

IEEE Future NETWORKS

Enabling 5G and Beyond

1. IEEE INGR (International Network Generations Roadmap)/Future Networks, **Standardization Building Blocks (SBB) Roadmap Chapter**
2. IEEE INGR (International Network Generations Roadmap)/Future Networks, **Systems Optimization Roadmap Chapter**



Progressing the M-SDO Driven White Paper on Blueprint of Common Operational Principles for Autonomic/Autonomous Networks (COPAAN)

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Multi-SDO Meeting Presentation

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Status & Next Steps on the White Paper Development on the Requirement for a Standard on Blueprint of Common Operational Principles for Autonomic/Autonomous Networks (COPAAN)

The Concept on a Blueprint of Common Operational Principles for Autonomic/Autonomous Networks (COPAAN) was published by IEEE INGR (International Network Generations Roadmap)/Future Networks in the following Chapters:

- IEEE INGR (International Network Generations Roadmap)/Future Networks, [Standardization Building Blocks \(SBB\) Roadmap Chapter](#)
- IEEE INGR (International Network Generations Roadmap)/Future Networks, [Systems Optimization Roadmap Chapter](#)

Next Steps :

- IEEE INGR FNI will move to the next step of compiling the White Paper on the Requirements for the COPAAN Blueprint, and the White Paper is targeted to be published by IEEE
- IEEE INGR will communicate an Invitation to the Entities and Individuals participating in the Multi-SDO Initiative on Autonomic/Autonomous Networks (ANs) hosted by TM Forum, to contribute to the White Paper on Requirements for the COPAAN Blueprint, such that they can contribute as Organizations (through Liaisons with IEEE INGR FNI) and/or as Individuals

Roadmap Chapter on Systems Optimization:

- https://futurenetworks.ieee.org/images/files/pdf/INGR-2022-Edition/IEEE_INGR_SysOpt_Chapter_2022-Edition-Preview.pdf

Proposal: Conceptual Model for Developing the Blueprint

Governance Interface of an AN



Human Actors

1. AN Governor (i.e. AN Super User)
2. Other AN Users

- The **Human Actors** need to be defined in the Blueprint, including the Types of Actors and Multiplicity on the **Governance Interface** as well
- **Generic Primitives/Procedures** and associated **Attributes** of the **Governance and Federation Interfaces** and Invokers & Directionality of Primitives Invocations need to be defined
- The Internals and Design Principles of ANs and ASs as their Building Blocks should be left to the various SDOs/Fora working on AN Architectures
- The Generic Primitives/Procedures of the Generic Interfaces (e.g. as Generic APIs) should then be inherited by the individual SDOs/Fora into their AN Frameworks and extended, **AND/OR** that the Generic Primitives/Procedures would be made to invoke Primitives/Procedures specific to AN Frameworks of specific SDOs/Fora

Autonomic/Autonomous Network(AN)

Autonomic/Autonomous Network(AN)

Federation Interface of an AN

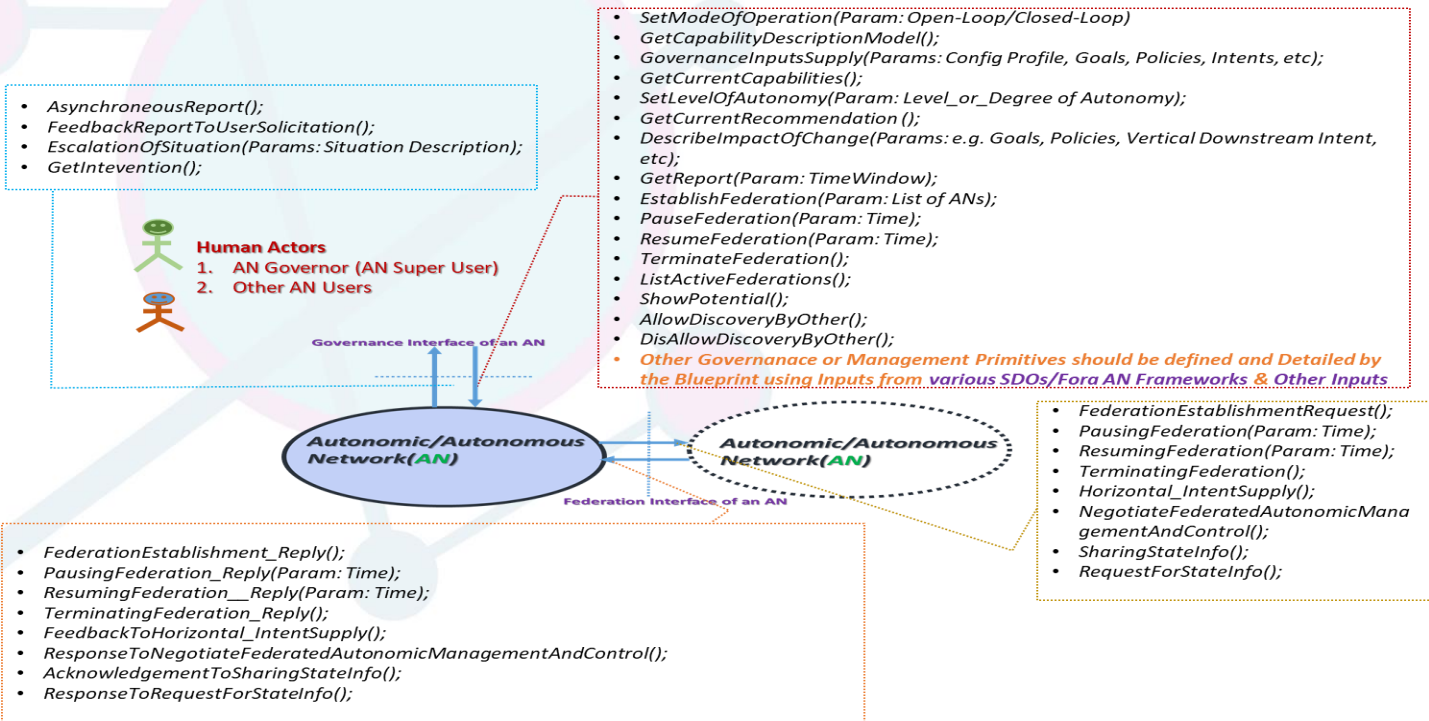
- **There are different Classes of ANs** and the Industry now need a Blueprint that describes the various Classes of ANs and Characterizations of the AN Operational Principles that are **Common across AN Classes** and those that are **Common across ANs that belong to the same Class**

