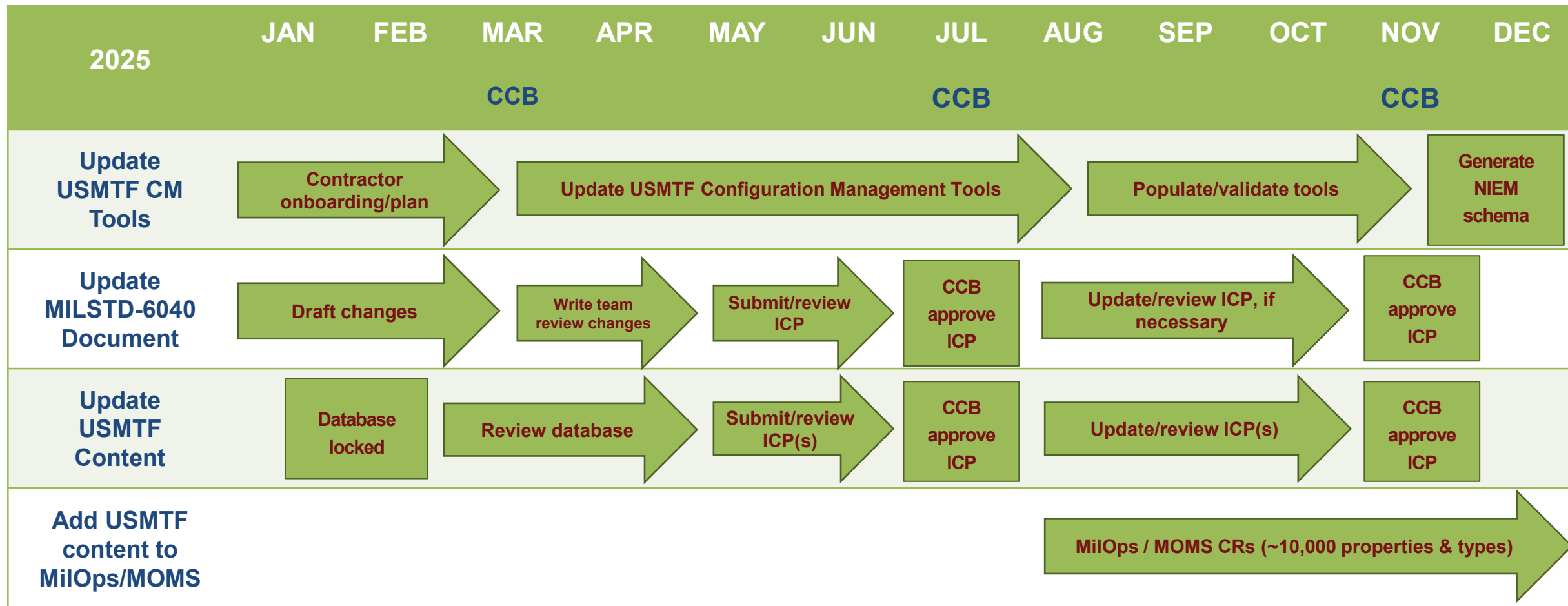
- EXSUM: Services, CCMDs, Agencies requesting "minimum [enterprise] data standardization solution requirement"
 - AFRICOM
 - C2IE
 - Mission Thread – Logistics (FVEY)
- Developing NIEMOpen Enterprise Data Interoperability benefits & challenges brief for DoD Partners

Implementation Updates

- USMTF to NIEM – DISA (See next slides)
- NCDF STANAG 5653 & Data Lake – NATO
- MIP/MIM – Army & MIP Community – Pending AR34-1 update
- Use Case – Air Force, Jimmy "Rev" Jones
 - STITCHES & NIEM-conformant drone messaging

USMTF ROADMAP

J6 is going through the FY 26 budget process currently, resources allocated to these tasks are pre-decisional.





FEATURED MILOPS USE CASE: STITCHES & NIEM

[HTTPS://APOGEE-RESEARCH.COM/STITCHES/](https://apogee-research.com/stitches/)



STITCHES NIEM Integrations

Integrating and Orchestrating Data Layers from OV-1 through Runtime

Jimmy “Reverend” Jones, PhD

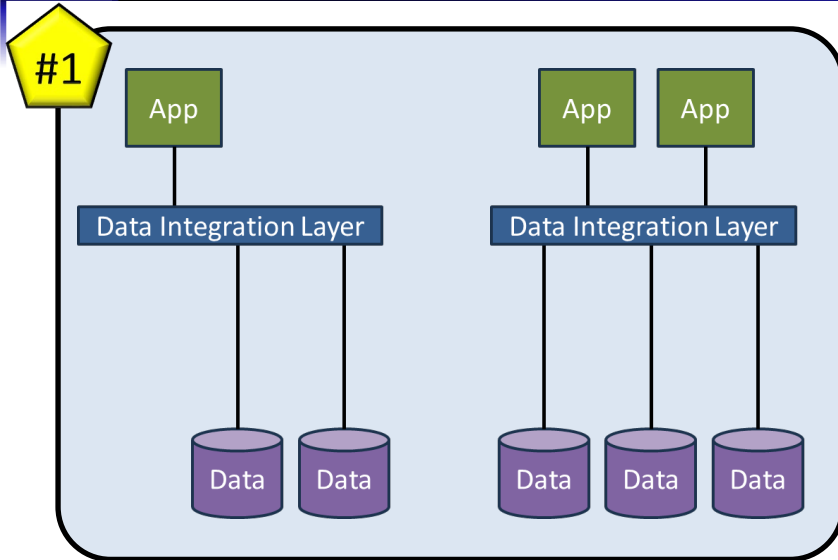
STITCHES Warfighter Application Team Lead, SAF/AQLV

12 June 2025



System of systems Technology Integration Tool Chain for Heterogeneous Electronic Systems

5 Stages of Data and System Integration Grief...Part 1



#1: Freshly made data model tailored to solve your problem

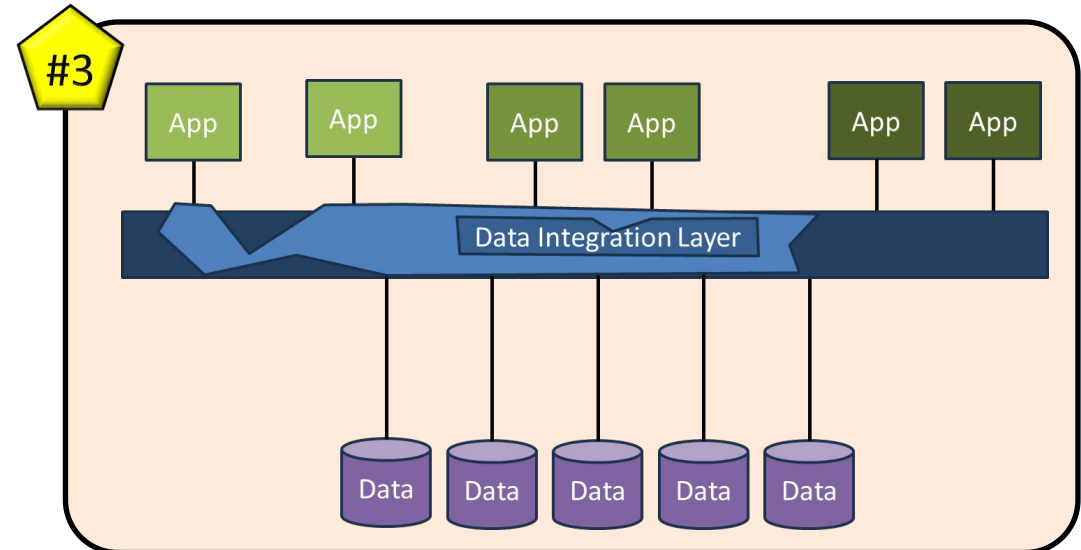
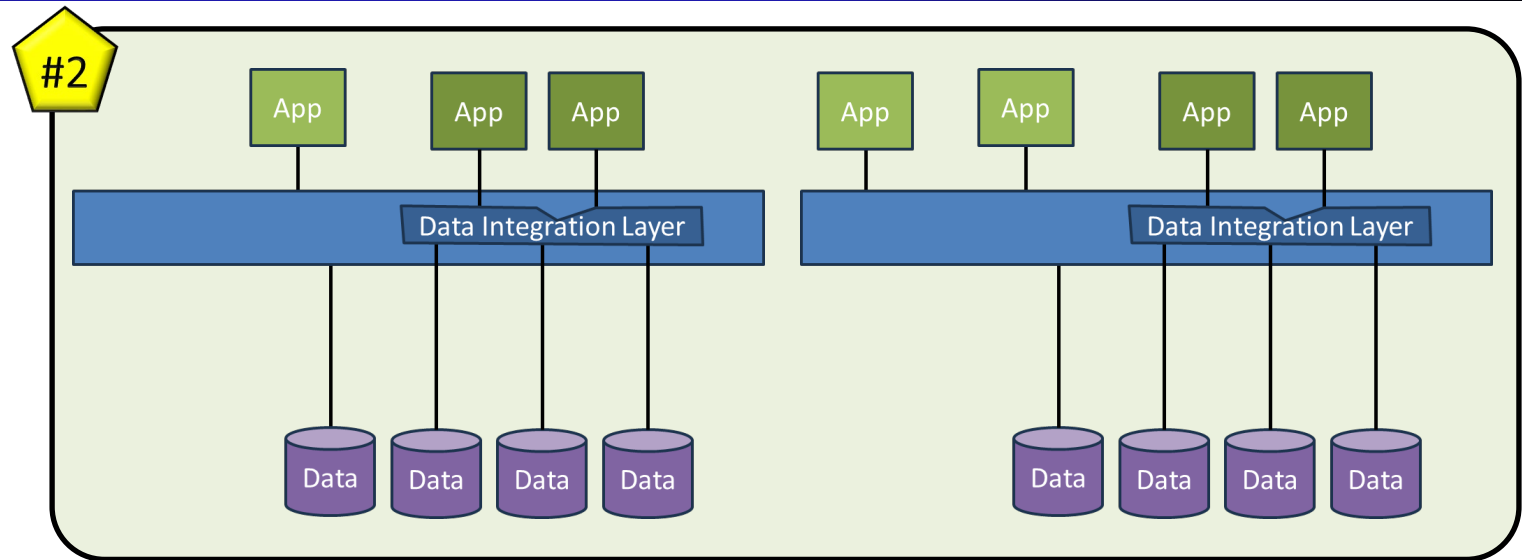
- A set of targeted applications integrated via your DIL
- **MVP achieved**

