



UxSAI Mission Autonomy Assessment Event
Q&A Telecon Transcript
20 August 2026

1. Are you open to solutions where the mission planner and vehicle-control stack are separate from the deterministic authority/safety verification layer, or are you primarily looking for vendors with a complete end-to-end autonomy stack?

The Government currently envisions the mission autonomy capability as a single container providing the required end-to-end mission autonomy functionality. Functional elements may be separated at the component level, and multiple vendors may team to provide different portions of the solution, but the required functionality must be present. Vehicle-control functions associated with communicating plans to the unmanned-system autopilot are already provided within CHAOS.

2. Where can the CHAOS SDK's interface specifications be obtained?

The CHAOS SDK and its interface information are not broadly available at this stage. Vendors that advance through the applicable down-select milestones will receive access to the SDK for the test and evaluation phase.

3. Authorities construct: Has UxSAI already defined a Government schema, interface, message set, or data model for the pre-delegated "authorities construct," or is industry expected to propose how delegated authority is represented, changed, enforced, synchronized, and audited?

The Government's definition of the authorities construct is still in development. Industry feedback regarding control paradigms and approaches for delegated authority is welcome and may be considered as the architecture evolves, particularly as automated command and control and orchestration capabilities mature.

4. Teaming: Are respondents permitted to team for this Assessment Event, for example pairing an established mission-autonomy provider with a separate deterministic verification, authorization, or governance provider? If so, must the team be established before the September 8 white-paper submission?

Yes. Teaming is permitted. The proposed solution and team arrangement must be established before the September 8 white-paper submission because the initial down-select will be based on the capability presented in that submission. Capabilities are expected to be TRL 6 or higher.

5. One-vendor selection: When the criteria state that one vendor is expected to be selected, can that vendor be a prime whose integrated solution includes software from subcontractors or teaming partners?





Yes. The Government permits teaming and integrated solutions that include subcontractors or teaming partners. The proposed arrangement must be established and reflected in the initial white-paper submission.

6. What does CHAOS provide, and what does it expect a vendor's mission autonomy to contain?

CHAOS is a Government-owned software baseline that includes an operating system, runtime engine, middleware, and supporting applications and services for functions such as software safety, security, communications, and interaction with unmanned-system autopilots. The vendor's mission autonomy is expected to operate as an application within the CHAOS baseline and provide mature mission-autonomy capabilities. The current mission focus is ISR-T, including multi-platform and multi-domain autonomous operations.

7. Given that the CHAOS SDK is provided only after down-select, will demonstrated conformance to publicly available Government reference architectures (A-GRA, UMAA, or UCS) be evaluated as credible evidence of the Domain 1 architectural approach?

Yes. Prior integration with other Government reference architectures is considered positive evidence and can help the Government understand a vendor's architectural approach and experience working with open interfaces and SDK-based architectures. Vendors should clearly articulate that experience in the white paper.

8. Domain 5 asks about the ability to transfer software as Government-Open-Source and to identify proprietary components that would hinder transfer. Is open-source or unlimited-rights delivery a requirement for selection, a scored preference, or a term negotiated in the resulting agreement?

The Government's current emphasis is on understanding the composition of the proposed autonomy solution, including proprietary components and any factors that could affect technology transfer. The teleconference did not identify open-source or unlimited-rights delivery as a mandatory condition for initial selection. The government does desire government purpose rights (GPR) for any resulting follow-on agreement established after milestones have been completed for this event.

9. Does the "U.S. Citizens Only" restriction apply only to personnel participating in the AE/T&E, or must all subcontractors and technology providers on a proposed team also be U.S.-based?

Yes, all personnel must be U.S. based.

10. What is the expected integration model with CHAOS? What does CHAOS provide, and what is the Mission Autonomy vendor expected to provide?