Benefits of the Blueprint of Common AN Ops Principles:

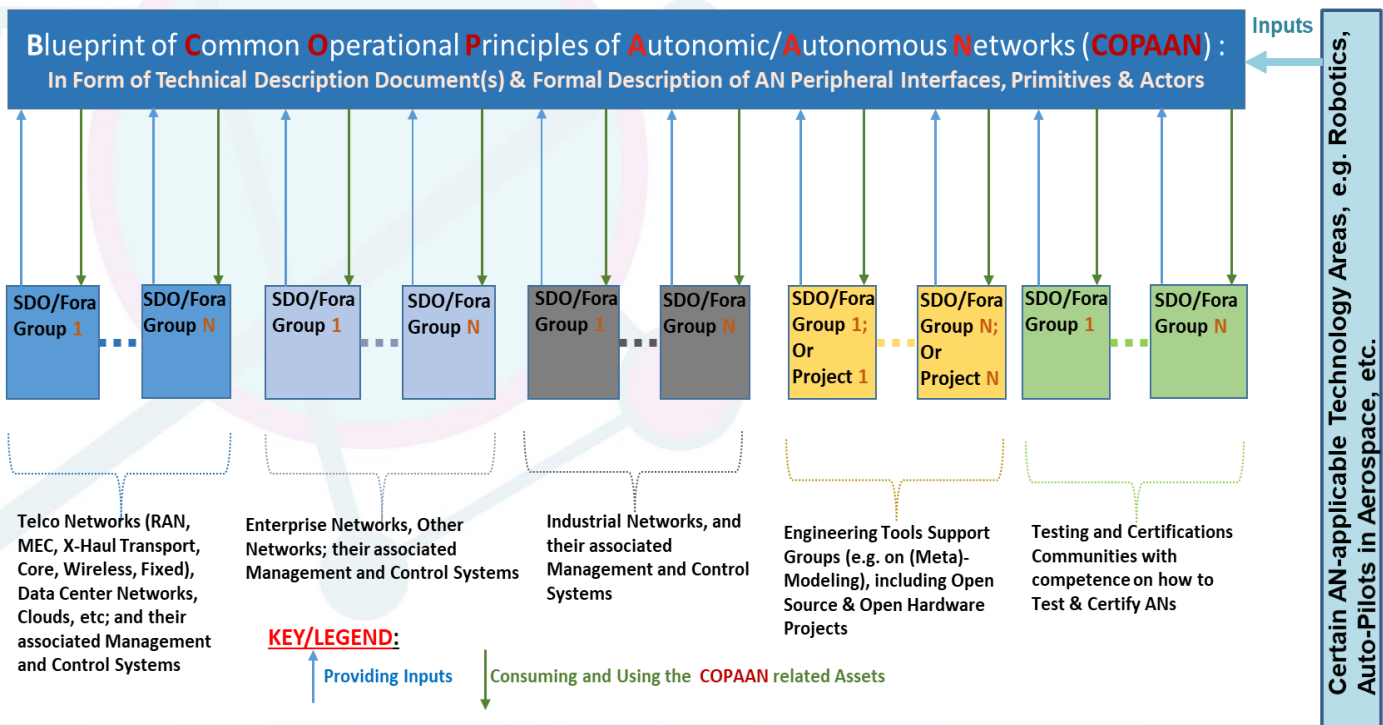
- Enable Test and Certifications of ANs based on the Common Operational Principles
- Enable Integrability and Interoperability among ANs
- Provide for Differentiating Factors for ANs, to aid Procurement of ANs

Facts regarding AN Framework Standardization in various SDOs/Fora: There are already a number of SDOs/Fora working on their AN Architectures: There is a way to achieve some level of harmonization that enables Integrability and Interoperability of AN Architectural Frameworks from various SDOs/Fora and Implementations thereof, without disrupting the roadmaps of the SDOs/Fora

Proposal: Examples of Primitives of the Conceptual Model that would need to be specified and detailed in the Blueprint



Proposal: Building the Blueprint (COPAAN): Inputs for Developing the COPAAN & Outputs Consumption by SDOs/Fora





Thank you!

Questions?