#2: New apps identified to perform next 2-3 MVPs

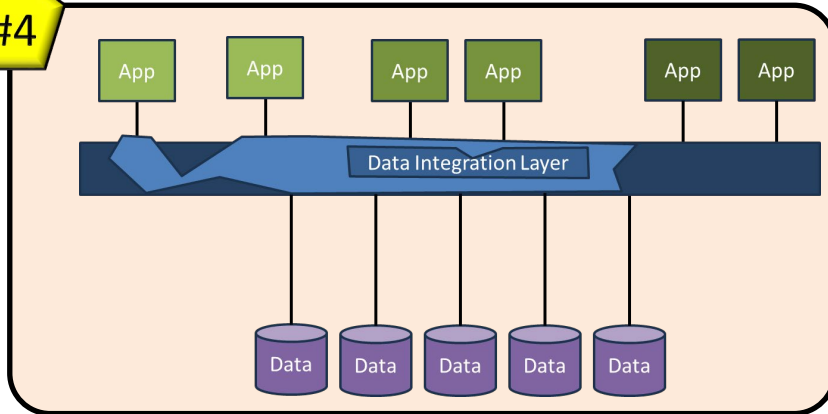
- Your DIL morphs to account for new functions

#3: Some General/SES hears a generalized brief about your work

- Oversells your “thing” to solve a totally different problem
- You force & twist your DIL to an unrelated effort
- **You count on DIL v2.0 to address technical debt**

