



IPNSIG Architecture and Governance WG

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Background/Issues

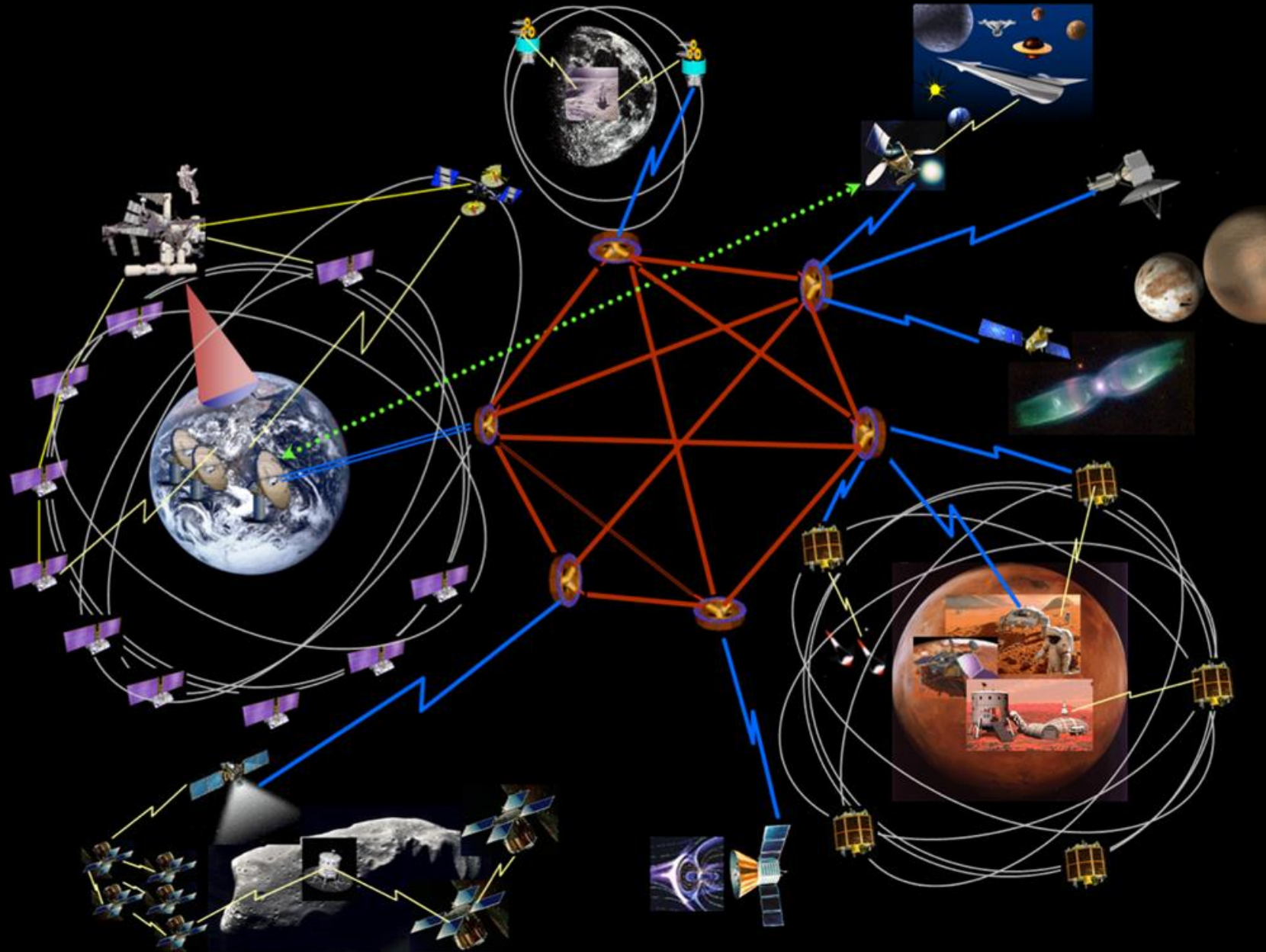
IPNSIG believes that the construction of a **Solar System Internet (SSI)** is not only feasible but necessary if we are to succeed in opening up the solar system to commercial operation. While the IPNSIG has no authority, we have drawn together a significant body of experienced researchers and operators to explore the possible organizational structure that could support the development, governance and evolution of an SSI.

