



HWO F2F

Digital Engineering Collaboration Environment

NASA Goddard Space Flight Center

Team(s): Goddard Digital Transformation/Engineering, Luna

Presenter: Goddard Chief Digital Engineer/Aaron Comis

Date: October 23, 2024

Bottom Line Up Front



- Goddard Digital Engineering (GDE) partnered with HWO (PE & PMO) in FY24 to pilot a collaboration solution for HWO
 - Solution is referred to as the ***HWO Ecosystem Pilot (HOEP)***
- What scenarios must ***HOEP*** enable?
 - Simplify search across multiple sources
 - Box, Google Drive, etc.
 - Find and summarize connected information
 - Papers, meeting transcripts, presentations, etc.
 - Enable 1000+ individuals to coordinate on an evolving concept vision
 - Generate draft documents using connected information
 - Scientific analysis, data processing, and simulation
 - Knowledge capture with decision context
- With HWO PMO and PE support, this work will continue



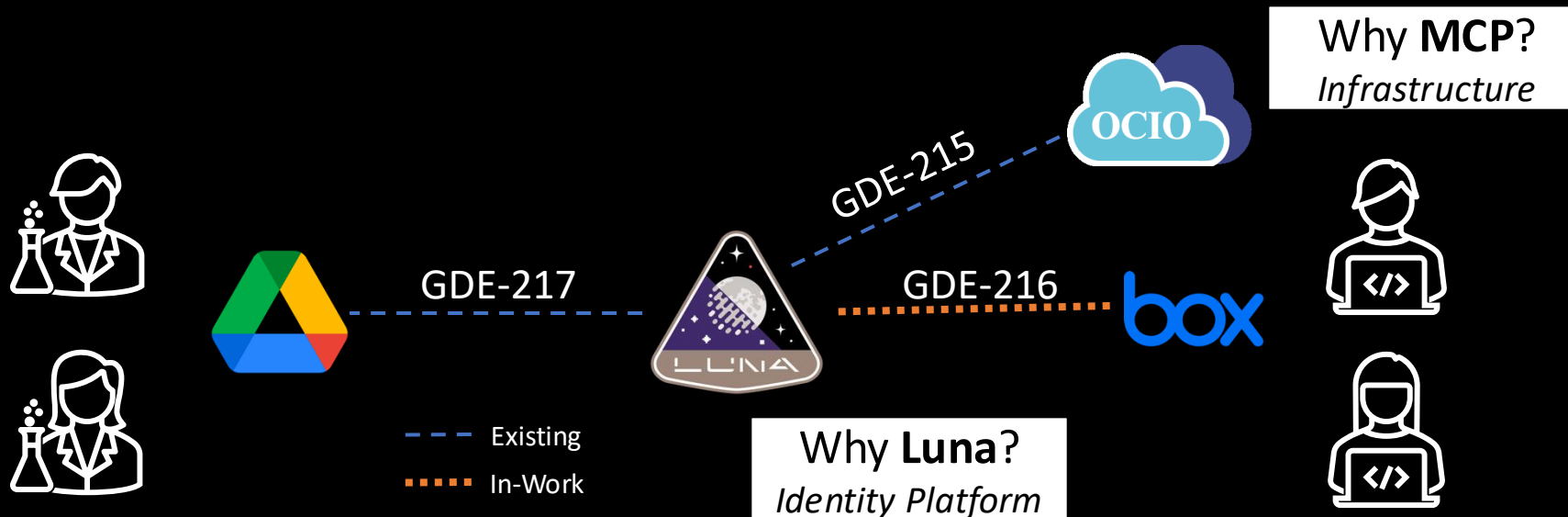
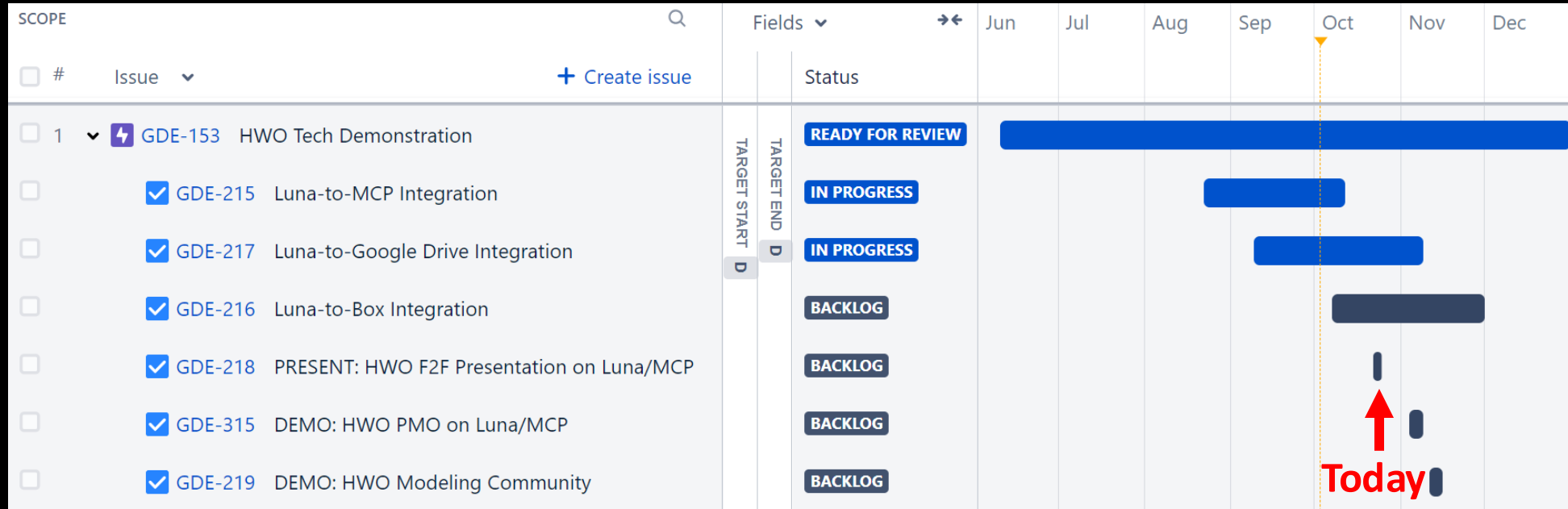
HOEP Success Criteria