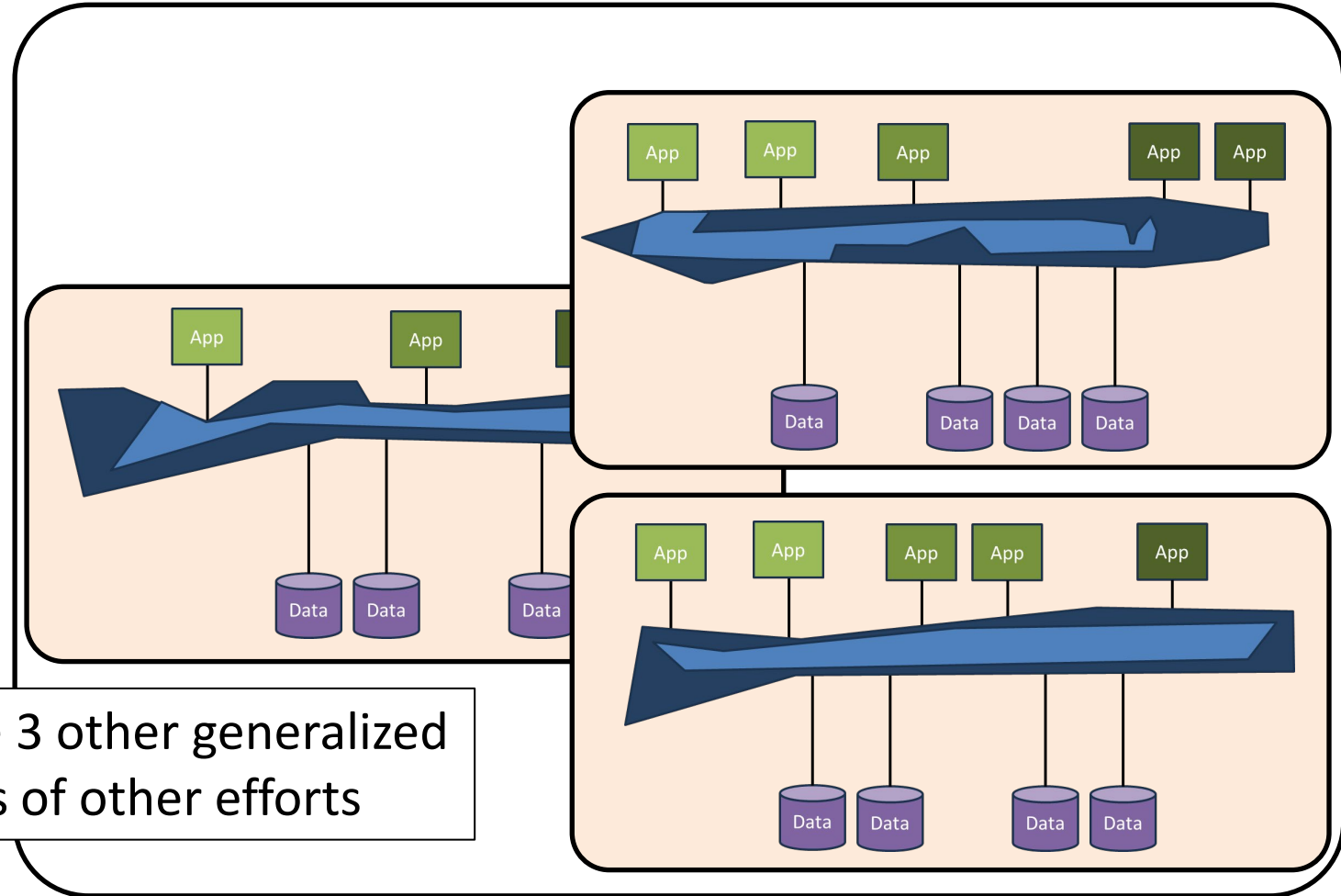


#4



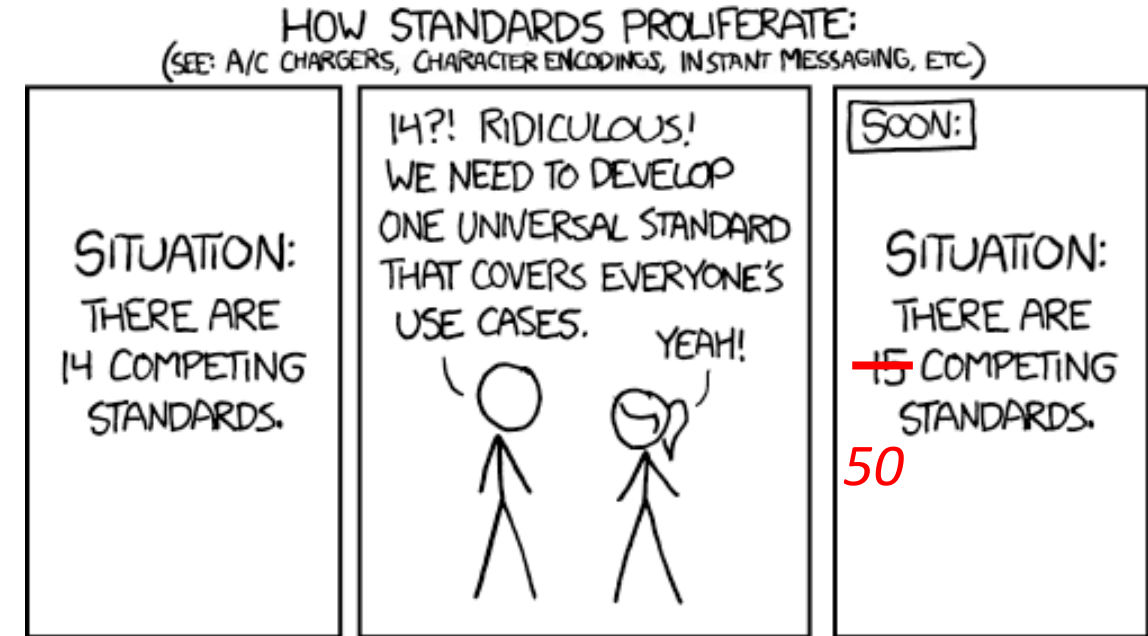
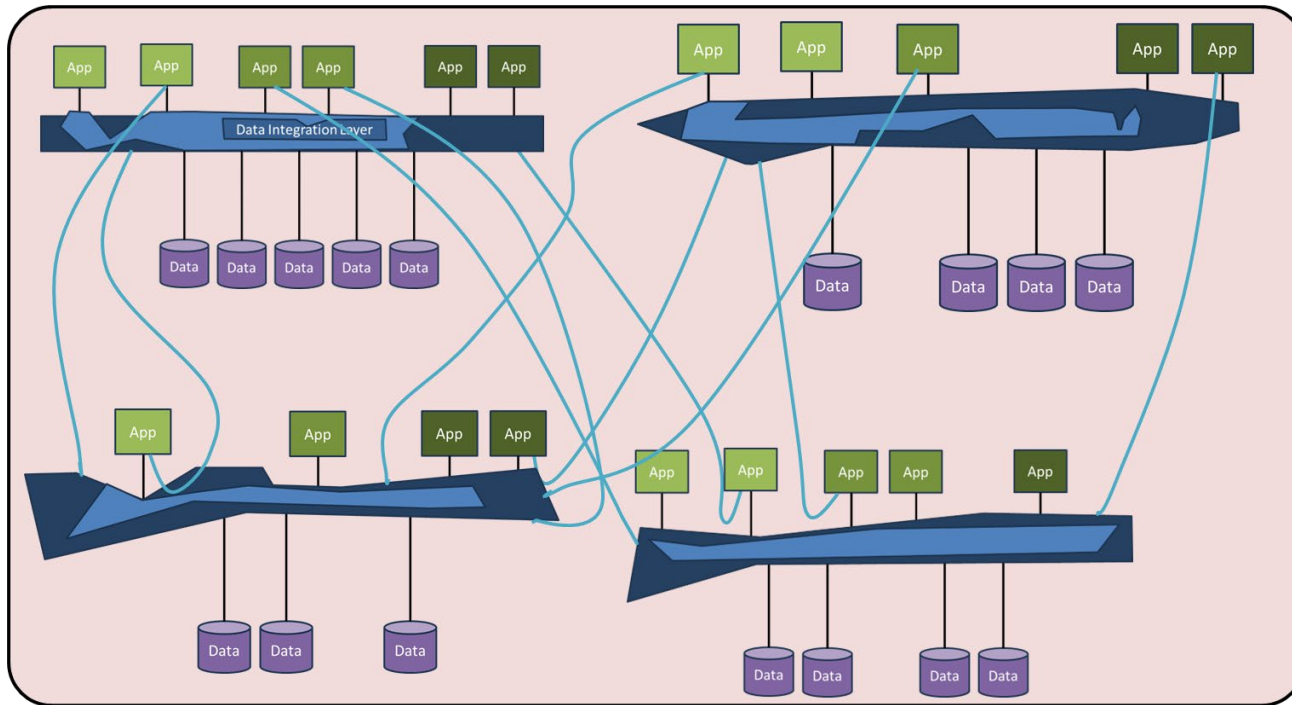
Your generalized description.....

....Looks like 3 other generalized descriptions of other efforts



#4: Some General/SES #2 asks: **How is yours different than these?**

5 Stages of Data and System Integration Grief...Start Over



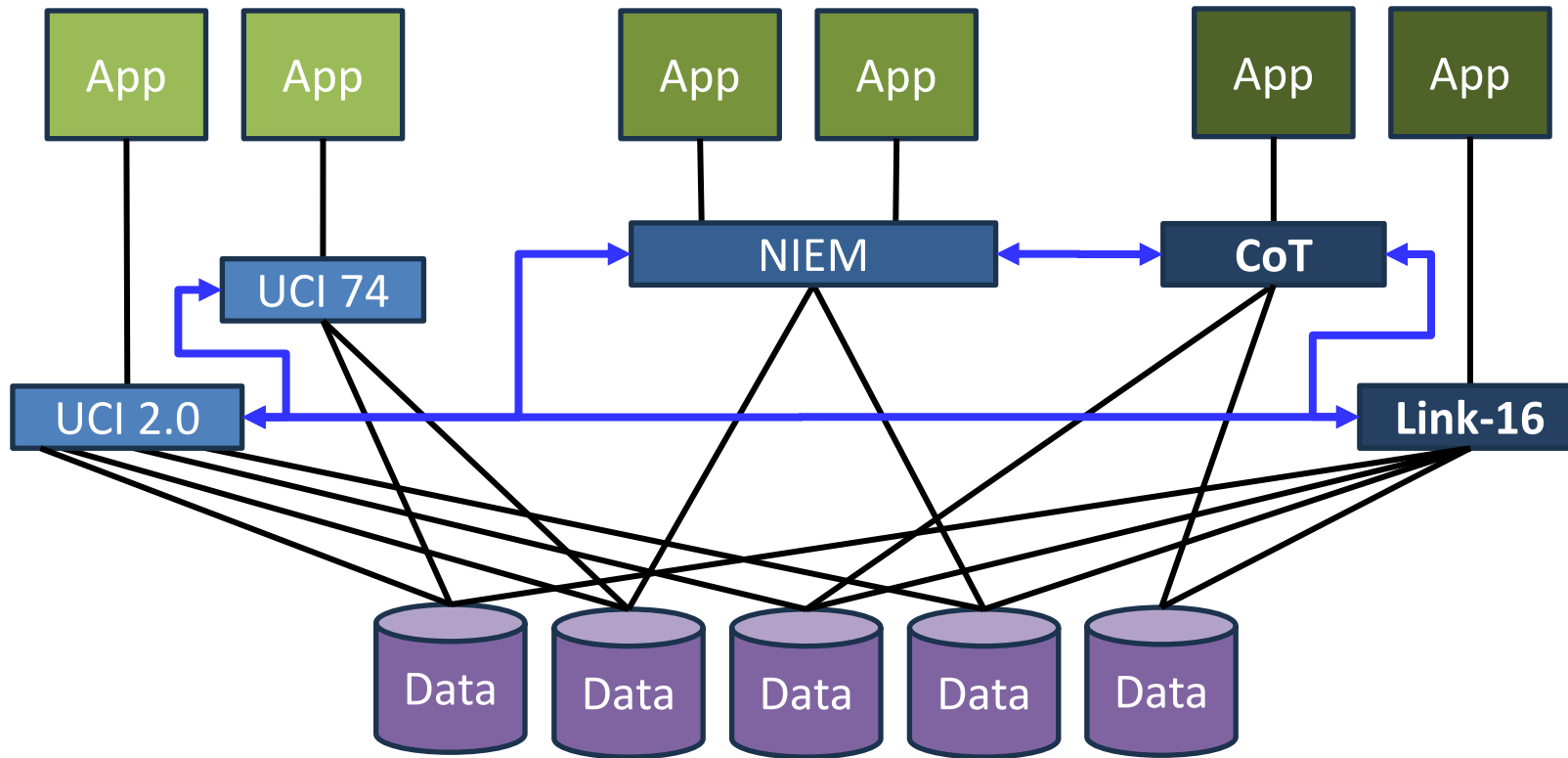
#5 You do a CJACD2 Event...

wire it up...

and make the XKCD comic a reality...

again

What if there was a better way to integrate cooperatively?



