

Software Delivery in Regulated Environments

Critical Infrastructure Needs a Community Approach

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8 Nov 2023



Who Are We?



Austen Bryan



U.S. AIR FORCE

LEVELUP
CODE WORKS

Defense Unicorns



Steven Ollek





What Is Our Goal?

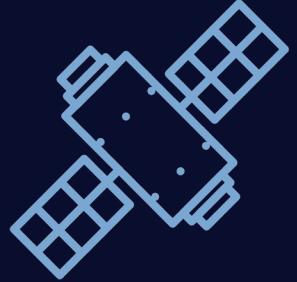
LEARN the challenges faced by the public sector

COLLABORATE on common solutions to enable success

SHARE a vision for how to help



Who Is The Public Sector?



Defense



Government



Energy



Finance



Healthcare



An Example - Software In Silos



Defense Unicorns





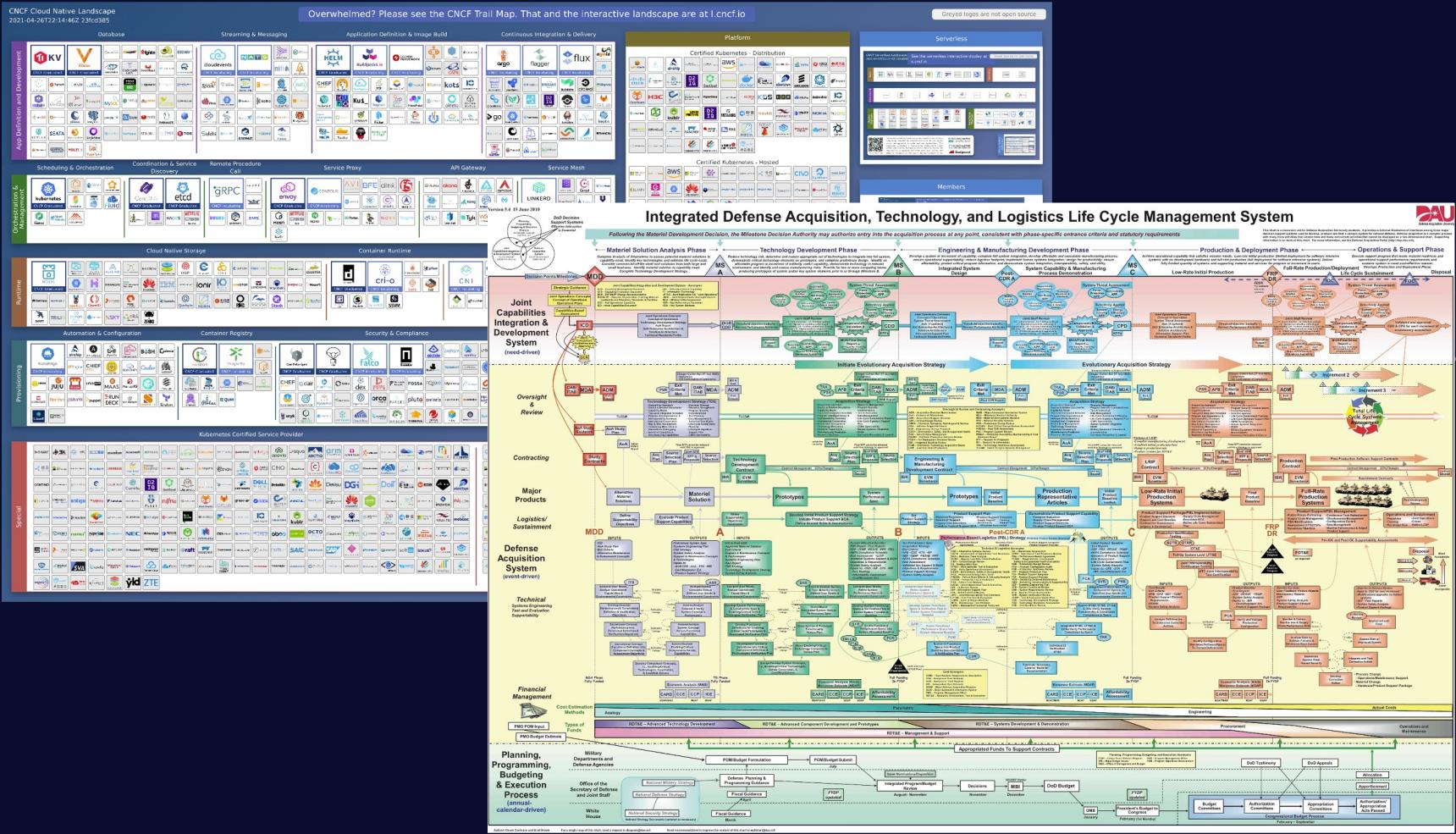
Software Challenges For The Public Sector