- Discussions with HWO PMO identified the following top-level needs
 - **Security**
 - Support ITAR, EAR, CUI, proprietary, competition sensitive, etc.
 - **Accessibility**
 - Seamless experience for NASA, industry, academia, and international partners
 - **Affordability**
 - Low cost for ≥ 1000 active members
 - **Scalability**
 - Theoretically limitless compute, storage, and users
 - **Extensibility**
 - Work with project management, systems engineering, and integrated modeling workflows
 - **Ease of use**
 - Minimal training required to use system (targeting ≤ 1 hour)
 - **Sustainability**
 - Alignment with NASA-wide efforts to ensure longevity of solution



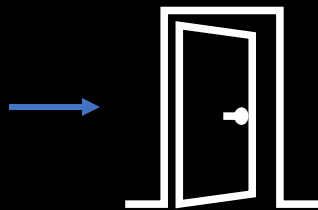
HOEP Project Scope



Hello, Luna!



Bring Your Own Identity



Luna

Why Luna?

- **First** NASA platform where you can *Bring Your Own Identity* (BYOI)
 - Already fully functionality with JPL
 - Demonstrated with JAXA employee using NASA RSA Token
- Luna team pursuing 'one-off user' access for ITAR/EAR data
 - Login.gov (access for all US Citizens)
 - InCommon (international partner access)

Home Org	Org PIV	Examples	MFA Method	Initial Access	Risk-Informed Access
NASA	NASA	Goddard, Marshall	NASA PIV	CUI/ITAR/EAR	-
Non-NASA	Non-NASA	JPL, NG*, Ball*, JAXA*	PIV	CUI/ITAR/EAR	-
Non-NASA	N/A	Universities** Small businesses**	Username/password + Authenticator app	CUI	CUI/ITAR/EAR

