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CNA
ANALYSIS & SOLUTIONS

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Organizational Troop-to-Task (OT3) Wargames

Organizational Troop-to-Task (OT3) Wargames

- Overview
- Wargame Design
- Wargame Execution
- Data Analysis
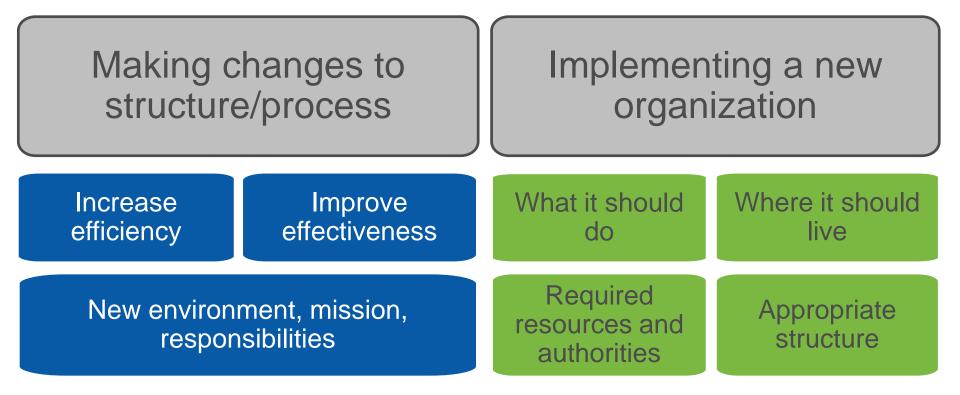- Conclusions

Organizational Troop-to-Task (OT3) Wargames

- **Overview**
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The case for organizational wargaming

- Difficult to know how an organization will work a priori
  - Most "right-sizing" methodologies require data about time spent on activities
  - Structure choices should be driven by processes and touchpoints (within and external to the organization)
- Most organizational analysis is heavily qualitative
  - Appropriate, but could be bolstered by quantitative data
- Benefits are two-fold
  - In-game learning and exploration
  - Insights from analyzing data produced by the game
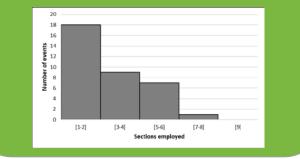
Why we do organizational analysis

Making changes to structure/process	Implementing a new organization

Increase efficiency	Improve effectiveness	What it should do	Where it should live

New environment, mission, responsibilities	Required resources and authorities	Appropriate structure

Gaming creates a synthetic environment

- Synthetic environments let us study thing that do not currently exist…
- … Or things that do exist in ways that aren't allowed by the laws of physics
    - Speed up/Pause/Rewind time
    - Bridge geography
    - Surpass technical impediments
- Most feasible, least intrusive way to get workplace data!
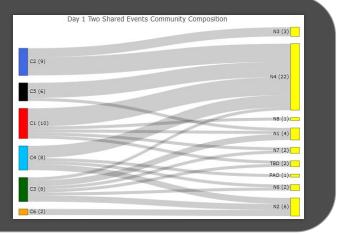- Unburdened by today's baggage
- **Theoretical not actual**

OT3 gaming has produced findings such as:

Pareto distribution of work across billets

Stove-piping of work with staff sections

Suggested subject and participants of standing OPTs

Organizational Troop-to-Task (OT3) Wargames

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OT3 is a resource management wargame

- People are the limited resources
- Worker-placement game with scenario-driven events
- Requirements:
  - Organization structure
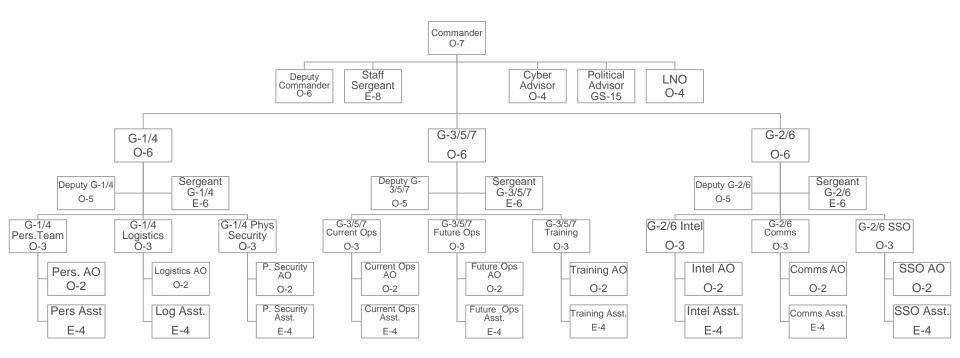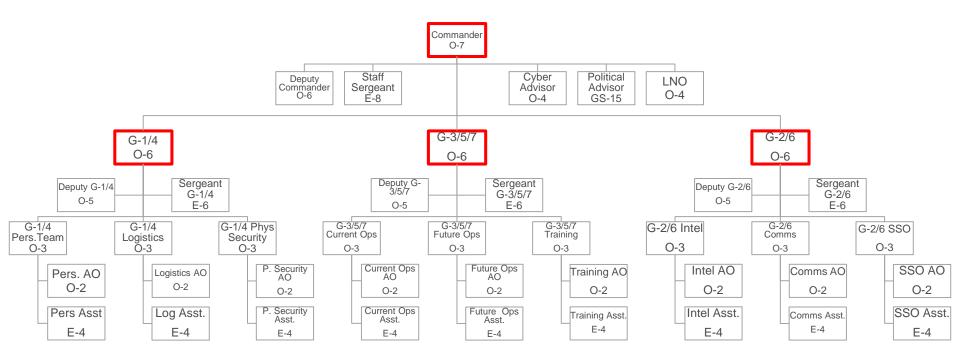 - Reasonable scenario narrative