Traversing this path takes 18+ months





Expertise, Options, Barriers



Continuous Market Research → Acquire



Defense Unicorns



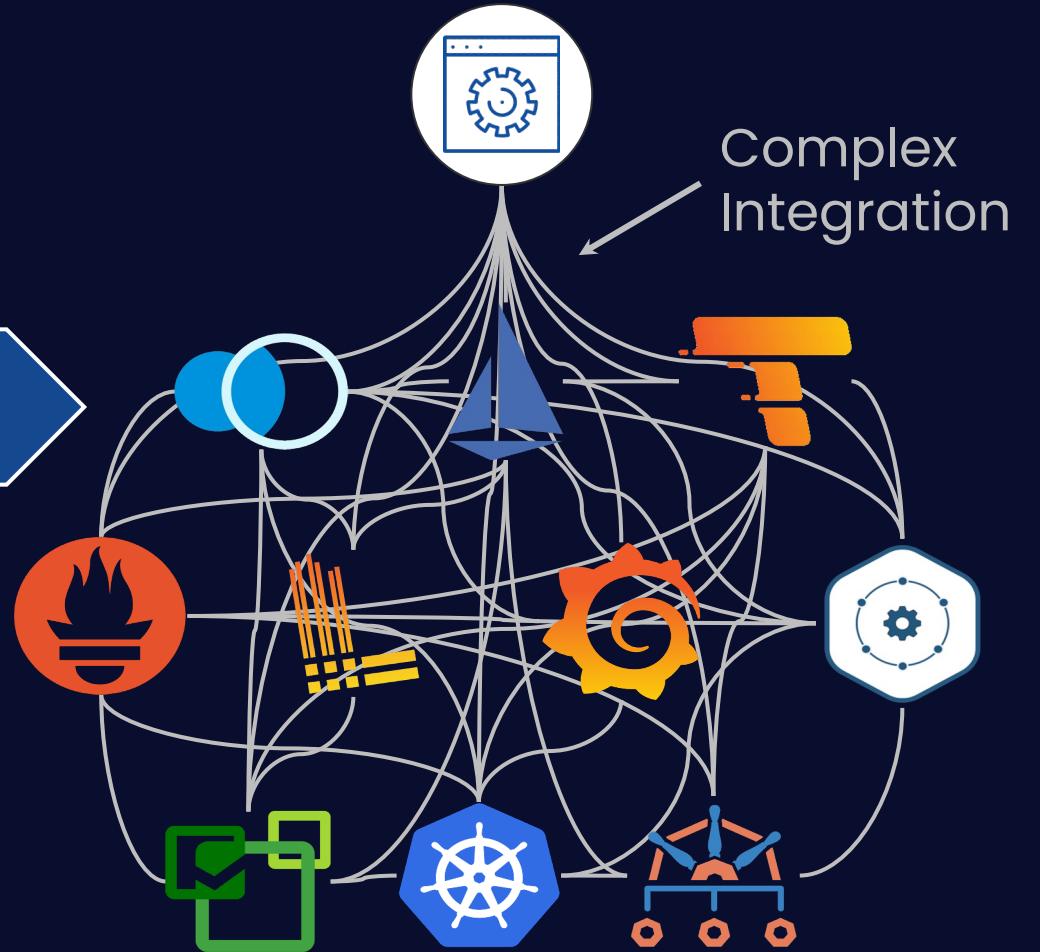
Shifting Security Landscape



34,553 CVEs identified CY 2022



Cognitive Load Is High





Disparate, Disconnected Environments



Cloud-Native software often assumes Internet access



Container orchestration requires a pre-existing registry



Organizational S/W management is often decentralized



Systems demand being scalable and highly distributable



Defense Unicorns



Compliance And Risk Management

Access Control	Awareness & Training	Audit & Accountability	Assessment, Authorization, & Monitoring	Configuration Management	Contingency Planning	Identification & Authentication	Incident Response	Maintenance	Media Protection	Physical & Environmental Protection	Planning	Program Management	Personnel Security	PII Processing & Transparency	Risk Assessment	System & Services Acquisition	System & Information Protection	System & Integrity	Supply Chain Risk	
AC	AT	AU	CA	CM	CP	IA	IR	MA	MP	PE	PL	PM	PS	PT	RA	SA	SC	SI	SR	
AC-01a	AC-07a	AT-01a	AU-01a	CA-01a	CM-07(02)a	CP-01a	IA-05(06)a	IR-01a	MA-01a	MP-01a	PE-01a	PL-01a	PM-01a	PS-01a	PT-01a	RA-01a	SA-01a	SC-01a	SI-01a	SR-01a
AC-01b	AC-07b	AT-01b	AU-01b	CA-01b	CM-07(02)b	CP-01b	IA-01b	IR-05a	MA-01b	MP-01b	PE-01b	PL-01b	PM-01b	PS-01b	PT-01b	RA-01b	SA-01b	SC-01b	SI-01b	SR-01b
AC-01c	AC-08a	AT-01c	AU-01c	CA-01c	CM-07(02)c	CP-01c	IA-01c	IR-05b	MA-01c	MP-01c	PE-01c	PL-01c	PM-01c	PS-01c	PT-01c	RA-01c	SA-01c	SC-01c	SI-01c	SR-01c
