

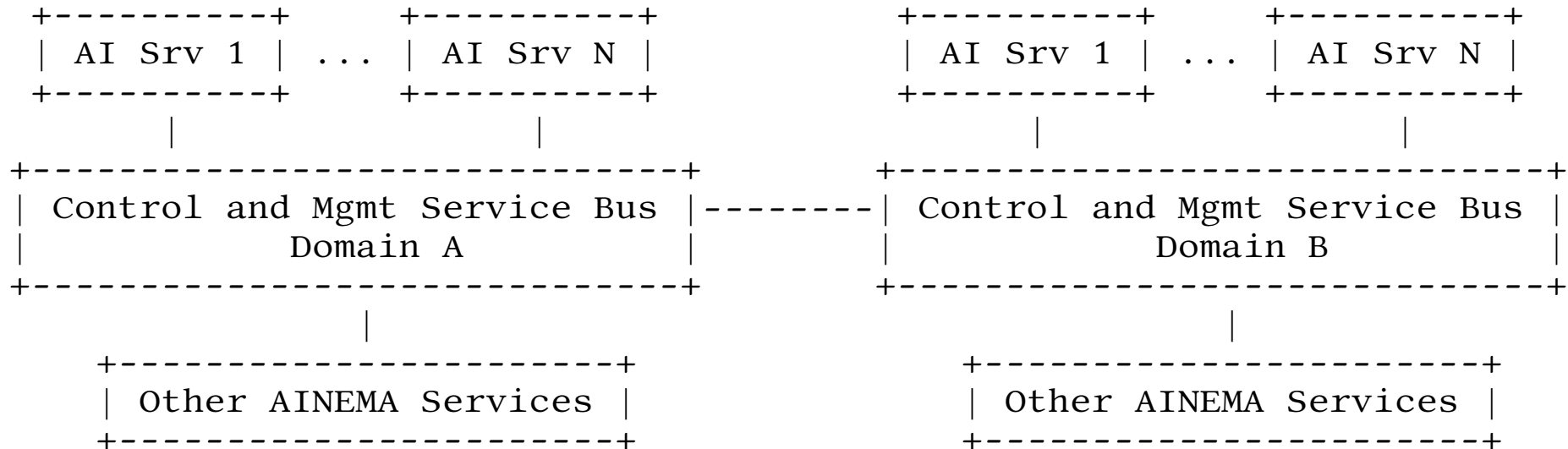
Artificial Intelligence Framework for Network Management

Draft Updates

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- Considerations for constructing distributed AI systems.
- Multi-domain operations – allowing elements of the distributed AI to be instantiated in multiple domains.
- Enable seamless interoperation among the elements of distributed AI systems, regardless of their specific vendor.



- A control and management service bus connects domains:
 - Messages are transparently forwarded to the elements they need.
- Plugged AI services must implement an interface with two operations:
 - Achieve Goal – Receives a goal and a knowledge object; uses them and a knowledge base (stored) to infer how to achieve the goal.
 - Verify Assertion – Receives an assertion and a knowledge object; uses them and a knowledge base (stored) to verify if the assertion holds.

- Facilitates the delegation of tasks among distributed AINEMA elements—agents.
- Supports two modes of operation – recursive and interactive; agents decide which mode will be used for their particular problem and goals.
- In both modes, AI agents formulate questions, in the form of knowledge objects and goals, and sends them to other AI agents that will try to resolve the questions and report back their outcomes.
- In the iterative mode, AI agents split input questions into smaller questions and send them to many other AI agents in parallel.
- In the recursive mode, AI agents try to resolve the questions;
 - if they succeed, send the answer to the original caller;
 - if not, create a knowledge object with the input knowledge together with internal knowledge items that are relevant to the question, and send the resulting object to one (generally only one) agent selected from those available using a selection criteria determined by the configuration of the distributed AI system.

- Make available for all public:
 - A YANG module.
 - A reference application that showcases the interfaces and functions.
- Apply distributed AINEMA to IBN.

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