Requirement: Organizational Structure

- Wire diagram of people
- What are the resources that will be used?
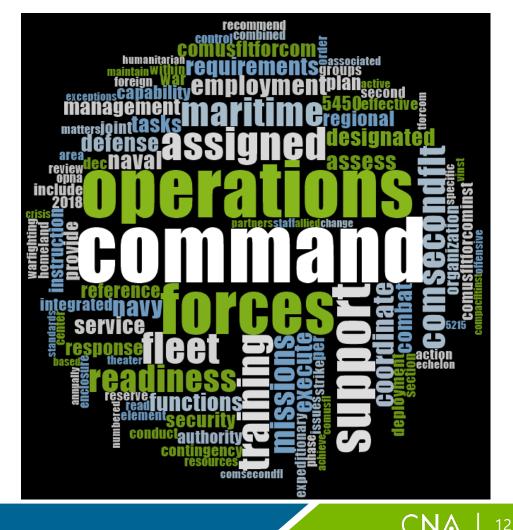- How many tasks can each person execute?

Requirement: Players

- Players as division heads
- Need working knowledge of personnel expectations in their shops

Requirement: Mission, Function, and Tasks

- Why does the organization exist?
- What is it there to do?
- How does it do it?

Requirement: Scenario

- Complete narrative of events that might impact the organization

- "80%" stress level

- Timeframe/turn length should be scaled to the organization's activity speed

80%
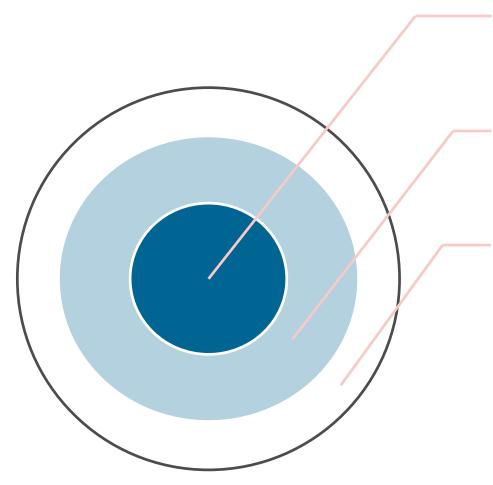
Likelihood

Intensity of engagement

μ

No Significant Changes

Snakebite Fatality

U.S. service member dies after being bitten by venomous snake.

Tasking:
- Conduct personnel recovery (PR) mission
- Conduct investigation and additional training / SOP updates

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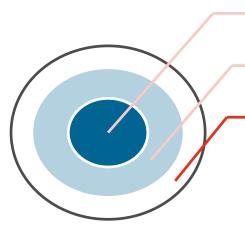- Data Analysis
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Three "flavors" of work

Dynamic tasking

Consistent tasking (e.g., battle rhythm)
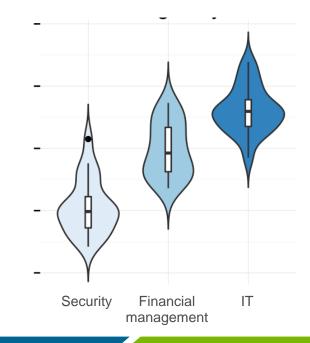
Sustained (e.g., IT support, security)

Wargame Execution: Sustained tasking

Dynamic tasking

Consistent tasking (e.g., battle rhythm)

Sustained (e.g., IT support, security)