AC-02(01)a	AC-08b	AT-02(01)a	AU-02a	CA-02a	CM-02(02)a	CP-07(a)	IA-02(01)a	IR-02(03)a	MA-02a	MP-02a	PE-02a	PL-02a	PM-01d	PS-02a	PT-02a	RA-02a	SA-02a	SC-02a	SI-02(02)a	SR-02(01)a
AC-02(02)a	AC-08c	AT-02(03)a	AU-02b	CA-02a	CM-02(03)a	CP-07(b)	IA-02(02)a	IR-02a	MA-02b	MP-03a	PE-02b	PL-02b	PM-21b	PS-02b	PT-02b	RA-02b	SA-02b	SC-04a	SI-02a	SR-02a
AC-02(03)a	AC-11(01)a	AT-02a	AU-02c	CA-02b	CM-02(02)b	CP-07(b)	IA-02(08)a	IR-05e	MA-02c	MP-03b	PE-02c	PL-02c	PM-03a	PS-02c	PT-02c	RA-02c	SA-02c	SC-05a	SI-02b	SR-02b
AC-02(03)b	AC-11a	AT-02b	AU-02d	CA-02c	CM-02(07)b	CP-02a	IA-02(12)a	IR-05f	MA-02d	MP-04a	PE-02d	PL-02d	PM-03b	PS-02d	PT-03b	RA-03(01)a	SA-03a	SC-05b	SI-02	SR-02c
AC-02(04)a	AC-11b	AT-02c	AU-02e	CA-02d	CM-02d	CP-07b	IA-02(08)e	IR-02a	MA-02e	MP-04b	PE-03a	PL-02e	PM-03c	PS-02e	PT-03c	RA-03(01)e	SA-03b	SC-07(03)a	SI-02b	SR-03a
AC-02(05)a	AC-12a	AT-02d	AU-03(01)a	CA-02e	CM-02b	CP-08(01)a	IA-02(08)e	IR-02a	MA-02f	MP-05a	PE-03b	PL-04(01)a	PM-04a	PS-02d	PT-03d	RA-03a	SA-03c	SC-07(04)a	SI-03a	SR-03b
AC-02(13)a	AC-14a	AT-03(05)a	AU-03(03)a	CA-02f	CM-03(02)a	CP-08(03)a	IA-04(04)a	IR-04a	MA-03(01)a	MP-05b	PE-03c	PL-04(01)b	PM-04b	PS-02d	PT-03b	RA-03b	SA-03d	SC-07(04)b	SI-03b	SR-03c
AC-02(13)b	AC-14b	AT-03a	AU-03a	CA-03a	CM-03(04)a	CP-08(03)b	IA-04a	IR-04b	MA-03(02)a	MP-05c	PE-03d	PL-04(01)c	PM-05(01)a	PS-02d	PT-03c	RA-03c	SA-04(01)a	SC-07(04)c	SI-03	SR-05a
AC-02a	AC-17(01)a	AT-03b	AU-04a	CA-03b	CM-03a	CP-08a	IA-04b	IR-05k	MA-03(03)a	MP-05d	PE-03e	PL-04a	PM-05a	PS-02d	PT-03d	RA-03d	SA-04(02)a	SC-07(04)d	SI-03d	SR-05b
