SPACE SYSTEMS COMMAND

ECX Future Operating Concept

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A Capability Delivery Vignette



Meet Olivia Garcia, a senior Program Manager with the Cosmos Defense Agency responsible for the acquisition of a next generation space capability.

Her integrated product team has spent the last six months developing a draft requirements architecture and acquisition plan for their Honey Badger satellite constellation.

The accelerated project schedule requires capability delivery to the warfighter in less than 2 years.



Olivia has made an appointment with Kyle, an SSC Portfolio Architect to review the program's draft requirements architecture and acquisition plan.

Gaining an understanding of the Mission Partner's portfolio of requirements is essential in developing a comprehensive implementation strategy.

Kyle will introduce the information to the ECX Integration team and request a Mission Partner Integration Forum with the Honey Badger IPT.



The Mission Partner Integration Forum is the initial entry point for all prospective ECX customers.

This provides an efficient forum for Mission Partners, end users, warfighters and stakeholders to understand the ECX Product Roadmap, Architecture, and Service Catalogs.

The forum helps synchronize recommendations for mission capability integration between ECX, the Portfolio Architect's Office, Capability Integrator, and the new Mission Partners.



Olivia logs into the ECX Service Catalog and begins matching her program requirements to the available products and services.

The Service Catalog is an organized and curated collection of available ECX products and services that can be integrated to accelerate warfighter operational needs.

Service domains include satellite operations, data processing and reporting, operational Command & Control, software factory and data center, defensive cybersecurity and data transmit and receive services.



The service catalog is supported by the ECX Integrated Roadmap which provides the Mission Partner with an understanding of the timeframe in which ECX Services and Systems become available.

Olivia can work closely with Mailey from the ECX Roadmap team to help identify key dependencies between ECX Service and System deployments so Olivia and her team understand drivers that impact Service and System availability for integration, test, and deployment.



The ECX Service Catalog, Integrated Roadmap are envisioned to be hosted within a Digital Engineering Environment designed to support the customer throughout the product lifecycle, with tools to automate onboarding, collaboration, documentation, acceptance, operation and sustainment.

The environment is consistent with Space Systems Command/ Model Based Systems Engineering best practices and style guides.

Modeling and simulation activities provide digital representation of systems and software functionality.



Following the Mission Partner Integration Forum, Olivia may refine her requirements architecture and acquisition plan in collaboration with the Operations Integration Working Group (OIWG) and Enterprise Coordination and Decision Forum (ECDF).

Refinement efforts facilitate collaboration to share and balance risk in the integration of the Mission Partner.



Supported by the OIWG, ECDF and in collaboration with lifecycle sustainment planning, Olivia and her Integrated Product Team can configure service delivery using a range of acquisition pathways;

- Use or modify existing ECX applications, services and platforms (Preferred option)
- Buy or Lease COTS products and services
- Model proposed options using Model Based System Engineering tools
- Build custom solutions (as/if necessary)



Outputs from the Working Group and Decision Forum activities will establish appropriate agreements and funding mechanisms to support streamlined development of required capabilities.

The Integration Team provides Olivia with the confidence that the agreement is comprehensive and will meet their needs.

ECX employs a flexible framework to quickly draft, review and coordinate for approval, Memorandums of Agreement, Memorandums of Understanding or Service Level Agreements



Memoranda and Agreements mature into enterprise level contract documents, working with mission partners to establish appropriate contract language, road maps, toolchains, incentives and vehicles.

Use of common ECX platforms, infrastructure and applications reduces custom coding. Incentives encourage early integration and check-out with zero rework.



ECX software factories employ an industry standard software development, operation and security methodology called DevSecOps which focuses on incremental continuous integration and continuous deployment also known as CI/CD

This incremental methodology is not the process for every ECX service/system offering as some service components may transition to a sustainment manager.



DevSecOps Toolchain

ECX software factories employ industry standard development, security and operations tools which reinforce commonality, interoperability and quality through continuous development and integration efforts.

These commonly used COTS products comply with FedRamp Authority To Operate (ATO) certification requirements.



The ECX agile Operational Acceptance (OA) process follows Air Force Space Command Instruction 10-605 standards ensuring new systems, capabilities and modifications meet operational requirements and have the necessary elements required to support mission execution.

Infrastructure capabilities most likely will be turned over to traditional sustainment managers while software applications will remain in a state of continuous integration/ continuous deployment through the software factory.

The operational capability can be modified by updating the Honey Badger requirements architecture.



T-10 on launch day and Olivia bids Honey Badger a hearty Godspeed on it's journey into space!

Contact Information

Thank you!

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