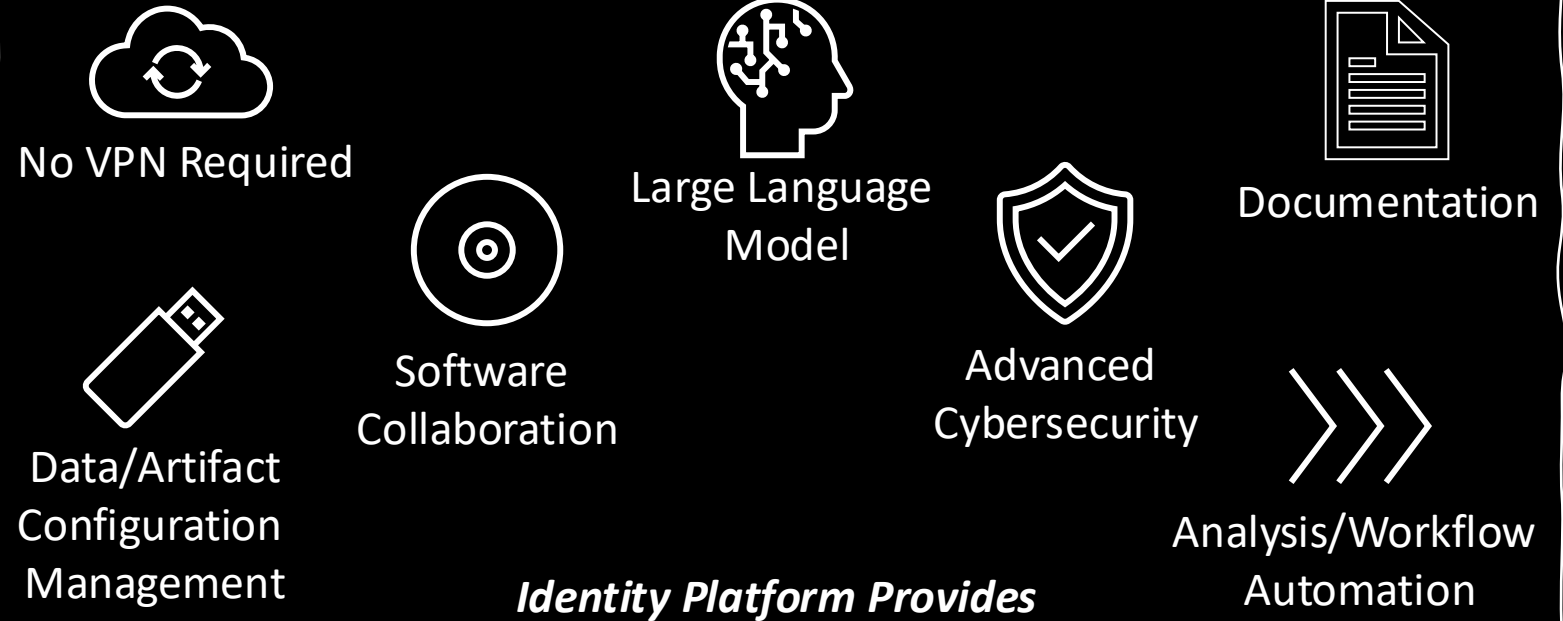
*Only JPL currently onboarded

**Luna waiver process to delegate risk to Data Owner per-dataset



Hello, Luna!

Bring Your Own Identity



	Functions					Tools				Data Types				
	Cloud Storage	Online Document...	Data Catalog	Attribute Acce...	External Partn...	Web Application	CLI	API	Cloud Identity...	Objects	Containers	Git Repositori...	Wikis	Software Packa...
NASA Luna	✓ v1.0	✗	✓ v1.0	✓ v1.0	✓ v1.2	✓ v1.0	✓ v1.0	✓ v1.0	✓ v1.0	✓ v1.0	✓ v1.2	✓ v1.2	✓ v1.2	✓ v1.0
NASA OneDrive / Teams.	✓	✓	✗	✗	✗	✓	🔒	🔒	🔒	✓	✗	✗	✗	✗
NASA Box	✓	✗	✗	✗	✓ *	✓	🔒	🔒	✗	✓	✗	✗	✗	✗



Availa...