AC-02b	AC-17(02)a	AT-03c	AU-05a	CA-03c	CM-03b	CP-08b	IA-04c	IR-05l	MA-03(03)b	MP-05a	PE-03f	PL-04b	PM-05a	PS-02d	PT-03b	RA-03e	SA-04(09)a	SC-07(04)e	SI-04(02)a	SR-06a
AC-02c	AC-17(03)a	AT-04a	AU-05b	CA-05b	CM-03c	CP-08a	IA-04d	IR-07a	MA-03(03)c	MP-05b	PE-03g	PL-04c	PM-07(01)a	PS-02a	PT-03c	RA-03f	SA-04(10)a	SC-07(04)f	SI-04(03)a	SR-08a
AC-02d	AC-17(04)a	AT-04b	AU-06(01)a	CA-05b	CM-03d	CP-08b	IA-05(01)a	IR-08(01)b	MA-03(03)d	MP-07a	PE-04a	PL-04d	PM-07b	PS-02d	PT-03d	RA-04b	SA-04b	SC-07(04)g	SI-04(04)a	SR-10a
AC-02e	AC-17(04)b	AT-04c	AU-06(03)a	CA-06a	CM-03e	CP-08c	IA-05(01)b	IR-08(02)a	MA-03(03)a	MP-07b	PE-04a	PL-04e	PM-08a	PS-02d	PT-03e	RA-04b	SA-04b	SC-07(04)h	SI-04(05)a	SR-10b
AC-02f	AC-17a	AU-06a	CA-06b	CM-03f	CP-09d	IA-05(01)c	IR-08(02)b	MA-03b	MP-07c	PE-04a	PL-06(01)a	PM-09a	PS-02d	PT-03d	RA-04c	SA-04c	SC-07(05)a	SI-04a	SR-11(02)a	
AC-02g	AC-17b	AU-06b	CA-06c	CM-03g	CP-09a	IA-05(01)d	IR-08(04)a	MA-04a	MP-07d	PE-04a	PL-06(01)b	PM-09b	PS-02d	PT-03d	RA-04d	SA-04d	SC-07(07)a	SI-04b	SR-11(02)b	
AC-02h	AC-17c	AU-06c	CA-06d	CM-04(02)a	CP-10a	IA-05(01)e	IR-08a	MA-04b	MP-07e	PE-04b	PL-06(01)c	PM-10a	PS-02d	PT-03d	RA-04e	SA-04e	SC-07(08)a	SI-04c	SR-11a	
AC-02i	AC-18(01)a	AU-07(01)a	CA-06e	CM-04b	CP-10b	IA-05(01)f	IR-11a	MA-04c	MP-07f	PE-04c	PL-06(01)d	PM-10b	PS-02d	PT-03d	RA-04f	SA-04f	SC-07(24)a	SI-04d	SR-11b	
AC-02j	AC-18(03)a	AU-07a	CA-07(01)a	CM-05a	CM-10c	IA-05(01)g	IR-12(02)a	MA-04d	MP-07g	PE-04a	PL-06(01)e	PM-10c	PS-02d	PT-03d	RA-04g	SA-04g	SC-07(24)b	SI-04e	SR-12a	