UCI-UCI: 2016-Present

NIEM-CoT: 2020 (SWAT)

UCI-Link-16: 2016-Present

Link-16-CoT: 2018-Present

NIEM-UCI: 2023 (LM)

Maintaining a tight Data Integration Layer maximizes app performance and makes integration easier



UCI 2.0-NIEM Position Report Integration

SOME Data message details:

3D Acceleration

- NorthAccelerationRate
- EastAccelerationRate
- DownAccelerationRate
- TimestampDateTime (optional)
- ObjectType

EllipseType

Altitude

AngleHalfType

AngleRate

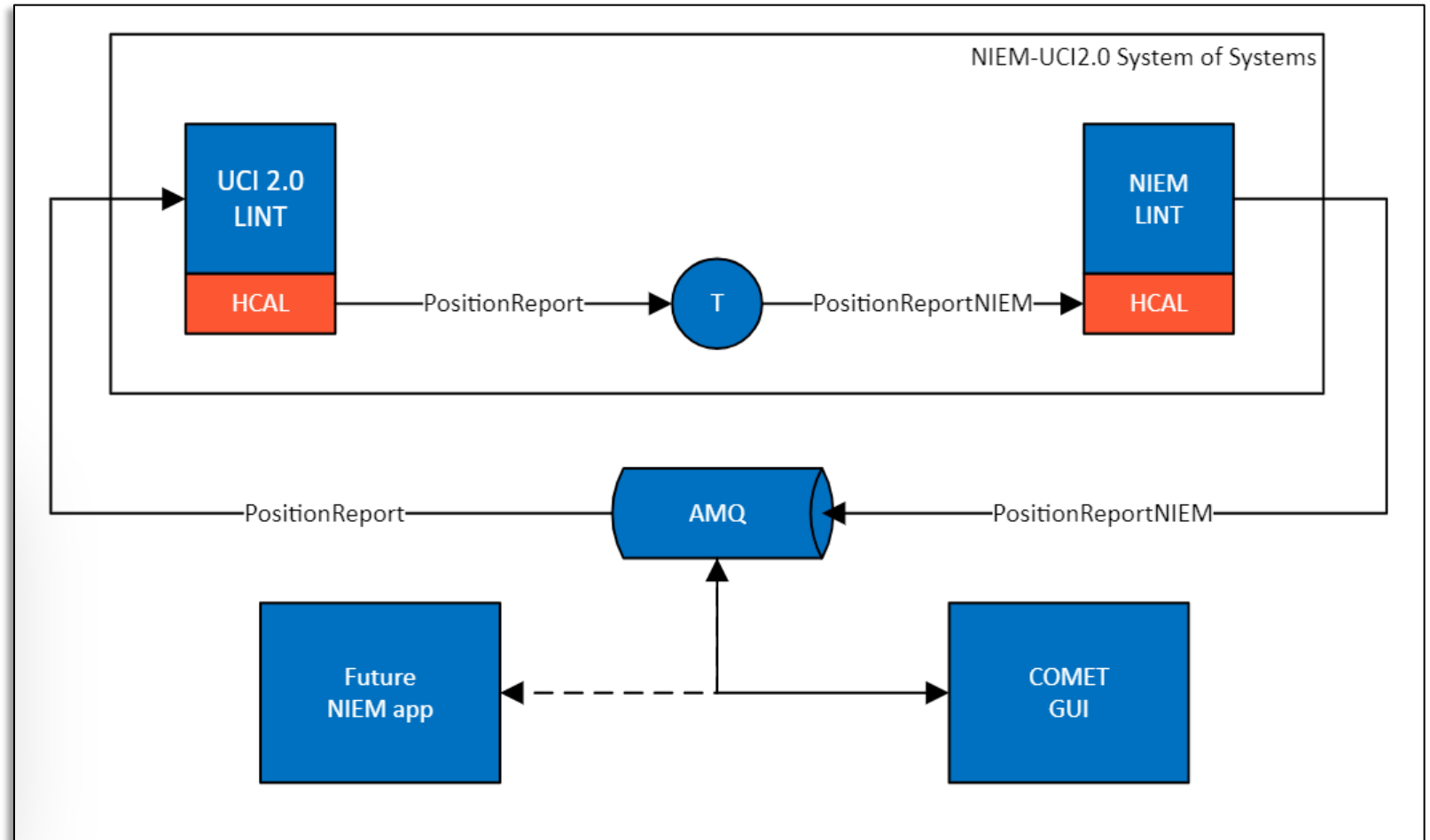
ClassificationMarkings

DeclassExceptions

HandlingCaveats

FGImarking

5,801 lines of auto-generated transforms



https://gitlab.stitches.mil/stitches-artifacts/communities/integration-communities/lm-integration-communities/integration_niemuci_uci



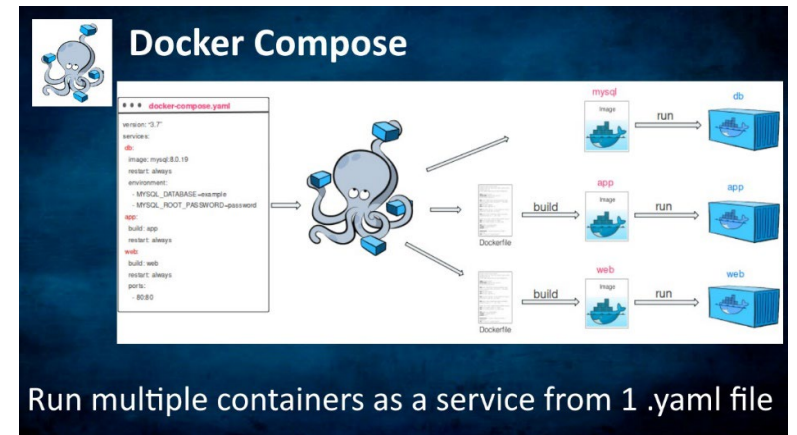
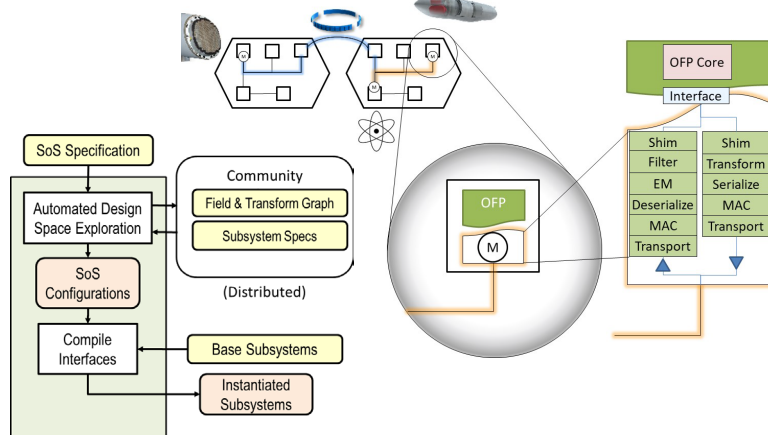
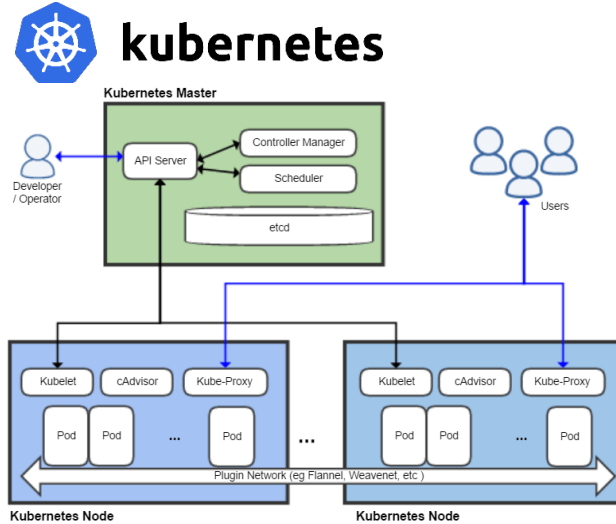
STITCHES is an Orchestrator...that performs IER & Translation