CHAOS provides the Government-owned software baseline, including the runtime environment, middleware, safety, security, communications, and vehicle-interface functions. The Mission Autonomy vendor is expected to provide a mature mission-autonomy application that integrates into that baseline through the interfaces defined in the CHAOS SDK.

11. When will vendors receive the CHAOS SDK, ICD, message sets, and test environment?

Following the initial white-paper down-select, selected vendors will participate in one-on-one engagements and demonstrations. Vendors advancing through the subsequent down-select will receive the CHAOS SDK and associated integration information, including interface and message information. Vendors are not expected to receive direct access to the Government test environment; the T&E environment is still being shaped for this event.

12. Where does mission planning and multi-agent coordination reside? Does CHAOS handle task allocation/orchestration, or is that expected from the Mission Autonomy vendor?

Mission planning is initiated by a user through a C2 interface, which sends the defined mission to CHAOS. CHAOS is generally intended to handle task allocation to the mission-autonomy capability. Coordination and orchestration functions remain in development. Vendor capabilities that provide task allocation at the edge may also be considered within the architecture.

13. What will the actual Assessment Event look like? Which platforms, number of vehicles, mission threads, and DDIL conditions will be tested?

Specific Assessment Event scenarios, platforms, vehicle counts, mission threads, and test conditions are planned but will be provided only to vendors that advance through the second down-select and are invited to participate in T&E.

14. After the Assessment Event, what is the expected path to further integration, operational testing, and production/procurement?

Refer to the SOFWERX Event Webpage for the event milestones. After the conclusion of the event, there will be follow-on work.

15. Can you describe what the T&E pipeline evaluates and what artifact types it accepts?

There will be a multitude of criteria that the Government team will be evaluating the criteria on. The evaluation process will be shared with vendors that are downselected.

16. Are you interested in solutions that solidly cover one of the assessment criteria with the intent on teaming with others at the event / through the process?

The Government team is okay with teaming.





17. How does PEO SDA define seamless integration with the CHAOS baseline? Is there a specific set of interfaces or ICDs vendors should already be building against ahead of the Assessment Event?

The specific interfaces and message types required for integration will be provided through the CHAOS SDK to down-selected vendors. The Government did not identify a publicly available set of interfaces or ICDs that vendors are expected to build against before receiving the SDK.

18. Will this evaluate additional capabilities outside of ISR, for example, logistics capabilities, in addition to ISR?

The current event is focused on ISR-T. Logistics and related autonomy capabilities may be addressed in future mission threads. A vendor with a capability developed for another mission area may explain how that capability transfers to or supports the current ISR-T mission.

19. Is the use of non-US software acceptable to USSOCOM? What about non-US software which has been accredited by DOW and is deployed with DOW?

Foreign technology is not categorically barred from consideration. Any non-U.S. software should be clearly identified, including its existing accreditation status. All software will still be subject to the Government's applicable security accreditation and ATO processes. Policy requirements may also need to be addressed, and work is underway to make the CHAOS SDK 5I-releasable.

20. Are you primarily seeking onboard/edge autonomy software, or does the scope also include mission-level orchestration and coordination of heterogeneous autonomous systems interfacing with CHAOS?

The scope includes onboard/edge mission autonomy as well as mission-level coordination and orchestration capabilities. The Government does not intend to unnecessarily constrain where those capabilities reside, but the solution must support the on-platform mission-autonomy use case and integration with CHAOS.

21. Can you describe how the CHAOS baseline handles data exchange between platforms and between autonomy modules today? Specifically, is the communications/middleware layer part of the Government-owned baseline that offerors integrate against, or is each offeror expected to bring their own transport?

The communications and middleware layer is part of the Government-owned CHAOS baseline. Inter-platform and inter-CHAOS communications are executed using that middleware, and offerors are not expected to provide their own transport layer.



22. Is participation limited to mission autonomy providers, or is there a path for enabling-software and infrastructure providers, either through teamed submissions or through the CHAOS baseline itself? Related: are teamed white papers acceptable, and may a company appear on more than one team?