AC-02k	AC-18a	AU-07b	CA-07(04)a	CM-06a	CM-11a	IA-05(02)a	IR-12(05)a	MA-05a	MP-08a	PE-08a	PL-09a	PM-11a	PS-02d	PT-03d	RA-04h	SA-04h	SC-07(24)c	SI-04f	SR-14a	
AC-02l	AC-18b	AU-08a	CA-07(04)b	CM-06b	CM-11b	IA-05(02)b	IR-12(05)b	MA-05a	MP-08b	PE-08b	PL-09b	PM-11b	PS-02d	PT-03d	RA-04i	SA-04i	SC-07(24)d	SI-04g	SR-14b	
AC-03(4)a	AC-19(05)a	AU-09(04)a	CA-07b	CM-06c	CM-11c	IA-05(02)c	IR-12(05)c	MA-05b	MP-08c	PE-08c	PL-10a	PM-11c	PS-02d	PT-03d	RA-04j	SA-04j	SC-07(24)e	SI-04h	SR-14c	
AC-03a	AC-19a	AU-09b	CA-07(04)c	CM-06d	CM-11d	IA-12a	IR-08a	MA-05b	MP-08d	PE-08d	PL-10b	PM-12a	PS-02d	PT-03d	RA-04k	SA-04k	SC-07(24)f	SI-04i	SR-14d	
AC-03b	AC-19b	AU-09c	CA-07b	CM-07(01)a	CM-12a	IA-12b	IR-08b	MA-05c	MP-08e	PE-08e	PL-10c	PM-12b	PS-02d	PT-03d	RA-04l	SA-04l	SC-07(24)g	SI-04j	SR-14e	
AC-03c	AC-20(01)a	AU-11a	CA-07d	CM-07(01)b	CM-12b	IA-12c	IR-08c	MA-06a	MP-09a	PE-09a	PL-11a	PM-13a	PS-02d	PT-03d	RA-04m	SA-04m	SC-08(01)a	SI-05d	SR-15a	
AC-03d	AC-20(01)b	AU-11b	CA-07d	CM-07(01)c	CM-12c	IA-12d	IR-08d	MA-06b	MP-09b	PE-09b	PL-11b	PM-13b	PS-02d	PT-03d	RA-04n	SA-04n	SC-08(01)b	SI-05e	SR-15b	
AC-06(01)a	AC-20(02)a	AU-12a	CA-07e	CM-07(01)d	CM-12d	IA-12e	IR-08e	MA-06c	MP-09c	PE-09c	PL-11c	PM-13c	PS-02d	PT-03d	RA-04o	SA-04o	SC-08(01)c	SI-05f	SR-15c	
AC-06(01)b	AC-20a	AU-12b	CA-07f	CM-07(01)e	CM-12e	IA-12f	IR-08f	MA-06d	MP-09d	PE-09d	PL-11d	PM-13d	PS-02d	PT-03d	RA-04p	SA-04p	SC-08(01)d	SI-05g	SR-15d	
AC-06(02)a	AC-20b	AU-12c	CA-07g	CM-07(01)f	CM-12f	IA-12g	IR-08g	MA-06e	MP-09e	PE-09e	PL-11e	PM-13e	PS-02d	PT-03d	RA-04q	SA-04q	SC-08(01)e	SI-05h	SR-15e	