Each can call the other's available APIs and configure, deploy, start, stop, etc

High level specifications define the deployment of software

Sharable inputs and APIs feed the deployment engines

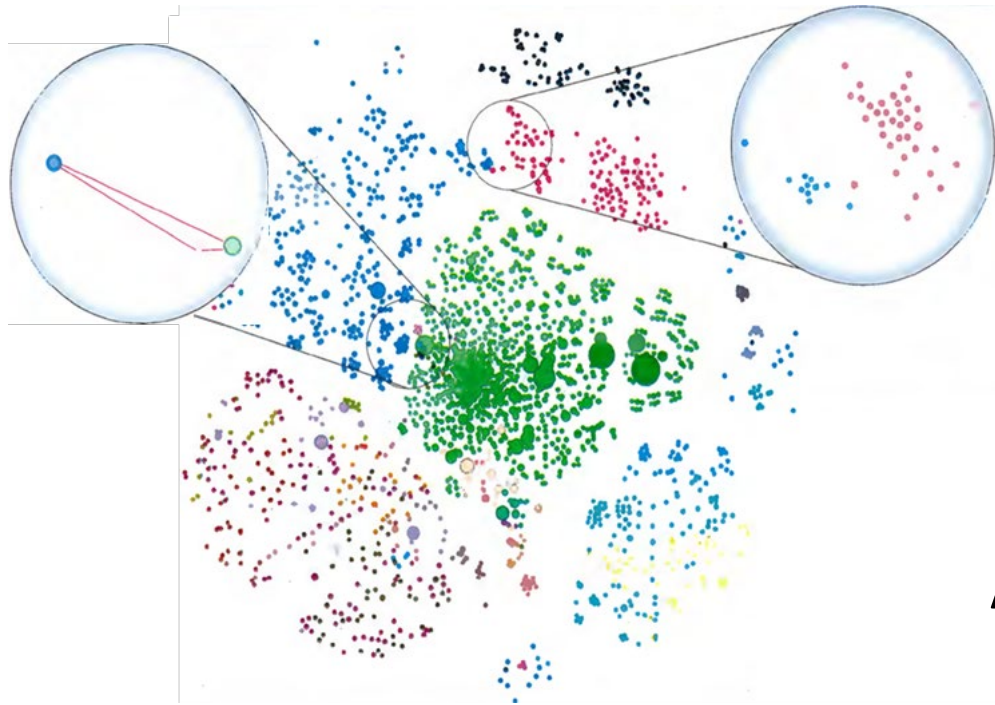
Each is user configurable





STITCHES: ad-hoc interoperability

On-demand interoperability through graph traversal, interface syntax mapping, and compiler optimization techniques



Compile the efficient glue code between systems in the data repository graph (more than just message translation)

Doesn't require conformance to standards

Supports backwards and forwards compatibility

Mitigates Performance Issues for Translation

Auto-generate cyber resiliency checks

No need to reprogram legacy systems

Allows for the rapid composition of new capabilities

No multi-year software upgrade process

No between-version incompatibilities



STITCHES' Programmatic Background

- 2014-2021: STITCHES developed at DARPA under SoSITE program
 - Designed to securely and scalably integrate and orchestrate sets of incompatible SoSes
 - 6 May 2020 J6: NIEM-CoT integration/demonstration (www.stitches.mil)
- 2022-Present: Transitioned to DAF as Program of Record
 - AFLCMC/HNJJ (Kill Chain Integration) new STITCHES SPO
 - Jan-Dec 2023: NIEM-UCI 2.0 integration (www.stitches.mil)
- 2023-Present: Battering Ram Automated Classification
 - Application of STITCHES digitizing SCGs and policy for digital SCG lifecycle
 - Connects and redacts data streams via policy/guide-based rules
- Deployed in F-35, EC-130, CMCC, AWACS and classified systems
 - Deployed integrations used in combat on fielded systems



U.S. AIR FORCE

MILOPS GOVERNANCE VOTE



- 1 May – MilOps Governance sent for review
- Discussion
 - Is there value in a quorum discussion during meetings?
 - Not required by OASIS
 - Lazy consensus approves changes per established practices among sub-committees
 - Additional questions?
- Vote
 - Upload to GitHub
- FYSA: MOMS Governance sent for approval 28 May
 - Feedback by 7 July
 - If nothing is heard it will pass by lazy consensus
 - If approved, it will be uploaded to WMA for reference (otherwise, return to edit)

MILOPS GOALS



Short Term

- Establish a quarterly newsletter
- Participate in CWIX 2025 (JS NCDF (based in NIEMOpen), about 10 partner nations experimenting/testing with NCDF-related capabilities)

Long Term

- Complete USMTF transition to NIEM ECD 12-2025
- Increase awareness & continue support of NIEM

A circular collage of military and tactical icons. The icons include a tank, a helicopter, a jeep, a rocket, a ship, a submarine, a gun, a missile, a target, a compass, a helmet, a star, a bomb, a rocket launcher, a tank, a gun, a missile, a target, a compass, a helmet, a star, a bomb, a rocket launcher, a tank, a gun, a missile, a target, a compass, a helmet, a star, a bomb, a rocket launcher.

-

Q&A to help craft your submission.

- + What problem was addressed?
- + Why does it matter?
- + What makes it different?

- + What was the roadmap?
- + Who was involved?
- + How did you do it?

- + What did the project make better?
- + How do you know?
- + What now?



IDEAS FOR FUTURE MEETINGS

Potential Highlights

- Use Case(s) – Volunteer(s)?
 - DFBA development
 - VA MEP development
 - DMDC MEP development
 - CJADC2 enterprise stakeholders
 - Potential Land Domain for MIP / MIM (after AR34-1 update)
- CRs
- Process from CR approval to MilOps data model integration
- 6.0 Training Status
- NIEM Excellence Awards Nominees
- Save the date! 14 August 2025 @1000



SUB-COMMITTEE CONTACTS



Sub-Committee Co-Chairs

- Beth Smalley
(757) 203-7177 (DSN 836) Beth.l.smalley.civ@mail.mil
- Darcy Staley
(757) 203-8711 (DSN 836) Darcy.a.staley.civ@mail.mil

Secretariat

- Nicholas Ballard
- (757) 203-9670 (DSN 836) Nicholas.a.ballard.civ@mail.mil

Website

- niem.github.io/community/milops/

MilOps Email

- Js.dsc.j6.mbx.milops@mail.mil

RESOURCES



oasis-open.org



niemopen.org

niem.gov/



Latest Release

NIEMOpen: niem.github.io/niem-releases/

MOMs: <https://wmaafip.js.mil/NIEM/Index>

● (CAC required)



Git Repos

github.com/NIEM/NIEM.github.io

NIEMOpen: github.com/niemopen

NTAC TSC (admin): github.com/niemopen/ntac-admin

NBAC TSC (admin): [.../nbac-admin](https://github.com/niemopen/nbac-admin)

NMO TSC (admin): [.../nmo-admin](https://github.com/niemopen/nmo-admin)

Groups & Mailing Lists

NIEMOpen: lists.oasis-open-projects.org/g/niemopen

NTAC TSC: [.../niemopen-ntactsc](https://lists.oasis-open-projects.org/g/niemopen-ntactsc)

NBAC TSC: [.../niemopen-nbactsc](https://lists.oasis-open-projects.org/g/niemopen-nbactsc)

NMO TSC: [.../niemopen-nmotsc](https://lists.oasis-open-projects.org/g/niemopen-nmotsc)

On the Website, select an option for access:

[+ Apply For Membership In This Group](#)

or

[➔ Log In If You Are Already A Member](#)





THANK YOU!