This event is focused on modular mission-autonomy solutions. Enabling capabilities should therefore be presented in the context of supporting that mission-autonomy objective, including through teaming where appropriate. Teamed white papers are acceptable. A company may participate in more than one submission, provided the proposed projects or capabilities are meaningfully different rather than duplicate submissions.

23. How are you using M&S in the evaluation? Will you be expecting the vendors to demonstrate their tech in their own M&S environment, or will you be testing solutions in a Government M&S environment?

The current expectation is that vendors will demonstrate their capabilities in their own modeling and simulation environments. The Government is still refining the details of the later T&E phase. Vendors invited to one-on-one engagements should be prepared to demonstrate the capability described in their white papers.

24. Jeremy Hoff mentioned a small stipend, what is the value of funding?

Funding details will be provided to selected vendors.

25. Could you confirm that all demonstrations would be virtual simulations/demos, not live UAS demos?

Yes. The Government confirmed that all event activities, including test and evaluation, are intended to be conducted virtually. Live UAS demonstrations are not required.

26. Are you able to go into any details about situations we should be prepared to develop for out of the gate?

At this time, the Government team is not prepared to provide any specific situations. Detailed information and additional instruction will be provided to vendors that are selected from the second downselect.

27. What is the expectation for integration with Vigilant Spirit and/or Arbitrator in CHAOS?

Integration with CHAOS will require integration with Arbitrator. CHAOS is also intended to support interoperability with the command-and-control capability selected by the Government. Vigilant Spirit has previously been demonstrated with the program, but it is not the only C2 capability that CHAOS is intended to support.





28. As UxSAI integrates third-party mission autonomy into its Government-owned baseline, who owns Data-at-Rest protection for mission data, autonomy software/models and configurations if a platform is lost or captured: UxSAI/CHAOS, the Program of Record, or the underlying platform?

Data-at-rest is something UxSAI is already evaluating. It is not specific to a particular group, each group has a responsibility to ensure protections are deployed or available in these contexts.

29. How is CHAOS similar, different or complementary from the down-selects being conducted by the DAWG and DRPM UxS?

UxSAI is a Program of Record focused on integrating autonomy through a common autonomy standard and enabling interoperability within its unmanned-system software architecture. DAWG and DRPM UxS efforts may evaluate overlapping capabilities, but their focus is more heavily associated with hardware platforms and software capabilities resident on those platforms.

30. Are you interested in leading edge DevOps tools to accelerate the delivery across your projects and the submittals, i.e., a CHAOS automation delivery environment for UxSAI and submitting companies?

The Government is not seeking this capability as part of the current event. Industry is encouraged to remain engaged for future opportunities as program needs evolve.

31. Is Arbitrator the primary method for communications with the unmanned systems?

Yes. Arbitrator is the primary method identified for communications with the unmanned systems.

32. Has Vigilant Spirit already been chosen as the UxS Mission Planning tool for CHAOS?

No.

33. What part of the CHAOS architecture has not already been chosen or down-selected by the Government?

For purposes of this event, the Government is seeking modular mission-autonomy capability to integrate with the existing CHAOS architecture. The CHAOS baseline should be treated as the integration target. Vendors may identify additional TRL 6 or higher autonomy-related capabilities within their solutions, provided those elements are clearly explained in the white paper.

34. Has Vigilant Spirit already been selected as the UxS Mission Planning tool for CHAOS?





No.

35. If we have novel approaches that improve parts of CHAOS, e.g., DDIL communications, would you want those in the white paper, or focus purely on ISR-T? For example, improving track synchronization between UxS and C2 system.

Novel capabilities may be included when they directly improve mission autonomy or make the autonomy capability more resilient, including under DDIL conditions. General improvements to CHAOS that are unrelated to mission autonomy are outside the primary focus of this event.