Availa...



Not enabled within NASA



Available under certain restrictions

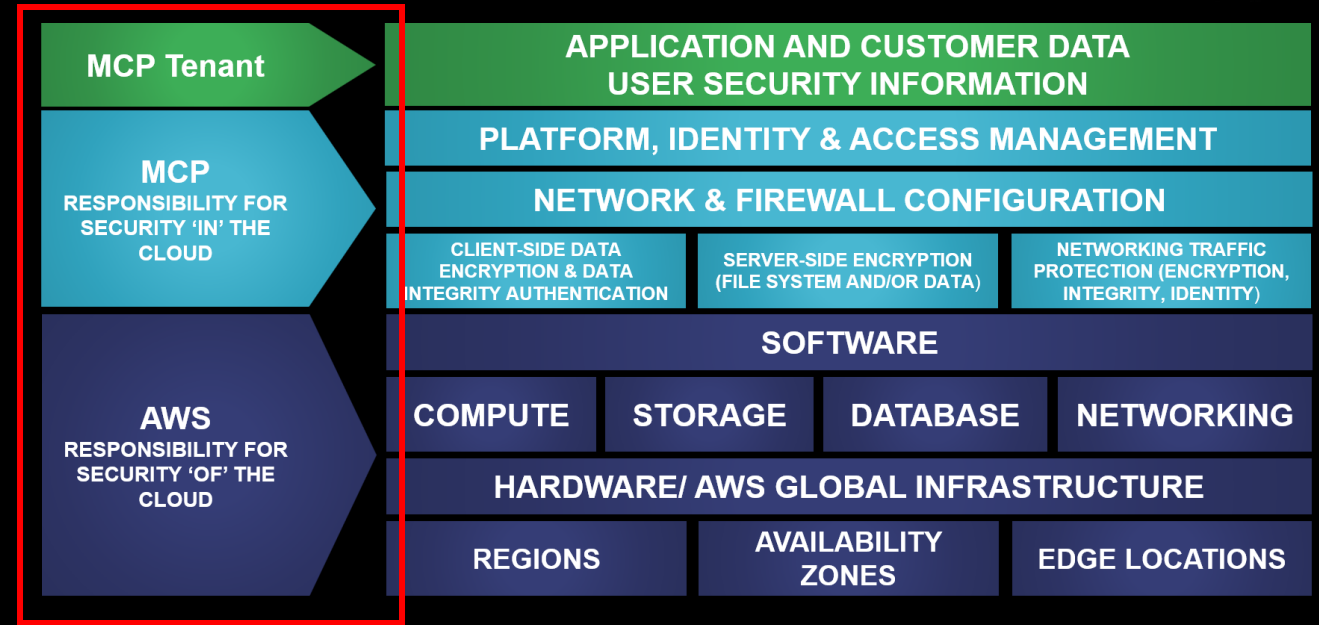
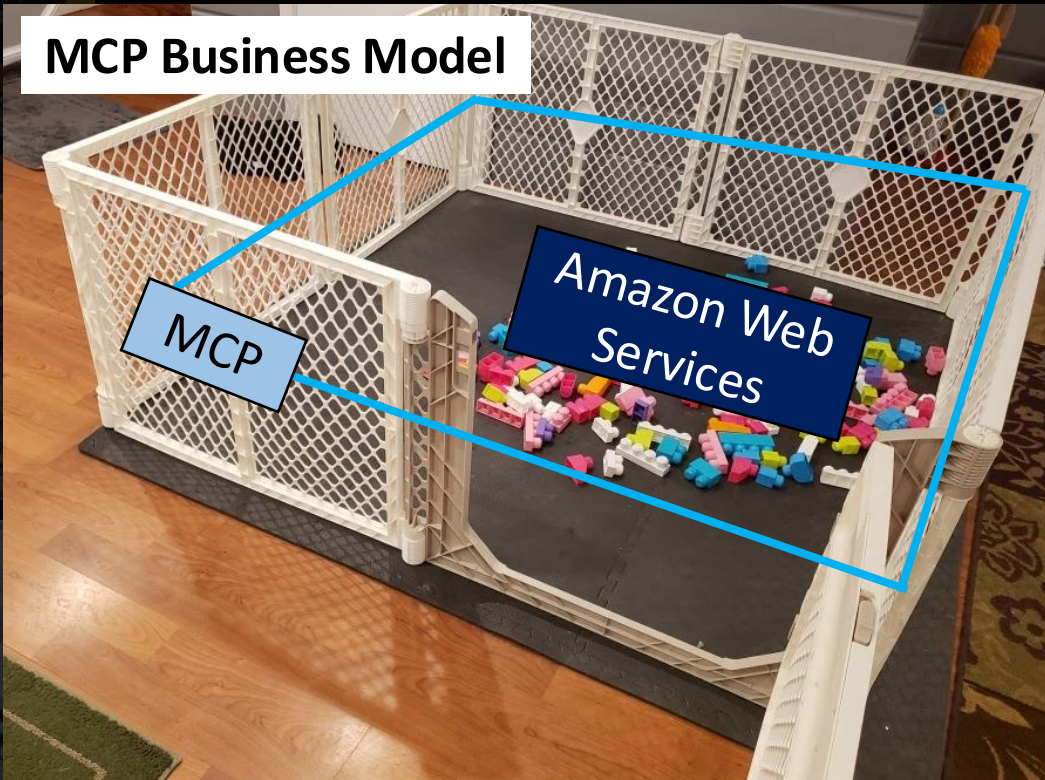
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Hello, Mission Cloud Platform (MCP)!