BACKUP

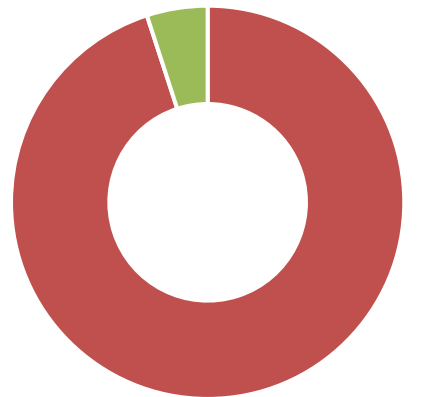


INTRODUCTION / OPENING REMARKS

USMTF STATUS

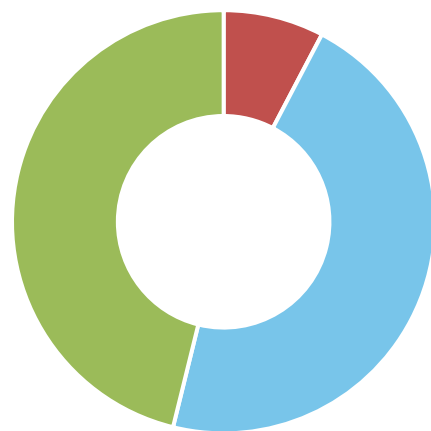


CM Tool Updates (Est.)



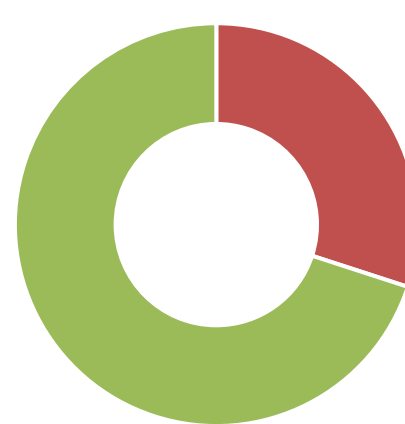
■ Incomplete ■ Complete

Mil-Std 6040 Updates



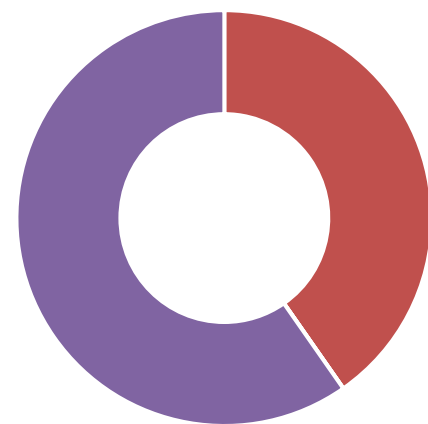
■ Incomplete ■ Chapters ■ Appendices

USMTF Updates (ICPs)



