A Few Words First

Audio Connection –Please mute phone (*6 toggle) –or your GM left-side name

Phone connections may be muted during presentation. Put questions in chat box.

Upcoming Meetings:

- May 13: Mary Compton, et al, SNL – Applying MBSE to Nuclear Weapons Development and Sustainment Programs at SNL
- June 10: Rick Dove, Security Foundations for the Future of Systems Engineering (FuSE) Initiative

CSEP Courses by *Certification Training International:*

Course details(with more locations and dates)
Upcoming Course Schedule (somewhat nearby):
2020 June 1-5 | San Diego, CA
2020 Sep 28-Oct 2 | Austin, TX
Chapter SEP mentors: Ann Hodges alhodge@sandia.gov and Heidi Hahn hahn@lanl.gov

And now - introductions

Enchantment Chapter Monthly Meeting

4:45pm – 6:00pm MT

Nuclear Weapons Engineering Requirements Modeling

Abstract: Requirements management represents a complex system of interconnections and inter-dependencies. Model Based Systems Engineering (MBSE) is a Systems Engineering methodology many programs are using to manage physical product requirements. Joshua is using his experience with MBSE and adapting them to fit procedural requirements that will not only help with understanding complexity, but also proactively model and simulate a dynamic environment.

Download recording from the Library at www.incose.org/enchantment

NOTE: This meeting will be recorded

Speaker Bio

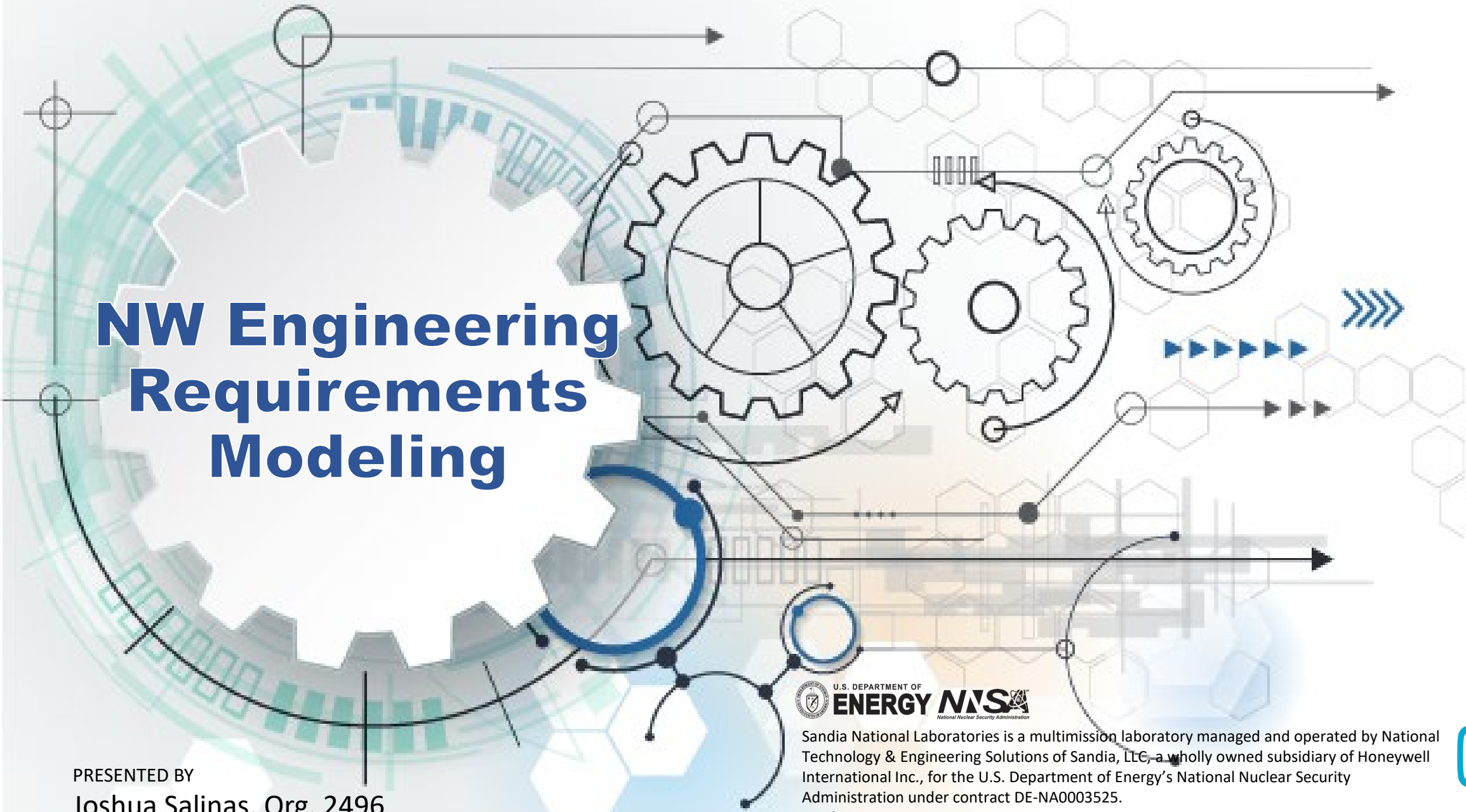
Joshua Salinas is a Senior Member of Technical Staff (SMTS), specializing in the application of MBSE to Nuclear Weapons (NW) Engineering Processes. He has a BS in Computer Science and Master's degree in Systems Engineering and is a Certified Scrum Master (CSM). Josh is currently using MBSE as a continuous improvement initiative to model the NW development lifecycle, to aid in reducing the NW development lifecycle from 10 years down to 3 years, reduce risk, and ensure compliance to all requirements.