MCP Business Model



Significantly reduces cybersecurity overhead for tenants



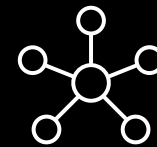
FISMA Moderate (*now*)
FISMA High (*NLT FY26*)



Fee For Service



Centralized Security



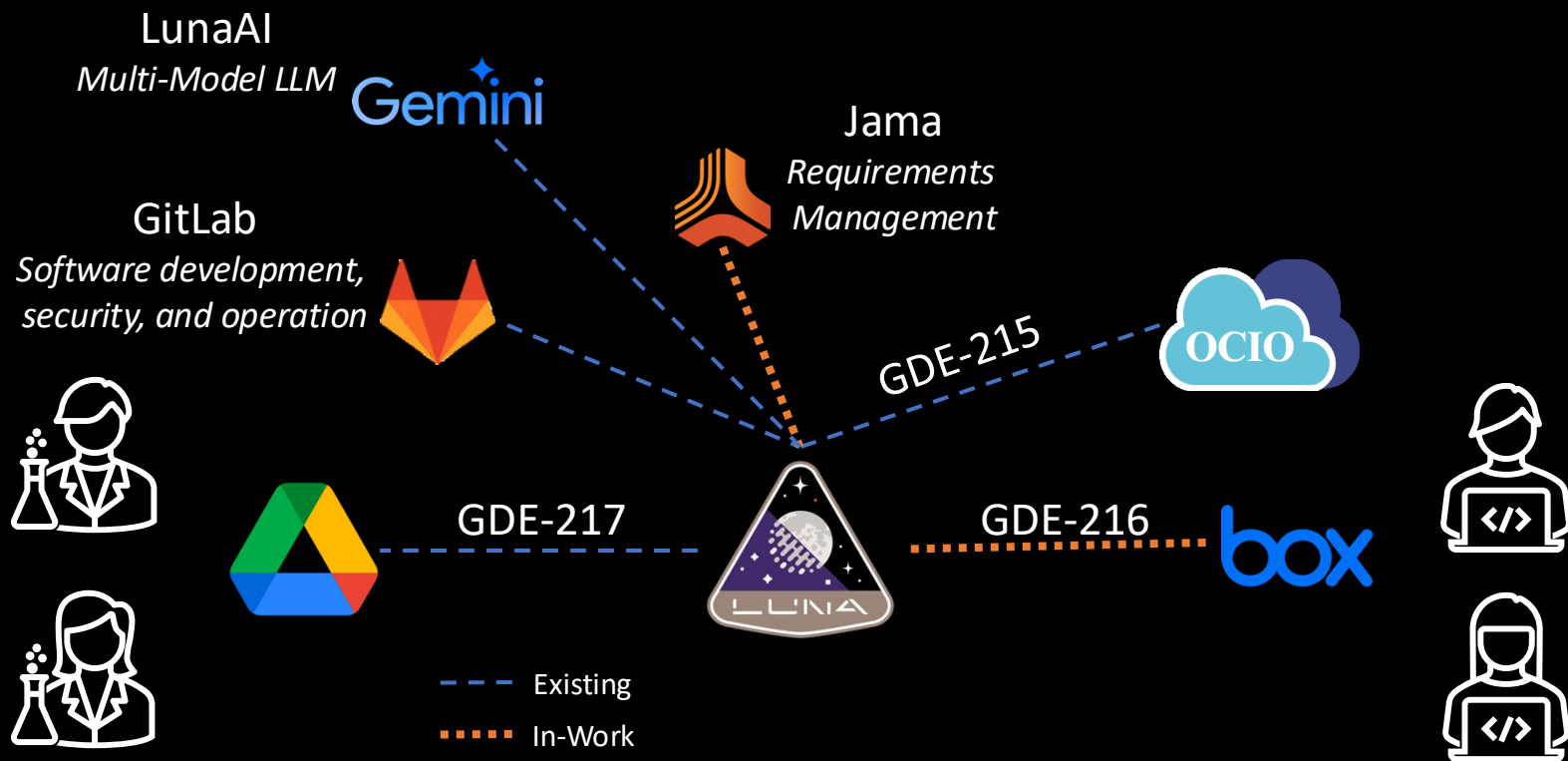
Centralized Service
Management

Infrastructure Provides

HOEP Look Ahead



- HOEP integration with Luna includes:
 - Data Transformation (*model decimation, format shifting, etc.*)
 - Automated data cataloging
 - Export control integration
 - Large Language Model (LLM) built-in at data management level



