Strategic Technology Office

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STO: Mission Systems technology to develop Mission-Centered solutions to win the competition against peer adversaries

"Inter-state strategic competition … is now the primary concern in U.S. national security."

Mission focus on winning against peer adversaries

- China
- Russia
- All phases of competition

Technology focus on Mission Systems:

- Communications & Networking
- C2 Algorithms
- Sensing
- Directed Energy
- Electronic Warfare

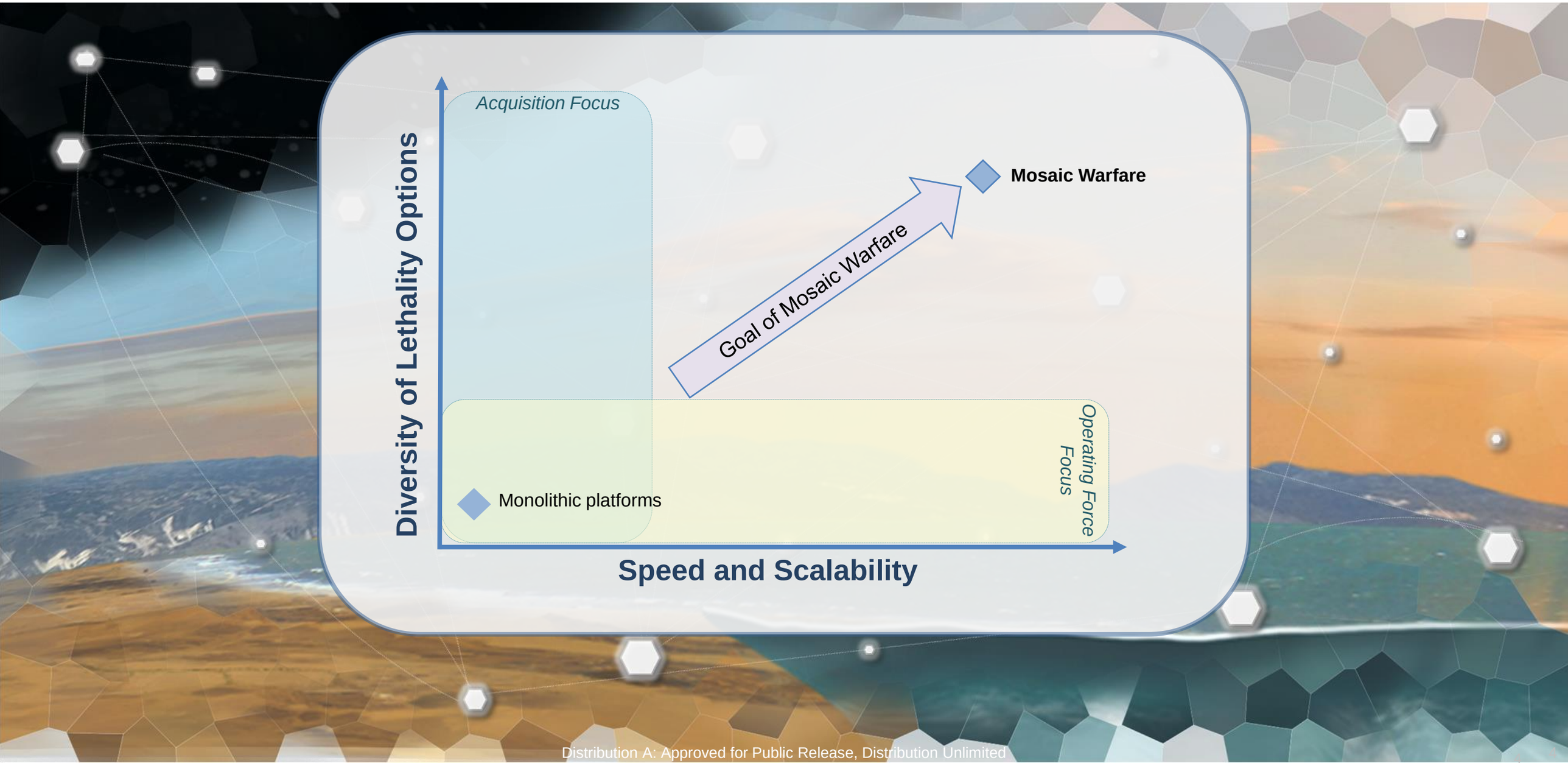
C2: Command and Control

DoD's mission is to "provide options to ensure the President and our diplomats negotiate from a position of strength, ..." and to "…provide combat-credible military forces needed to deter war and protect the security of our nation. Should deterrence fail, the Joint Force is prepared to win." - 2018 National Defense Strategy