Today's Presentation

Things to think about

- How can this be applied in your work environment?
- What did you hear that will influence your thinking?
- What is your take away from this presentation?

NW Engineering Requirements Modeling



PRESENTED BY
Joshua Salinas, Org. 2496

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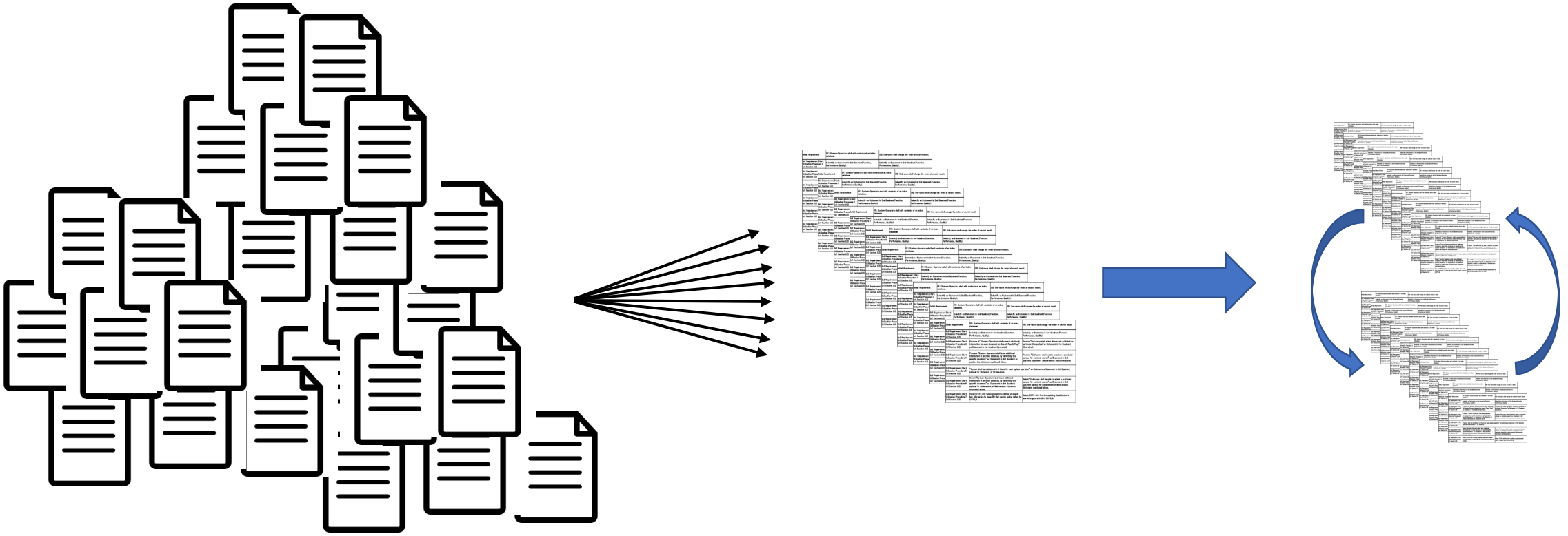
Sand No. 2020-3903 PE

Why Requirements Modeling?