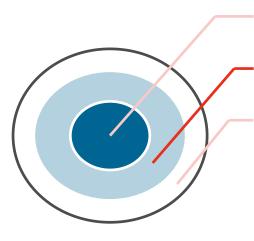- Sustained tasking identified in wargame setting as **"steady-state"/"basal metabolic rate"** employment
- Little fidelity regarding appropriate numbers

Intent is to eventually analyze these by comparing support billet : organization size ratios for like organizations

Security   Financial management   IT

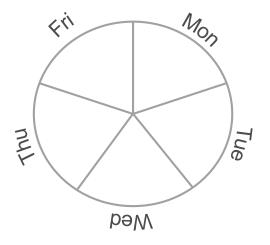# Wargame Execution: Consistent tasking

Dynamic tasking

Consistent tasking (e.g., battle rhythm)
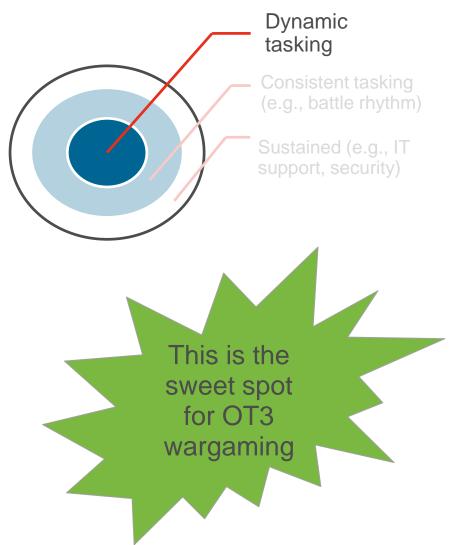
Sustained (e.g., IT support, security)

- Steady drum-beat of anticipated tasks
- Battle rhythm or TEEP, for example

- Regular events identified
- Personnel aligned to events
- Personnel time "rolled up" to approximate time spent on consistent tasking

Fri Mon Tue Wed Thu

Wargame execution: Dynamic tasking

Dynamic tasking

Consistent tasking (e.g., battle rhythm)

Sustained (e.g., IT support, security)

This is the sweet spot for OT3 wargaming
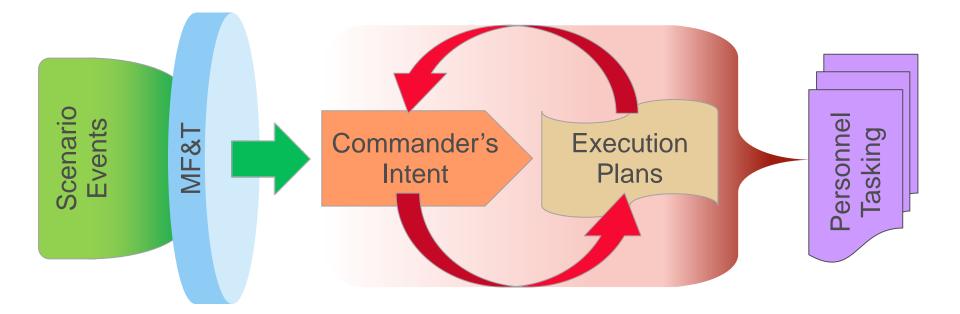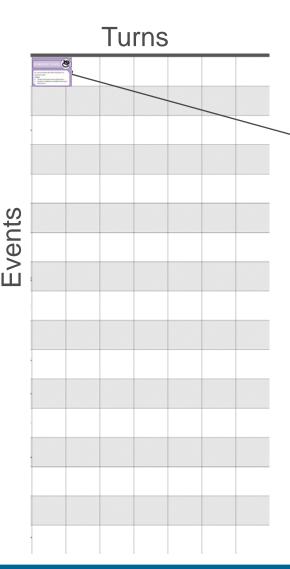
- Remaining personnel capacity can be employed for dynamic tasking
- Represents work that is aligned with responsibilities
- But exact content, volume, and timing cannot be anticipated

Wargame Execution

Wargame Execution: Dynamic Tasking

Turns

Events

Snakebite Fatality

U.S. service member dies after being bitten by venomous snake.

Tasking:

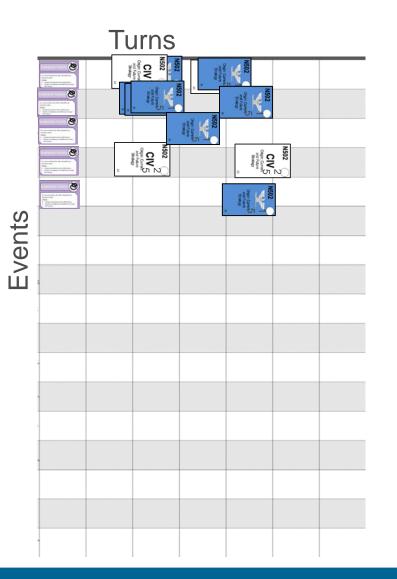- Conduct personnel recovery (PR) mission
- Conduct investigation and additional training / SOP updates

- Players determine task requires staff at level of effort.