36. We don't have a solution for autonomy per se, but our software provides video preprocessing that can help autonomy software to better interpret situations, especially in degraded conditions. Should we send a white paper or drop out?

A standalone video-preprocessing capability without a mission-autonomy solution is not aligned with the focus of this event. The Government recommended monitoring future events for requirements that more directly align with that type of capability.

37. Have you identified a common hardware solution for unmanned systems to perform the onboard compute and processing?

The program currently uses NVIDIA Jetson hardware, including Orin, for onboard compute. However, CHAOS is intended to remain hardware agnostic, and the Government retains flexibility regarding the compute hardware on which it is deployed.

38. Is the CHAOS stack resident at both the Orchestrator (e.g., C2) and on-asset (e.g., UxV)?

No. CHAOS is resident on the asset.

39. Would a solution focused primarily on mission-level orchestration, rather than vehicle-level autonomy, be considered responsive as a standalone submission?

A solution that cannot be directly integrated on the platform would not meet the current intent. The Government is interested in mission-level orchestration as well as vehicle-level autonomy, but these capabilities are not being treated as wholly independent of one another for this effort.

40. Do you consider tracking and fusion components to be part of the Mission Autonomy baseline?

Not currently as a fixed requirement. The Government is open to different approaches in which mission autonomy either consumes already-fused data or performs fusion on incoming data.



Vendors may explain their preferred approach and how it supports the proposed mission-autonomy capability.

41. Who will review the white paper submissions? U.S. Government military and civilians only? Or also contractors, including those representing companies for components that have already been determined?

The evaluation team will include a core group of UxSAI personnel and may also include representatives from relevant user organizations and SETA contractors. When contractor participation creates a potential concern, appropriate nondisclosure agreements are facilitated through SOFWERX, and the Government limits evaluation participation accordingly.

42. For the deterministic verifier, are you looking mainly at immediate safety constraints, or do you also want it to enforce things like delegated authority, changing mission permissions, degraded communications, and what the system can actually verify at the time of action?

The Government Stakeholder team is open to evaluating solutions provided by industry.

43. Can a submission use existing open-source/GOTS/COTS autonomy components for planning and vehicle control while providing a proprietary verification/authority layer that integrates through CHAOS, or does the mission-autonomy software itself need to be developed entirely by the submitting vendor?

Yes this is acceptable, as long as it is clearly stated in the whitepaper.

45. If a deterministic verifier or authorities component is part of a teamed solution, will it be evaluated for its specific role, or must it independently meet all mission-autonomy criteria?

Refer to the acceptance criteria released by SOFWERX for this event for clarification on the mission autonomy criteria the Government Stakeholder team is seeking to meet.

46. Assessment Event capability: For the ISR demo, what must the vendor provide directly, and what functions will CHAOS or Government-furnished components provide?

After the first down-select, the Government Stakeholder team expects to see a virtual demonstration in the vendor's simulation environment of the vendor's mission autonomy solution. Refer to the assessment criteria for more on this.

47. TRL requirement: Is there a minimum TRL for white-paper selection, or can an earlier-stage component qualify with demonstrated core capability and a credible path to TRL 6?

TRL 6 is the minimum.



48. October T&E deliverables: What must vendors deliver for October T&E—executables, containers, APIs, source code, documentation, or other items? What test environment will the Government provide?

The details are still being scoped and will be provided if the vendor is down-selected as part of this event.

49. NIST / IL4 timing: When are NIST SP 800-171 compliance and IL4 capability required—white-paper selection, Assessment Event/T&E, or before award/deployment?

Just provide an explanation of where you are at with this in your whitepaper submission, the Government Stakeholder team may have some flexibility but it is definitely required by the time capability is deployed.

50. The White Paper Template has four areas that must be covered, one of which is ROM Cost/Schedule. Can you provide specifics on what work you are looking to be included in that ROM?

The Government Stakeholder team want to understand roughly, what it would cost to continue with your capability following this event in a potential follow-on contract. We also would like to roughly understand your cost methodology.