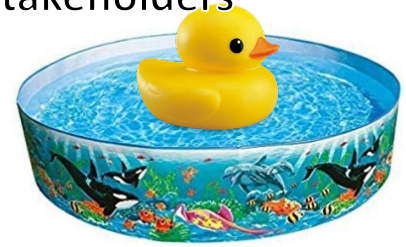
To visualize the interconnectedness and traceability of complex and evolving requirement language

Ripple effect of interconnected artifacts

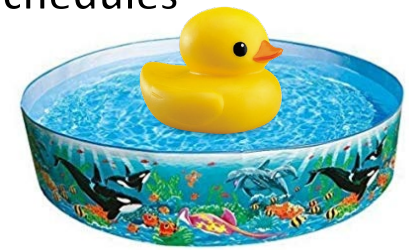
Programmatic Process

Requirements

Stakeholders



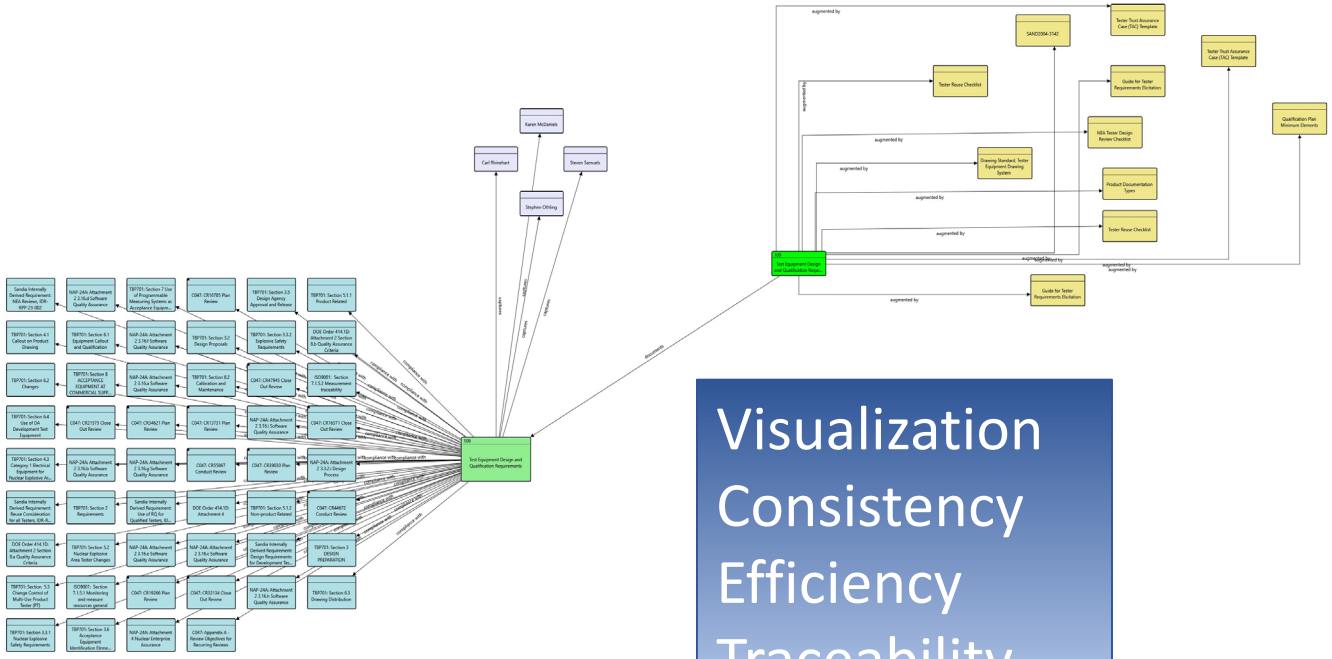
Schedules



Sustainability

Traditional

Future



Visualization