N50	10
CTR	
CTR	
RESOURCE MANAGEMENT ANALYST	84

N502	15
Origin: Current and Future Strategy	24

N502	25
CIV	
Origin: Current and Future Strategy	23

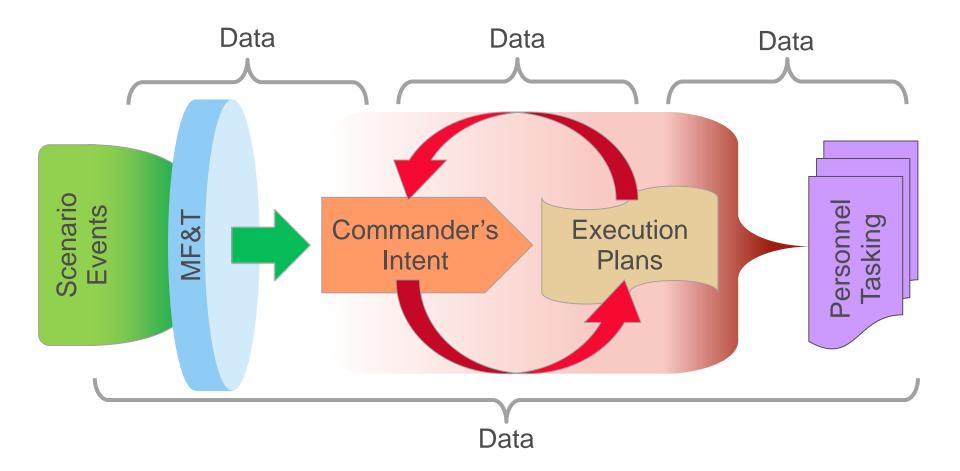# Wargame Execution: Dynamic Tasking

Turns

Events

- Dynamic tasking is heavily dependent on the intensity of the scenario
- Care must be taken in the development and analysis to understand the impact of the scenario on the availability of personnel

Wargame Execution: Data Collection

Data

Data

Data

Scenario Events

MF&T

Commander's Intent

Execution Plans

Personnel Tasking

Data

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Analytic insights from OT3 wargaming

Note-taking and recording billet allocations yield a wealth of data on how the organization might act

From qualitative data

- Need for additional/ different capabilities
- Points of tension or disagreement
- Boundaries of roles and responsibilities

From quantitative data

- Utilized capacity
- Alignment of tasking "communities"
- Key/core personnel
- Touchpoints with external organizations

Post-hoc analytic insights inform multiple levels of design

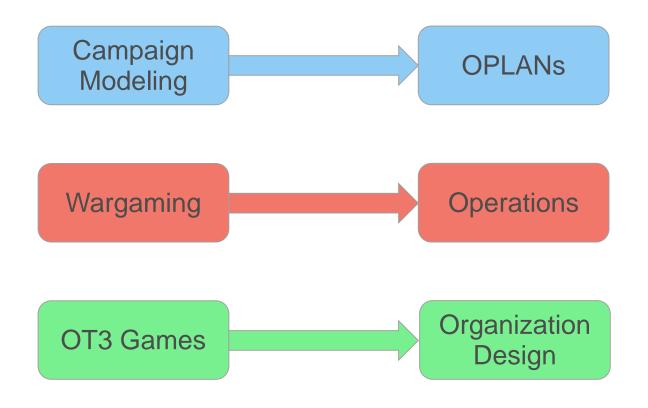| Org'l design element	RFA characterization	Alignment of tasking	Coding for themes	Billet-level employment	Social network analysis
MFT document		Changes based on discrepancies between wargame and MFT	Debates or confusion over responsibility		Community-related tasking and directorate overlap
Battle rhythm/SOP		Indications of important coordination meetings	Areas requiring further development (e.g., PPRs, SOPs)		Heterogeneous communities suggest B2C2WGs
Structure		LNO alignment based on external coordination tasking			-Network alignment with directorate structure -Core personnel to centrally locate
Manning document	Additional billets to consider including			-Billets to consider eliminating or switching to reach-back/augmentation -Tweaks to staff right-sizing	-Core personnel to ensure on document -Informed placement of unplaced personnel

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Challenges

- Detaching the players from present day MF&T, staffing
- Player understanding of future MF&T
- "Event Tails" – what work needs to be done once the work is over?
- Scenarios that accurately capture a possible future

Conclusions

Campaign Modeling → OPLANs

Wargaming → Operations

OT3 Games → Organization Design

Thank you! Questions?