■ Incomplete ■ Complete

MilOps CRs

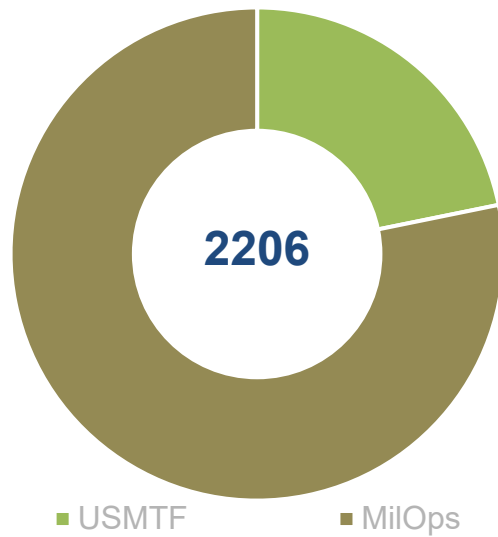


■ Incomplete ■ CR2024-01 (EMS)
■ CR2025-01 (SIDC) ■ Current CR

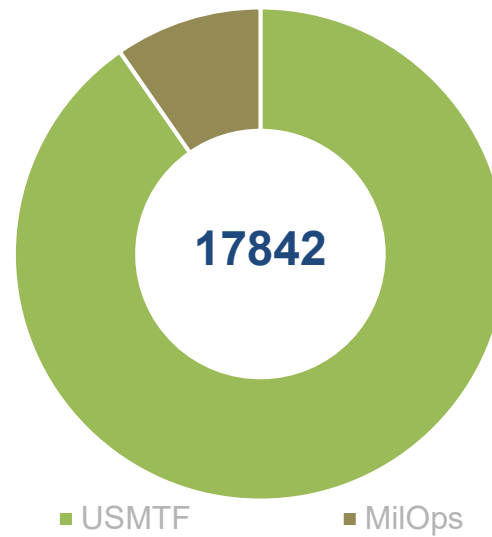
USMTF DATA OBJECTS BREAKDOWN BY RELEASE



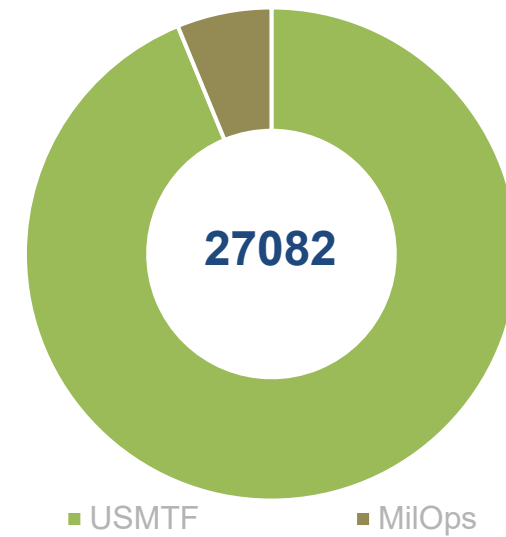
NIEM 5.1



NIEM 5.2



NIEM 6.#





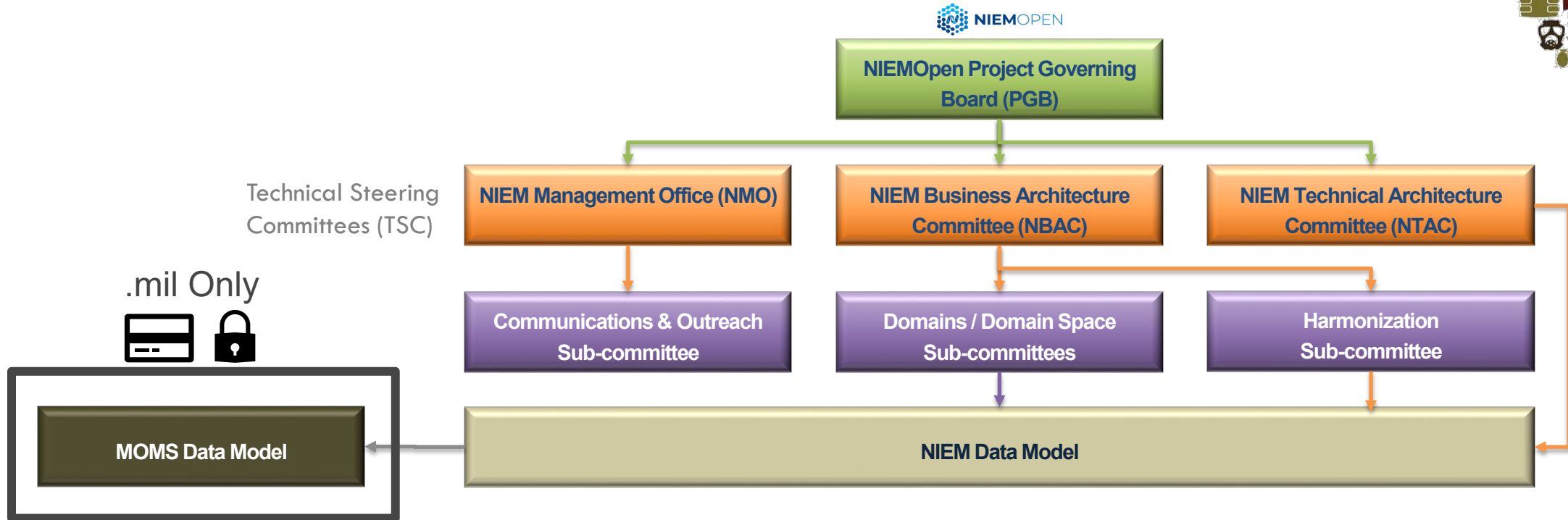
PROJECT GOVERNING BOARD (PGB) MINUTE

Mr. Stephen Sullivan
PGB & NBAC Secretary



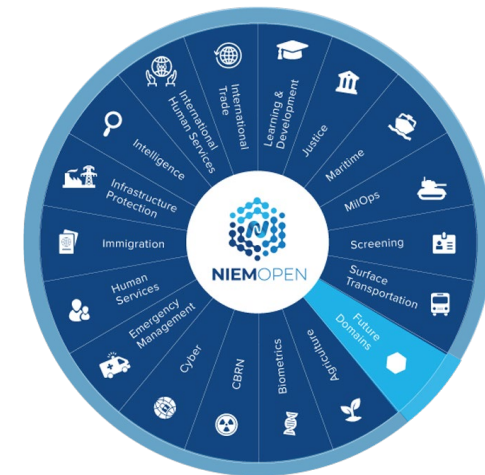
DISCUSSION / CLOSING REMARKS

ORG CHART



NIEMOpen support facilitates

- 17 functional domains
- Multiple sub-committees, including MilOps



PGB-APPOINTED VOTING MEMBERS

 <p>Acting Division Chief Data & Standards Division, JS J6 NIEM Managing Director</p> <p>Katherine Escobar ★</p>	 <p>Science and Technology Directorate, US DHS</p> <p>Christina Bapst-Stump</p>	 <p>Director Business Development, Equivalent</p> <p>Gary Egner</p>	 <p>Principal Research Scientist, GTRI</p> <p>John Wandelt</p>	 <p>Executive Director, IJIS Institute</p> <p>Maria Cardillos</p>
 <p>Data Engineer, Office of the Secretary of Administration, Office of Data Governance and Analytics, Virginia</p> <p>Payton Lamb</p>	 <p>IT Specialist & Technical Lead of Data Standards in the CJIS Division, FBI</p> <p>April Mitchell</p>	 <p>Data Scientist, Office of the Principal Deputy Director, NIJ</p> <p>Erin Partin</p>	 <p>Data Scientist, Unit Chief - Law Enforcement Incident- Based Statistics Unit, BJS</p> <p>Erica Smith</p>	 <p>Director of Information Technology, OH HIDTA, including Northern KY, and Western PA</p> <p>Tom Welch</p>

PGB EXPERT VOTING MEMBERS

 <p>IT Specialist, JS J6</p> <p>Beth Smalley 🌐 🌱</p>
 <p>Enterprise Architect, Department of National Defence (CA)</p> <p>Thomas Krul 🖥️</p>
 <p>Principal Engineer, MITRE</p> <p>Dr. Scott Renner 📄</p>

PGB EXPERT NON-VOTING MEMBERS

 <p>Director, A4SAFE</p> <p>Kamran Atri 🖥️</p>	 <p>Manager, AI & Data, Technology Consulting, EY</p> <p>Brad Bolliger 📄 🌐</p>	 <p>Executive Director, IJIS Institute Chairman, Justice Industry Advisory Group</p> <p>Paul Wormeli</p>	 <p>IT Specialist, JS J6</p> <p>Darcy Staley 🌐 🌱</p>
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GITHUB REPOSITORY MAINTAINERS

 <p>System Administrator, Joint Staff J6 GitHub Maintainer</p> <p>Aubrey Beach 🌐</p>	 <p>Data Architect, GTRI</p> <p>Christina Medlin 🌐</p>	 <p>Analyst, BAH</p> <p>Steve Sullivan 🌐</p>
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Key:

★ PGB Chair

🖥️ NIEM Business Architecture Committee (NBAC) Technical Steering Committee (TSC) Co-Chair

📄 NIEM Technical Architecture Committee (NTAC) TSC Co-Chair

🌐 NIEM Management Office

🌱 MilOps Co-Chair

🌐 GitHub Repository Maintainer

OASIS STAFF



Interim Executive
Director

Jim Cabral



CFO

Cathie Mayo



General Counsel

James Bryce Clark



Head of Events

Jane Harnad



Sr. Director of
Standards
Development

Kelly Cullinane



Business
Development
Manager

Holly Peterson

CURRENT SPONSORS



POTENTIAL FUTURE SPONSORS



Canada

Department of National Defense



Microsoft

MITRE



NIEMOPEN

SPECIFICATION WORKFLOW AND TIMELINE

- Request a spec template from OP Admin
- Decide on editor(s)
 - Editor's job is to capture the intentions of the project team/TSC
 - Editor's Manual starting at <https://docs.google.com/document/d/1ITartcAzlqidzrCxuXFFiwdRDKRipqMnNsMS24SZdjg/edit>
- Create Project Specification Draft (PSD)

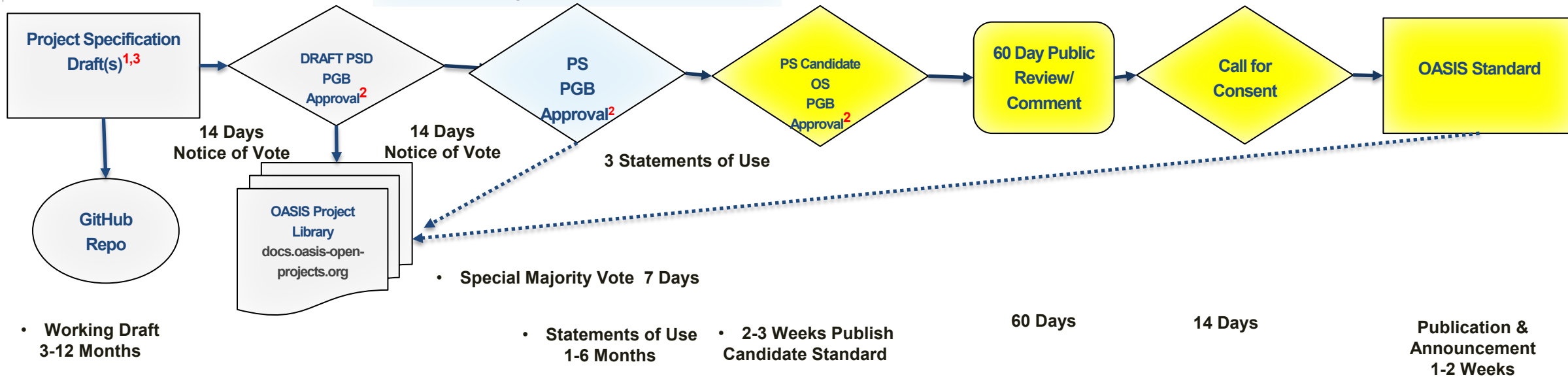
- PGB can decide to advance PS to OASIS for consideration as an OASIS Standard
 - Requires 3 Statements of Use and a Special Majority Vote run by OP Admin
 - 60-day public comment period
 - The Project Specification (PS) is put to OASIS Members in a 14-day Call for Consent. If no objections, work becomes an OASIS Standard, eligible for submission to other SDOs

- PSD produced with oversight of TSCs
- TSC recommends PSD to PGB

- PGB requests Special Majority Vote be run by OP Administrator
 - PS has the same standing as an OASIS Standard
 - 7 days minimum - 2/3 must vote yes, no more than 1/4 nay votes
 - OP Admin publishes PS to the library and announces/promotes

- Project Specification Approved by PGB
- PGB approve PS as Candidate for OASIS Standard

- OASIS Standard approved by members under Call for Consent



NTAC - CMF TOOL INTRO



- CMFTool is a free and open-source software tool for NIEM developers
- Very important for NIEM 6.0
 - Converts a NIEM model from XML Schema (XSD) to CMF
 - Converts a CMF model to NIEM XSD
 - Generates simplified XSD for message validation, code binding, etc.
- A swiss-army-knife command-line tool
 - But functionality can be embedded in developer IDEs; for example, NIEM API 2.0
- Version 1.0 rewrite in progress
 - 1.0-alpha.2 available now at <https://github.com/niemopen/cmftool/>

```
sar[250]$ cmft help
Version: 1.0-alpha.2 (2024-04-09)
Usage: cmftool [command] [command options]
Commands:
    m2m          canonicalize a NIEM model instance
    m2o          convert a NIEM model instance to OWL
    m2x          write a NIEM model instance as a NIEM schema
    x2m          convert a NIEM schema into a NIEM model instance
    xcanon       canonicalize an XML Schema document
    xcmp         compare two XML schemas
    help(usage) list of cmftool commands
```

NTAC - API 2.0 AND NIEM TOOLBOX – 1

Transition legacy NIEM tools into updated open-source products. Move key functionality out of tools into the API for reusability.