- ***Scope of AWG (Issues to tackle):***

- Explore the Architecture and Operational Regime of an SSI***

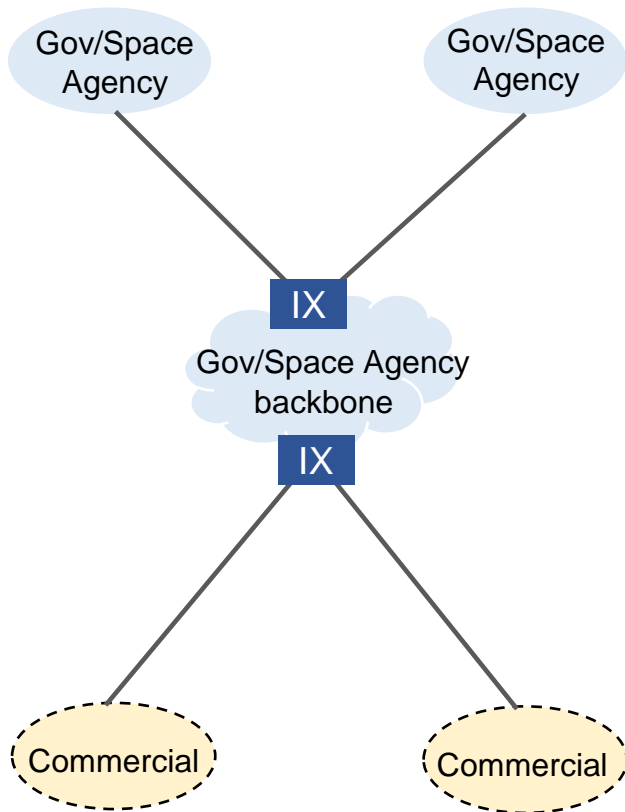
- Explore the desirable properties of a common SSI architecture – how can we network the planets looking 100 years ahead (see next page)
 - Discuss the ideal Governance model to support the SSI architecture

Network the Planets, 2100 -

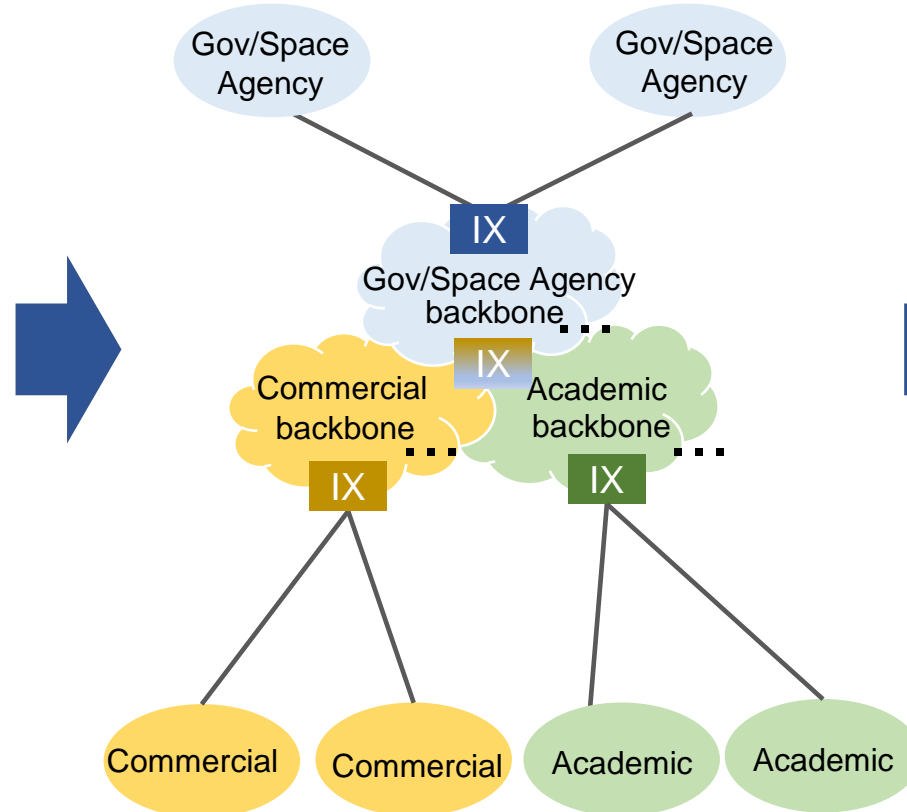


Possible evolution of the Solar System Internet (per Strategy Report)