51. What is CAAPI, and is its message set derived from any published standard?

CHAOS Abstraction API.

52. At the Assessment Event, is the ISR mission demonstration required, or is the evaluation the three listed milestones?

Yes, the Government Stakeholder team will need to see a virtual demonstration of your capability, as this helps us to cross check that it is at a high enough TRL for their consideration (TRL6+).

54. Is participation in the Assessment Event or T&E phases funded, and if so, at which phases?

For this event, the Government Stakeholder team plans to provide a small stipend for vendors selected to be a part of the T&E.

55. On the pre-delegated authorities construct, is authority a property of the asset—whether a given platform may operate in a given space at a given time—or of the action—whether a specific planned action is permitted?

Authority is derived from the user/C2 node sending the command, not the asset.



56. Will the CHAOS SDK and ICDs be CUI-marked? What handling agreement governs receipt during the assessment phase, before any award exists?

The Government Stakeholder team plans for all supporting documentation provided prior to T&E to be UNCLASS.

57. Does the program have a preferred approach or reference implementation for the deterministic verifier, or is that architecture left to the vendor?

Architecture to be left to the vendor.

58. Once a vendor is selected, how does its software move through integration and verification? Is that a Government function, or is it performed by a third party under a separate contract? Does the selected vendor contract directly with the Government?

Selected capability will be brought on contract for a follow-on to work toward capability integration with CHAOS, by our Program and Contract Support Teams.

59. At what level of the autonomy stack are UxSAI personnel expected to independently develop and modify capabilities: write or modify code, tune parameters and rules, compose existing behaviors or “building blocks,” or primarily configure mission packages through the provided APIs/SDKs?

Mission autonomy users should not require development skills to develop or modify parameters associated with the behaviors and/or mission planning aspects of the capability.

60. What level of decentralization is the real priority for this round: peer-to-peer coordination with no command node at all, or resilient operation that degrades gracefully when connectivity to command is intermittent?

The Government Stakeholder team is willing to examine both of these paradigms.

61. Where do you find the TFAs?

Assessment event Criteria are on the SOFWERX.org “event” page.

62. Are there specific unmanned platforms or domains—air, maritime, or ground—that Phase 3 will prioritize for demonstration, or is platform choice left to each vendor?

See released Assessment Criteria.

63. For vendors invited into Phase 3, what data or environment access will UxSAI provide ahead of the one-on-one session, versus what vendors need to bring themselves?



This level of detail will be provided to T&E participants as it is still being scoped.

64. During the Phase 5 T&E event, what mission scenarios or metrics will UxSAI use to score autonomy performance?

This level of detail will be provided to T&E participants as it is still being scoped.

65. The page notes possible award categories for Phase 8 without listing them. What does that path forward typically look like in terms of contract vehicle, OTA, or production award?

Follow-on contracts would be via B2B with SOFWERX with UxSAI Program sponsorship and funding.

66. Roughly how many providers do you expect to submit white papers for this round, and how many will typically be invited into the Phase 3 Assessment Event?

TBD.

67. Do we have to use the SOF RACER platform to submit, or can we submit directly to PEO-SDA? There is concern about having to join a consortium or expose data to BMNT, a non-DoW entity and also a potential competitor to some respondents based on its investments.

No, this event is facilitated via SOFWERX and not affiliated with SOF Racer at this time.

68. How does this differ from One Nation Innovation, Vulcan, and SOFWERX? All are avenues for rapid acquisition of capability. How does SOF RACER differ from these parallel efforts? Was this an ask by SOCOM for BMNT to help speed up the acquisition process for small-business innovation?

This is an event the UxSAI Program is working in partnership with our PIA, SOFWERX.

69. Can you define SDK?

Software Development Kit.

71. Does CHAOS include mission management, world model, communications management, behaviors, and related functions?

CHAOS does not include behaviors.