AC-06(05)a	AC-21a	AU-09a	CA-09b	CM-09a	CM-19a	IA-09b	IR-10a	MA-09b	MP-09b	PE-10a	PL-09b	PM-10a	PS-02d	PT-03d	RA-05b	SA-05b	SC-08(02)a	SI-06b	SR-16a	
AC-06(07)a	AC-21b	AU-09b	CA-09c	CM-09b	CM-19b	IA-09c	IR-10b	MA-09c	MP-09b	PE-10b	PL-09b	PM-10b	PS-02d	PT-03d	RA-05c	SA-05c	SC-08(02)b	SI-06c	SR-16b	
AC-06(07)b	AC-22a	AU-09c	CA-09d	CM-09c	CM-19c	IA-09d	IR-10c	MA-09d	MP-09b	PE-10c	PL-09b	PM-10c	PS-02d	PT-03d	RA-05d	SA-05d	SC-08(02)c	SI-06d	SR-16c	
AC-06(09)a	AC-22b	AU-10a	CA-09e	CM-09d	CM-19d	IA-10a	IR-10d	MA-09e	MP-09b	PE-10d	PL-09b	PM-10d	PS-02d	PT-03d	RA-05e	SA-05e	SC-08(02)d	SI-06e	SR-16d	
AC-06(10)a	AC-22c	AU-10b	CA-09f	CM-09e	CM-19e	IA-10b	IR-10e	MA-09f	MP-09b	PE-10e	PL-09b	PM-10e	PS-02d	PT-03d	RA-05f	SA-05f	SC-08(02)e	SI-06f	SR-16e	
AC-06(12)a	AC-22d	AU-10c	CA-09g	CM-09f	CM-19f	IA-10c	IR-10f	MA-09g	MP-09b	PE-10f	PL-09b	PM-10f	PS-02d	PT-03d	RA-05g	SA-05g	SC-08(02)f	SI-06g	SR-16f	
AC-06a	AC-22d	AU-12d	CA-07g	CM-07(01)g	CM-12g	IA-12g	IR-08g	MA-06g	MP-09g	PE-09g	PL-11g	PM-13g	PS-02d	PT-03d	RA-04g	SA-04g	SC-08(02)g	SI-05g	SR-16g	

Accredit



Defense Unicorns



No Site Reliability Engineers



Operate



Software As A Community



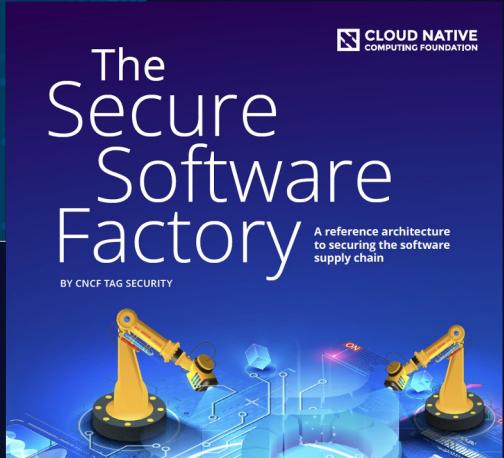
 Defense Unicorns





A Call To Action

- Engage directly – RFIs, virtual conferences, etc.
- Create distribution channels for access
- Educate and advocate for open source
- Document in OSCAL
- Document and maintain projects
- Join the Public Sector working group
- Participate in the Big Bang Technical Oversight Committee





Let's Connect



Austen Bryan



Steven Ollek