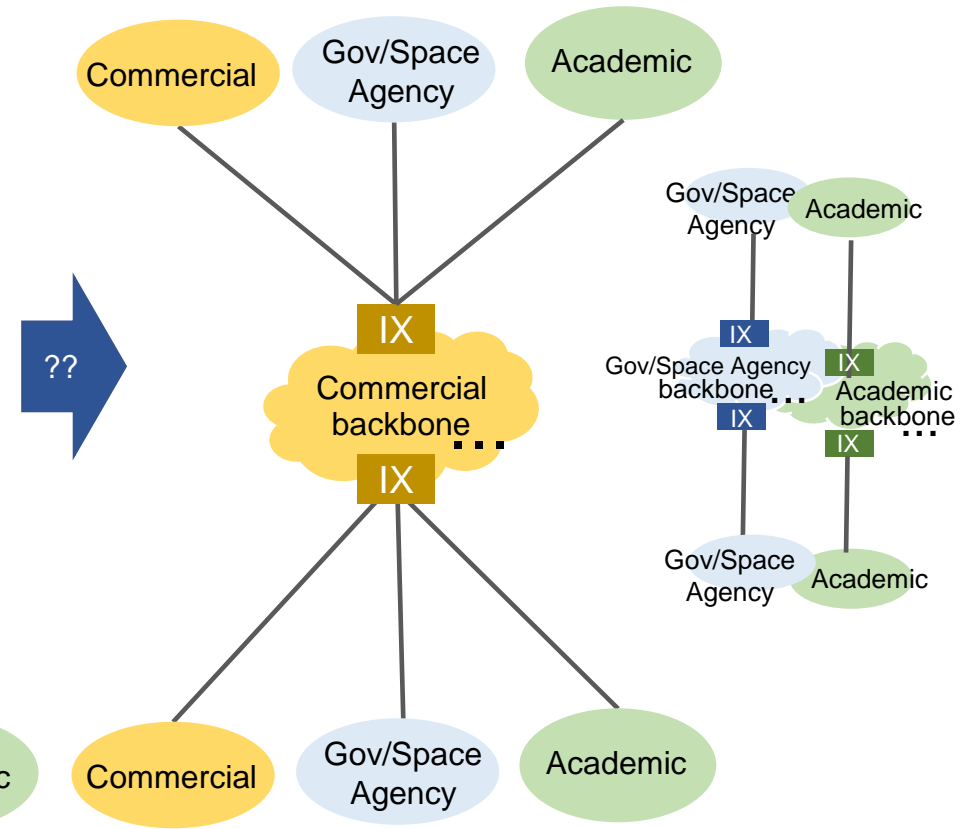
Today



Mid-term(30years+)



Long-term(100years+)