72. In what theaters will this capability be utilized? For ISR, for example, will it need to be a BPACK solution?

This level of detail will not be provided at this time.



73. Can you share details about the T&E pipeline process the Government will use to assess whether mission-autonomy software aligns with the CHAOS architecture?

This level of detail will be provided to T&E participants as it is still being scoped.

74. Are you looking for mature mission-autonomy software or just one or two primes for bespoke contract engineering work?

Mature mission autonomy software.

75. Who is building CHAOS? If a vendor such as Anduril is building it or it is already committed to a particular vendor, how does the Government address the competitive dynamics associated with another vendor working with that platform?

CHAOS is a GOTS software baseline, developed within the UxSAI Program.

77. What is the stipend amount?

Reach out to SOFWERX reps for associated details.

78. Does CHAOS already address the communications challenges associated with DDIL and multi-domain operations, such as bridging with acoustic communications for underwater platforms? Does it integrate existing standards such as CATL (Collaborative Autonomy Tasking Layer), a NATO STANAG?

CHAOS seeks to address DDIL and multi-domain operational challenges while integrating with industry supported message standards as applicable.

79. What development languages are supported by the existing SDK?

C#, C++, Java.

80. Does UxSAI see a role in CHAOS for mission-level autonomy that continuously weighs the threat picture, available sensors/actuators, uncertainty, and mission constraints to recommend which assets to task and why, while lower-level autonomy executes those tasks?

The Government Stakeholder team would be interested in capability along these lines; make sure it is clearly described in your whitepaper submission.

81. Within ISR-T, what specific autonomous capabilities are needed?

See released Assessment Criteria.



82. For a mission-level decision/tasking component where the human retains engagement authority, what is the minimum demonstration needed at the Assessment Event for the capability to be considered technically credible for down-select?

See released Assessment Criteria.

83. The page references white-paper evaluation but does not spell out the length, structure, or specific technical questions. Where do the detailed submission instructions and assessment criteria reside?

See released Assessment Criteria; it is available on the SOFWERX events page. All associated instruction is there as well as an event POC.

84. For this effort, can a vendor be competitive with a modular mission-autonomy capability that performs one function exceptionally well and integrates into CHAOS, or is the Government primarily looking for mature end-to-end mission-autonomy stacks?

The Government Stakeholder team would be interested in capability along these lines; make sure it is clearly described in your whitepaper submission.

85. Does the CHAOS cybersecurity/STIG baseline include Data-at-Rest protection for mission data, autonomy software/models, and configurations if a platform is lost or captured? If not, is that requirement owned by UxSAI or the individual Program of Record?

See previous question and response; this has already been answered.

86. What aspects of the software logistics chain, including hosting and deploying the various software solutions, are still viable opportunities for vendors to become involved?

For this event the Government Stakeholder team is only seeking mission autonomy capabilities.

87. Should the offering include a C2/HMI solution, or is that Government-furnished equipment (GFE)?

For this event the Government Stakeholder team is only seeking mission autonomy capabilities; see posted assessment criteria.

88. It was stated that the vendor simulation will be used for T&E. Does this mean the vendor is required to integrate its M&S environment with CHAOS?

No, expectation is vendor simulation capability should be demonstrable within vendor owned simulation environment.



89. Is a hierarchical teaming structure the vision for the mission-autonomy solution—for example, the C2 orchestrator communicates with an elected but dynamic team lead that allocates tasks to team members—or does the task from the orchestrator go to all CHAOS platforms, which then negotiate using common algorithms?

The Government Stakeholder team is willing to examine both of these paradigms.

90. Will vendors be provided feedback on their offering if they are not down-selected?

Feedback for the initial whitepaper will not be provided, but the Government Stakeholder team encourages your future submissions as they will be leveraging SOFWERX events for technology insertion on a regular cycle.

91. Do eligible companies need to be UxS manufacturers?

No, the Government Stakeholder team is looking for software-centric solutions.