Consistency
Efficiency
Traceability
Modularity

MBSE Approach

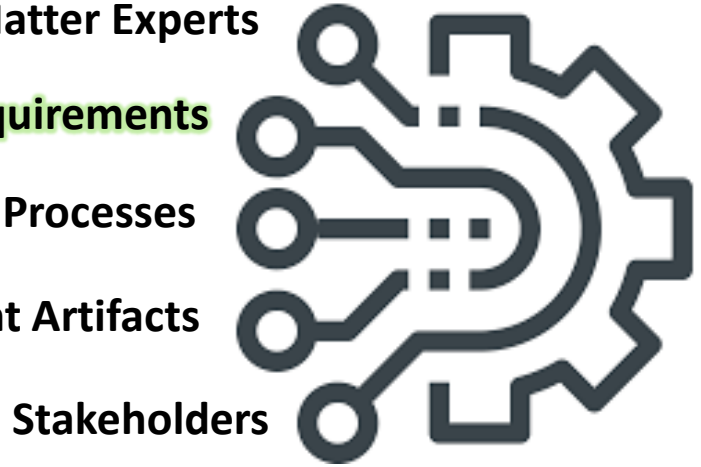
Subject Matter Experts

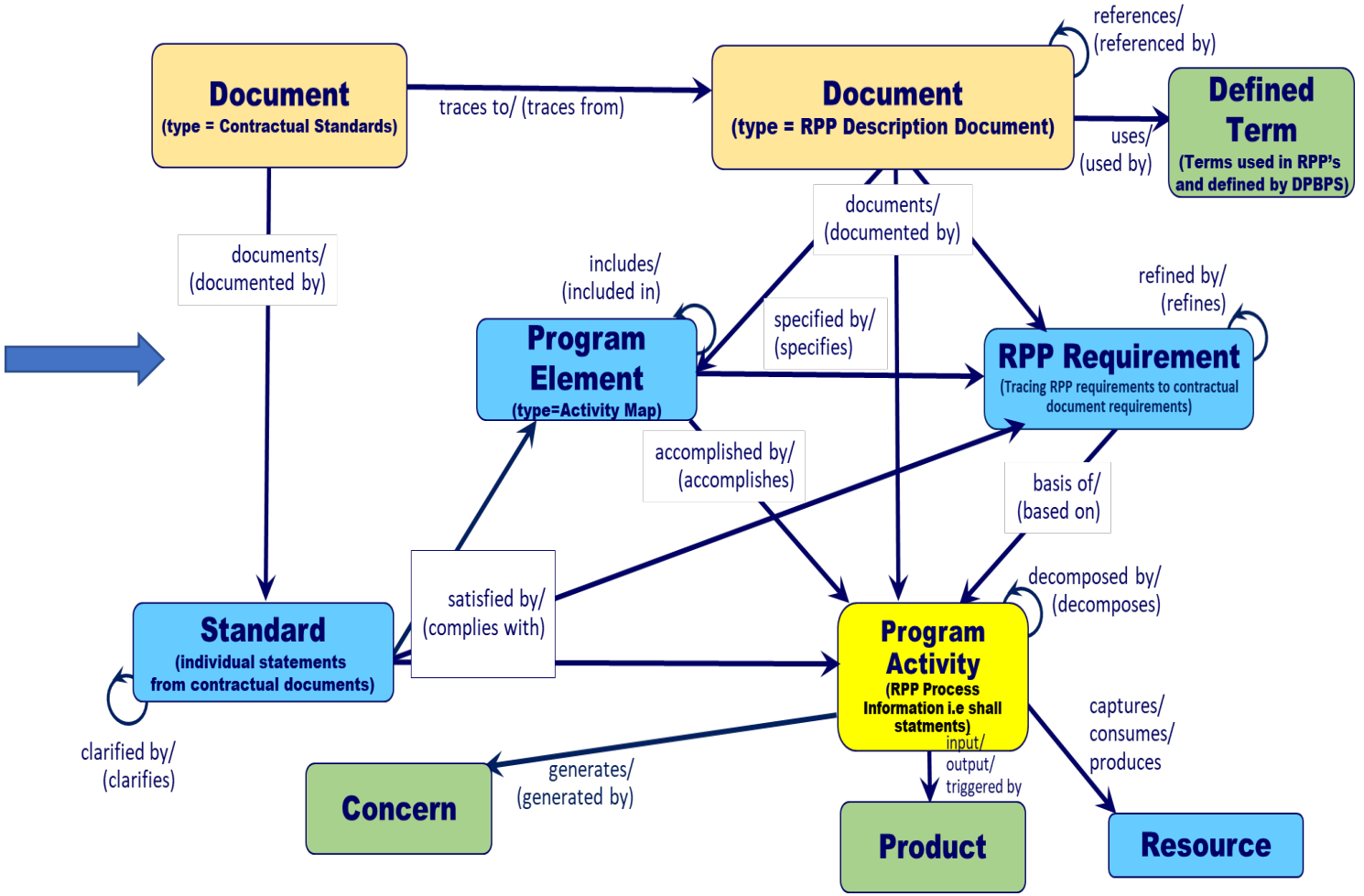
Requirements

Programmatic Processes

Document Artifacts

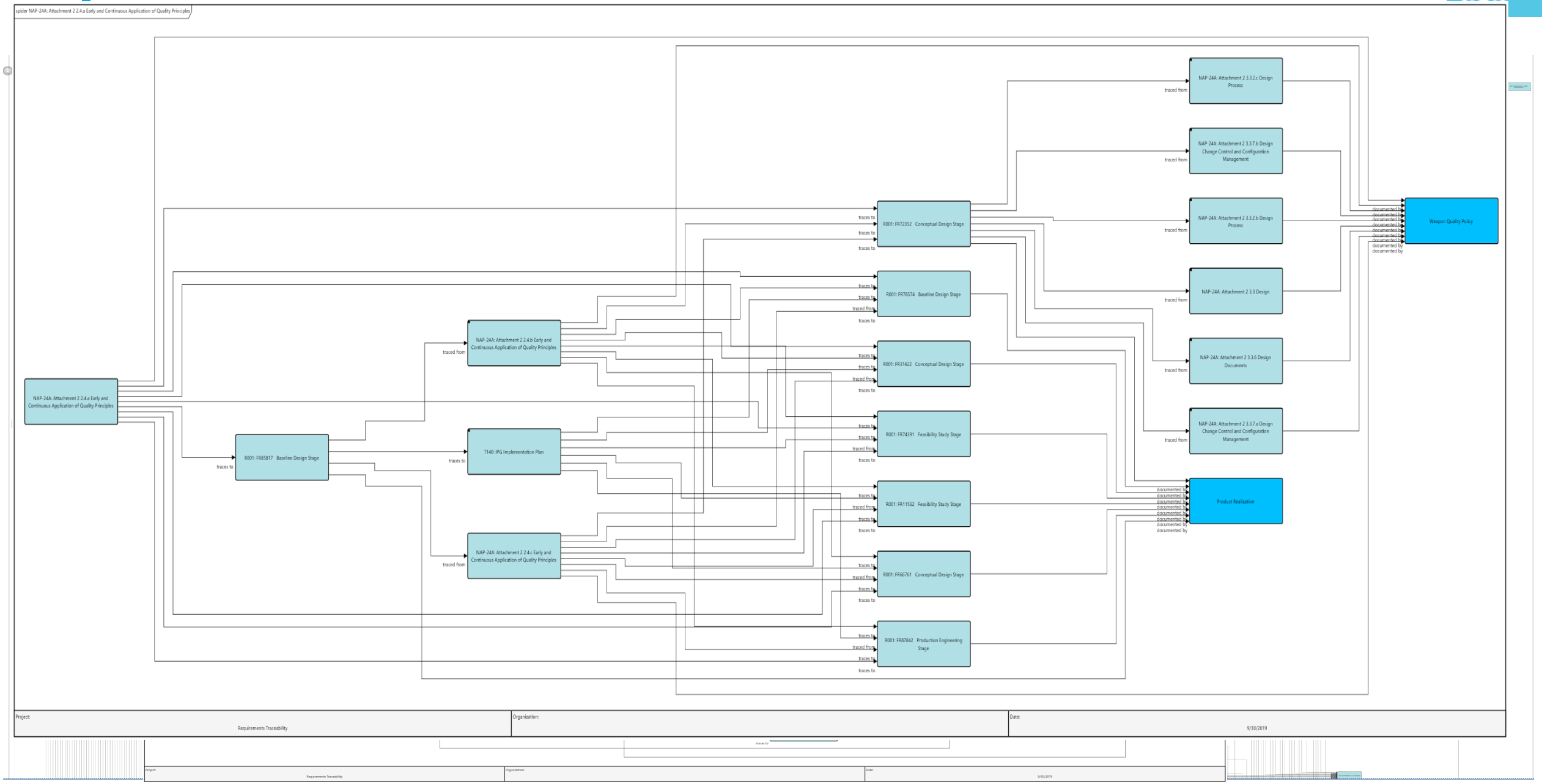
Stakeholders





Schema for modeled information

Visualization of Requirement Complexity

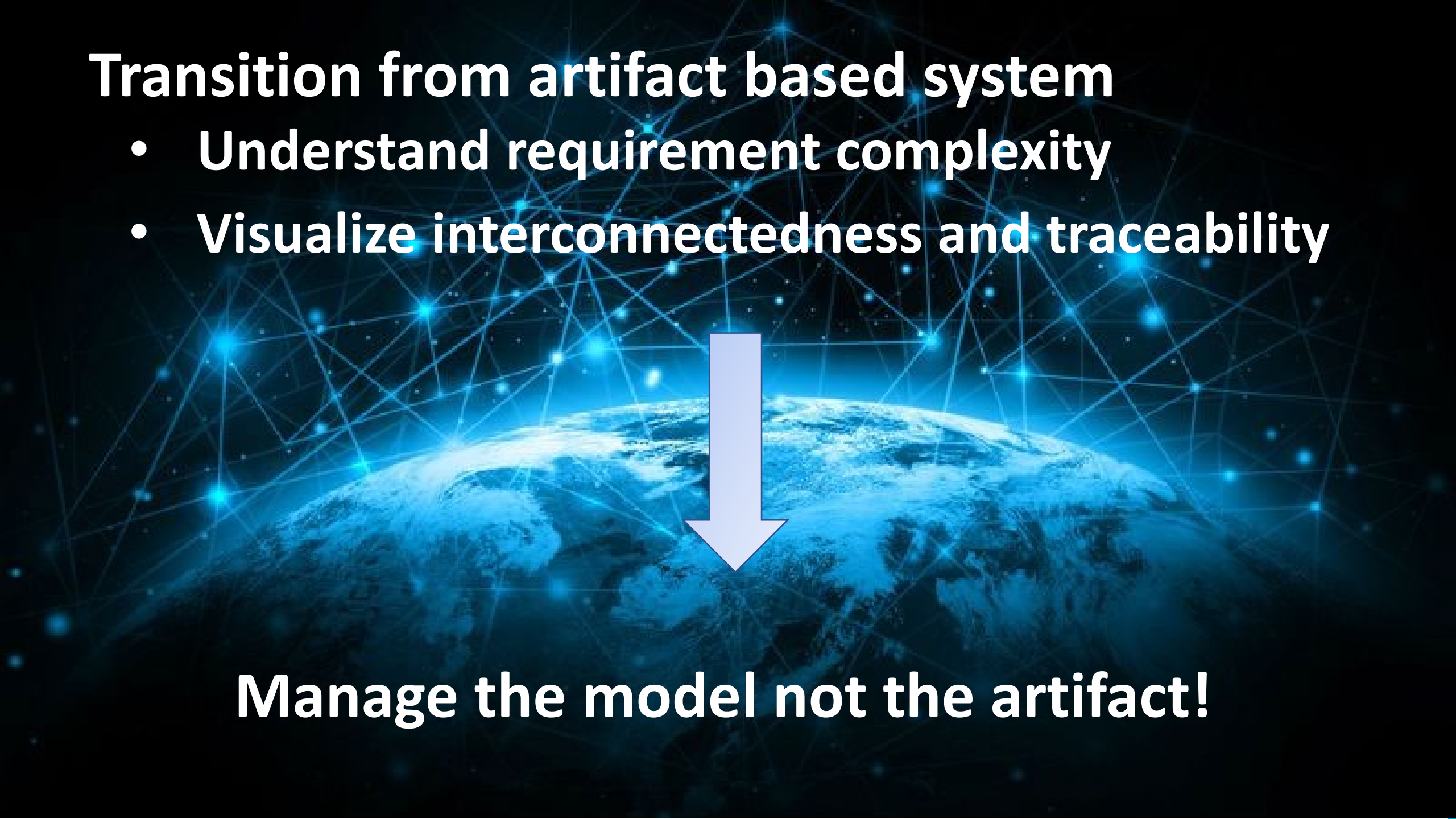


Requirements Modeling

- Increased response time from 3 weeks to less than 1 hour
- Consistency in traceability
- Visualization of interconnectivity
- Ability to effectively prioritize site impact analysis

Transition from artifact based system

- Understand requirement complexity
- Visualize interconnectedness and traceability



Manage the model not the artifact!

Thank You!

Topic Discussion (15mins)

Today's Presentation

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Please

The link for the online survey for this meeting is

- www.surveymonkey.com/r/2020_04_MeetingEval

Look in GlobalMeet chat box for cut & paste link

Slide presentation can be downloaded now/anytime from:

- The library page at: www.incose.org/enchantment