Feature	NIEM API	NIEM Toolbox
(Background)	<ul style="list-style-type: none">• Java / Spring Boot and PostgreSQL database• Hosted via GTRI	<ul style="list-style-type: none">• Nuxt (JS) SPA• Hosted via GitHub Pages (<i>free</i>)
Transforms	<ul style="list-style-type: none">• Transform models into other formats• Inputs – CMF or NIEM XSD• Outputs – CMF, XSD, JSON Schema, or OWL• Leverages the CMF tool	<ul style="list-style-type: none">• Form to upload file and set options• API request• Download results
Validation	<ul style="list-style-type: none">• XSD – Validate and check NDR conformance• XML – Validate against provided schema• CMF – Validate against schema (NTAC)• IEPD catalog – Validate against schema (NTAC)• XML catalog – Validate against schema (OASIS)	<ul style="list-style-type: none">• Form to upload file and set options• API request• Download and view results
Migration	<ul style="list-style-type: none">• Migrate from one supported model version to a more recent version• Can iterate over multiple versions in one call• Accepts input and generates results as CMF	<ul style="list-style-type: none">• Form to upload file and set options• API request• Download and view results

NTAC - API 2.0 AND NIEM TOOLBOX – 2

Transition legacy NIEM tools into updated open source products. Move key functionality out of tools into the API for reusability.



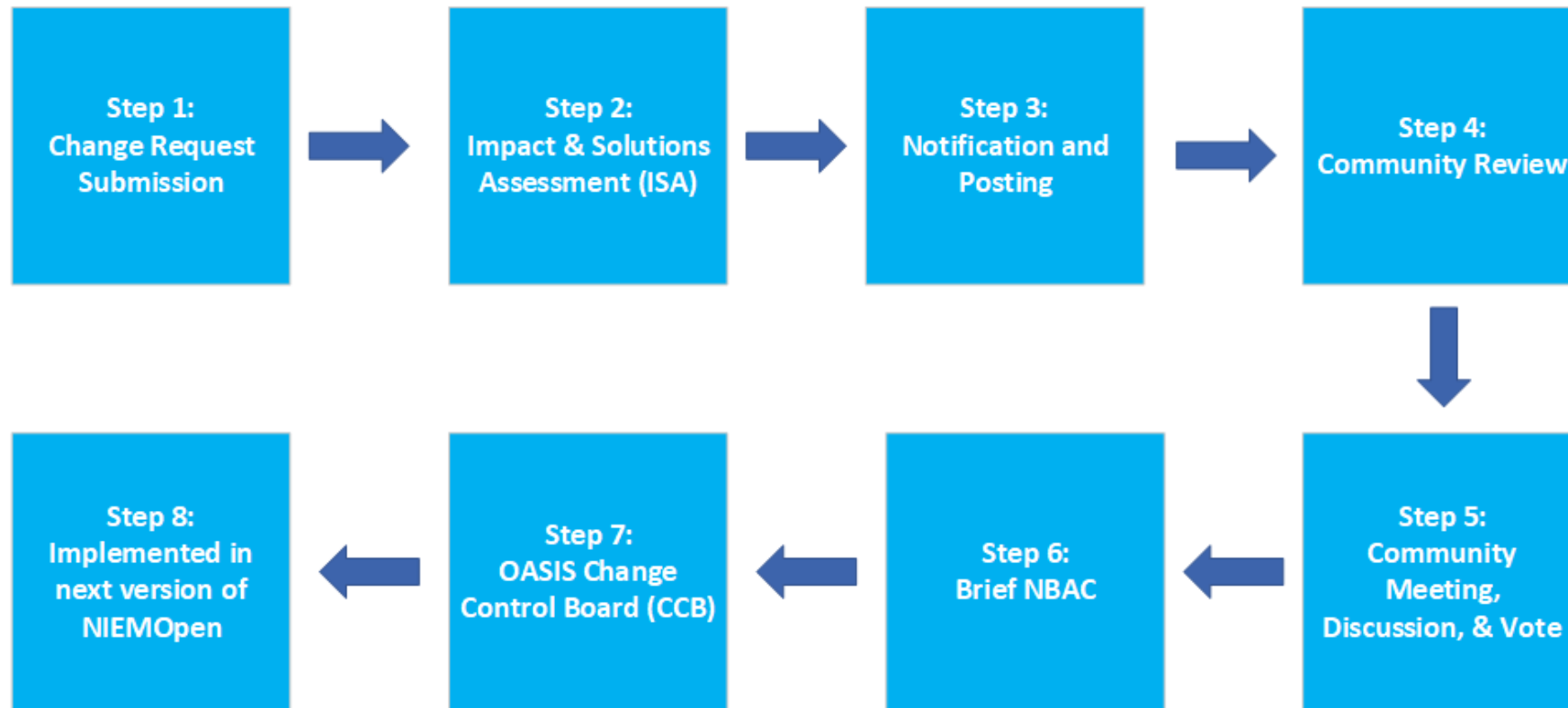
Feature	NIEM API	NIEM Toolbox
Model data	<ul style="list-style-type: none">• Return information about models, versions, namespaces, properties, classes, datatypes, and facets• Supports NIEM and published community models• NIEM data 1.0 – 5.2 currently available	<ul style="list-style-type: none">• Browse model data• View information about components• View information about curated list of common components
Search	<ul style="list-style-type: none">• Search properties, types, and codes• Supports fuzzy searching, including tokens and substrings• Filter results by namespace• Component-specific search fields	<ul style="list-style-type: none">• Search models• View results• View information about components
Model management	<ul style="list-style-type: none">• Add, edit, and delete model content• Model and component QA• Load change request spreadsheets• Generate release artifacts• Generate model stats	

Done

In progress

CHANGE REQUEST (CR) PROCESS

MilOps Change Request Process



MILITARY OPERATIONS MISSION SPECIFIC (MOMS)



- Separate release for distribution restricted content, typically published 3 months after public release; currently includes:
 - Distribution Statement C – Federal gov't and contractors
 - Distribution Statement D – DoD and contractors
 - Option for Controlled Unclassified Information (CUI) content
- MOMS Distribution Statement D release includes the Distribution Statement C content since D is more restrictive
- MOMS content is and can be separated by namespaces; for example, DCSA and USMTF have sub-namespaces in the MOMS release
- MOMS content submissions are provided to the MilOps Co-Chairs in the form of a change request (CR) that gets reviewed by the MilOps (.mil) community
- MOMS releases include restricted content versions of the Conformance Testing Assistant (ConTesA) and the Schema Subset Generation Tool (SSGT) (future state API 2.0)



CHANGES TO MILOPS – NIEMOPEN CLA

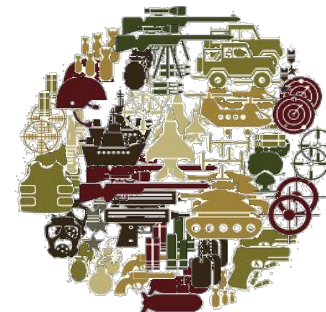
- CLA required only if contributing content directly to OASIS, if providing content via the NIEMOpen MilOps Sub-Committee, a CLA is not required
- OASIS uses CLAs to collect agreements to the applicable license designated for all contributions donated to project repositories
- Contributors do not give up any IPR rights for contributed material. They grant NIEMOpen, OASIS, and downstream implementers the right to use the contribution in project work products
- Individual CLAs can be filled out at <https://cla-assistant.io/niemopen/oasis-open-project> or when you make your first pull request
- Entity CLAs can be filled out at <https://www.oasis-open.org/open-projects/cla/entity-cla-20210630/>

CHANGES TO MILOPS – ORGANIZATION



- MilOps as a .mil restricted Community-of-Interest (Col) is **separate** from the NIEMOpen Open-Source OASIS Community
- MilOps is divided into 2 Cols one for public/open source and one for restricted activities
- Open Source = MilOps as an NIEMOpen Sub-Committee under the NBAC TSC and OASIS Open Project rules
- MilOps as a .mil organization utilizing NIEM exchanges for data transfer includes:
 - Vetted participants
 - MilOps Mission Specific (MOMS) Distribution Statement C/D content

CHANGES TO MILOPS – WHAT IS NOT AFFECTED



- MOMS Release
- (non-public DoD Distribution C/D content)
- WMA Portal hosts the Restricted Repository
- <https://wmaafip.js.mil>