IX: Interplanetary Exchange Point

Scope of Work

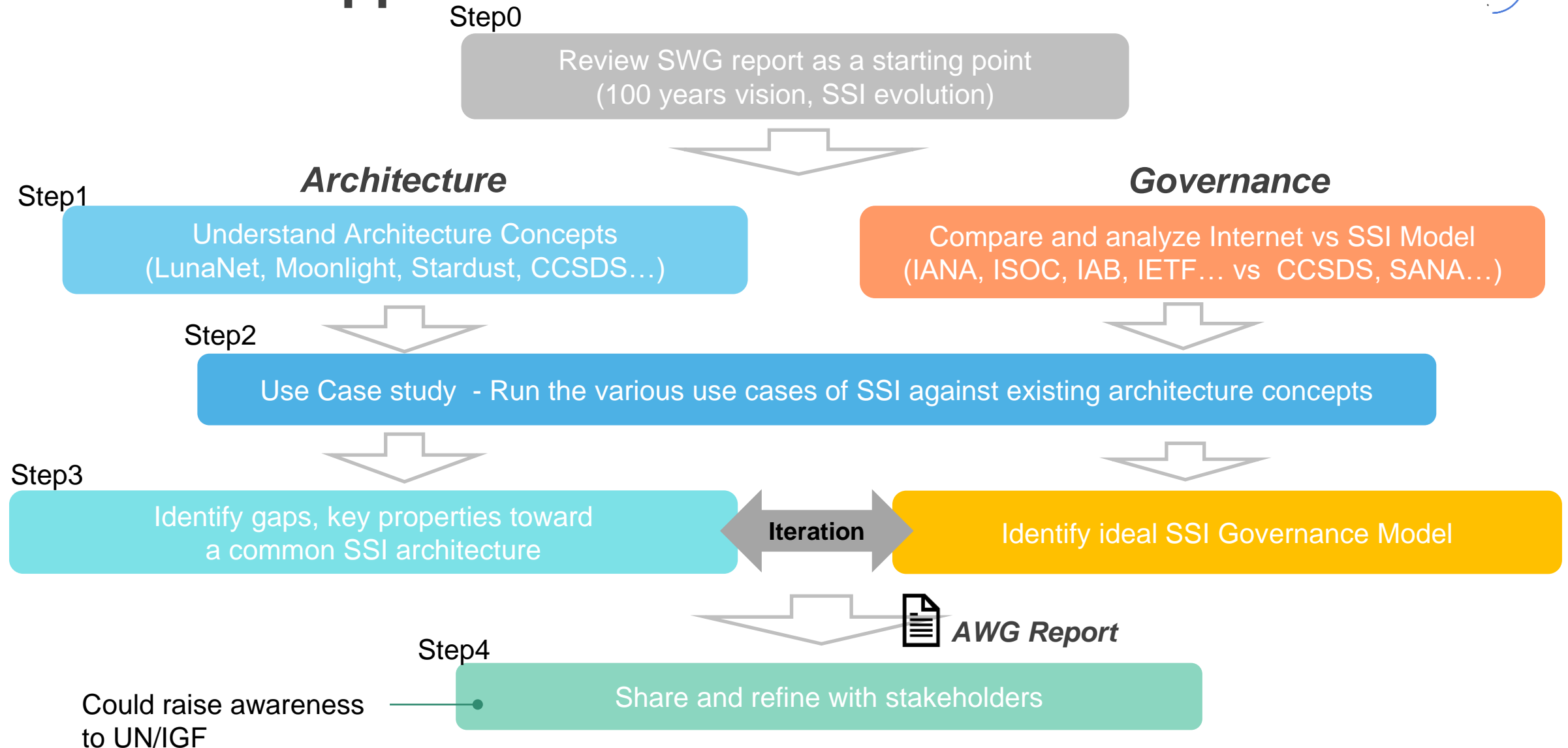


- **Explore the desirable properties of a common SSI architecture – looking 100 years ahead**
 - ◆ What are the desirable properties of a common SSI architecture?
 - ◆ How could the various networks (public / academic / private sector's networks) work as a whole (Interoperate)? How could cellular networks co-exist with the SSI?
 - ◆ Start by exploring common elements of existing concepts such as protocol layering, then identify gaps, considerations.
 - ◆ LunaNet (NASA), Moonlight (ESA), Stardust (JAXA), CCSDS concepts
- **Discussion on Governance model**
 - ◆ SSI could be made up of multiple, independent but interconnected networks requiring collaboration and coordination to function. What institutions and governance practices would be needed to support this level of multi-party complexity.
 - How will administrative responsibilities be discharged fairly and reliably?
 - Lessons from the Internet Governance Model?
 - Will we need an organization comparable to IANA in SSI? Would that be Space Assigned Numbers Authority (SANA)?



IPNSIG/AWG offers to become a venue to enable multi-stakeholder discussions

Near Term Approach



OUTPUT & SCHEDULE



- **OUTPUT:** Release of an **AWG report** summarizing the discussions held at the working group. Report to be refined and updated through discussions with the IPNSIG members and stakeholders.

- **Working Schedule**
 - **Team Formation** : End of January 2022
 - **Kickoff** : February 2022
 - **Draft AWG Report** : May 2022
 - **IPNSIG Workshop** : Mid year 2022
 - **AWG Report** : 4Q of 2022