STO is the "*Strategic*" Technology Office, building a portfolio around solutions to mission challenges, bounded by Mission Systems technology

System of Systems delivers lethality by busting the use of only *monolithic platforms and networks*

Mosaic Warfare eliminates the complexity and brittleness of *monolithic architectures through diversity and speed*



How does Mosaic Warfare achieve diversity and speed?

Tools and infrastructure to enable *operators* to create *warfighting architectures* as *mission planning actions* at *time of need* vs. engineers creating architectures as system engineering actions on acquisition timescales

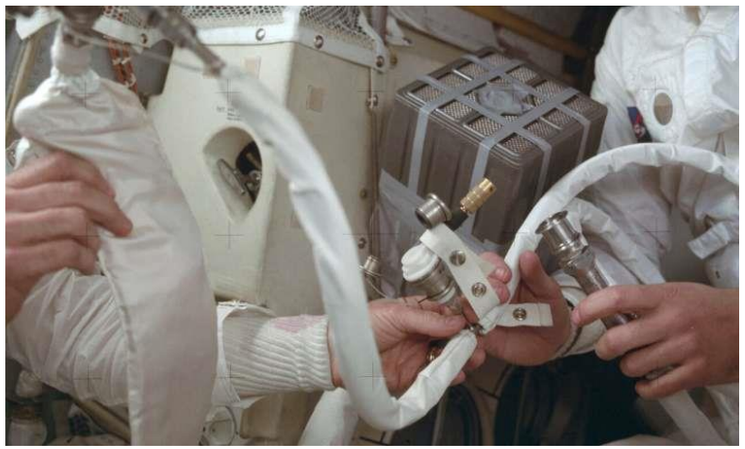
Plan

"We have one mission, and this is what we have to work with."

Interoperate

"How do we fit a square peg in a round hole?"

Execute



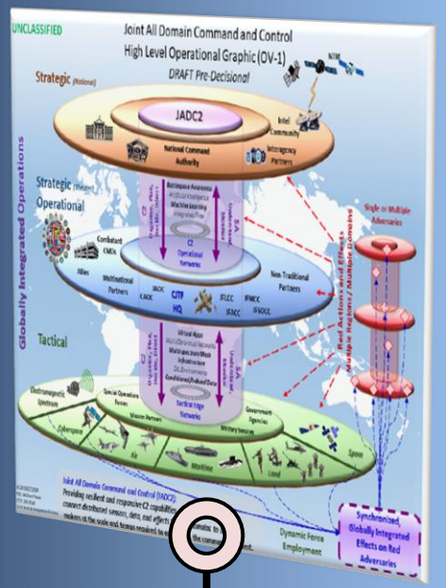
The operators have to make it work.

Mosaic wins the fight by enabling warfighters to compose precisely what they need at the time of the fight

How do Mosaic Technologies transition?

Wave 1

Manually engineer static architectures



Today

(e.g. JADC2 pilots, ABMS)

Wave 2

Operators develop architectures as part of mission planning

~ 5 Years

(primary transition target to new Mission Integration units with legacy weapon systems/platforms)

Wave 3

Mission-centric "Stochastic Requirements" system acquisition

~ 10+ Years

(acquire new capabilities assuming they will function as part of a Mosaic ensemble)

Non-traditional public/private business models

New types of services businesses (cf. “Geek Squad”, DevSecOps)

- Technically-empowered IT services

Commercially-inspired marketplace style acquisition

- Private CAPEX vs. cost-reimbursable

Engaging with commercial companies and partnering with the venture community

- Product development with non-dilutive revenue

New major system development models

- Small lots, rapid cycles


BUILDING MOSAIC WARFARE