HOEP Look Ahead

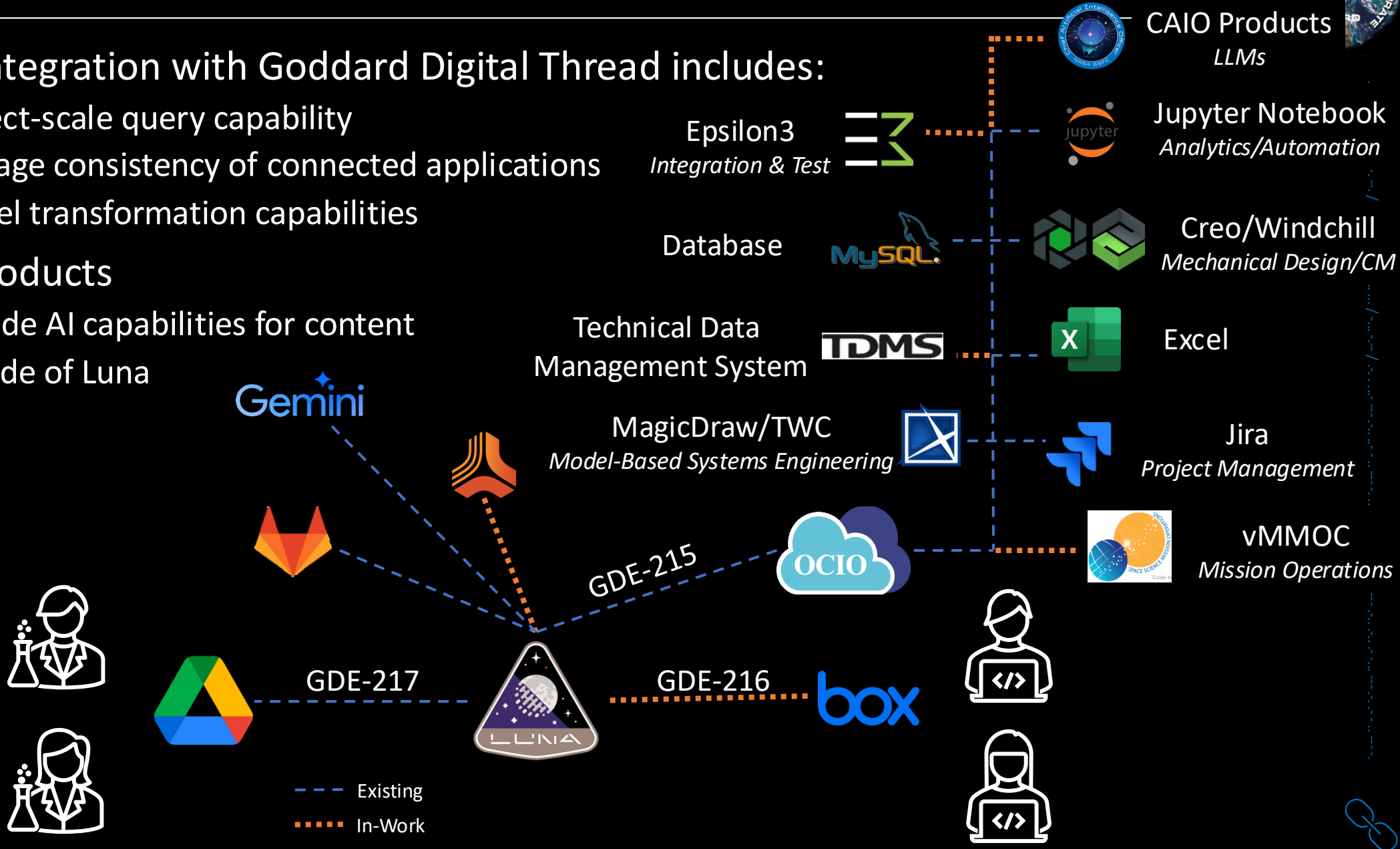


- HOEP integration with Goddard Digital Thread includes:

- Project-scale query capability
- Manage consistency of connected applications
- Model transformation capabilities

- CAIO products

- Provide AI capabilities for content outside of Luna



Look Ahead



- **HWO Program Executive** has sponsored one-year of Luna account
 - Covered through early FY26
- **Goddard Digital Engineering (GDE)** is sponsoring cloud compute/storage for the one-year Luna PoC
- Three upcoming **demos**
 - **Overview demo on capabilities (TODAY)**
 - Deep dive with PMO (EARLY NOVEMBER TARGET)
 - Deep dive with modeling community (MID-NOVEMBER TARGET)
- **Future Decision:** HWO PMO determination to pursue (or not) HOEP as official HWO collaboration solution
 - GDE team committed to continuing partnership with HWO PMO and PE to satisfy HWO collaboration needs



Demo!



- To be performed by Luna/TBD
- Recall on ***Bottom Line Up Front*** slide, scenarios ***HOEP*** should enable
 - **Simplify search across multiple sources**
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 - **Enable 1000+ individuals to coordinate on an evolving concept vision**
 - Generate draft documents using connected information
 - Scientific analysis, data processing, and simulation
 - **Knowledge capture with decision context**
 - And more!



Backup



Team



- Goddard Chief Digital Engineer/Aaron Comis
- Goddard Digital Transformation Lead/Matt Dosberg
- Goddard Digital Engineering Cloud Lead/Brian Parrucci
- Luna Chief Architect/Collin Estes
- Luna Chief Engineer/Brian Ulman
- Luna Program Manager/Rex Frazier

