

Network Architecture for AI Ecosystem

Agents ∈ AI ecosystem

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AI ecosystem and network architecture

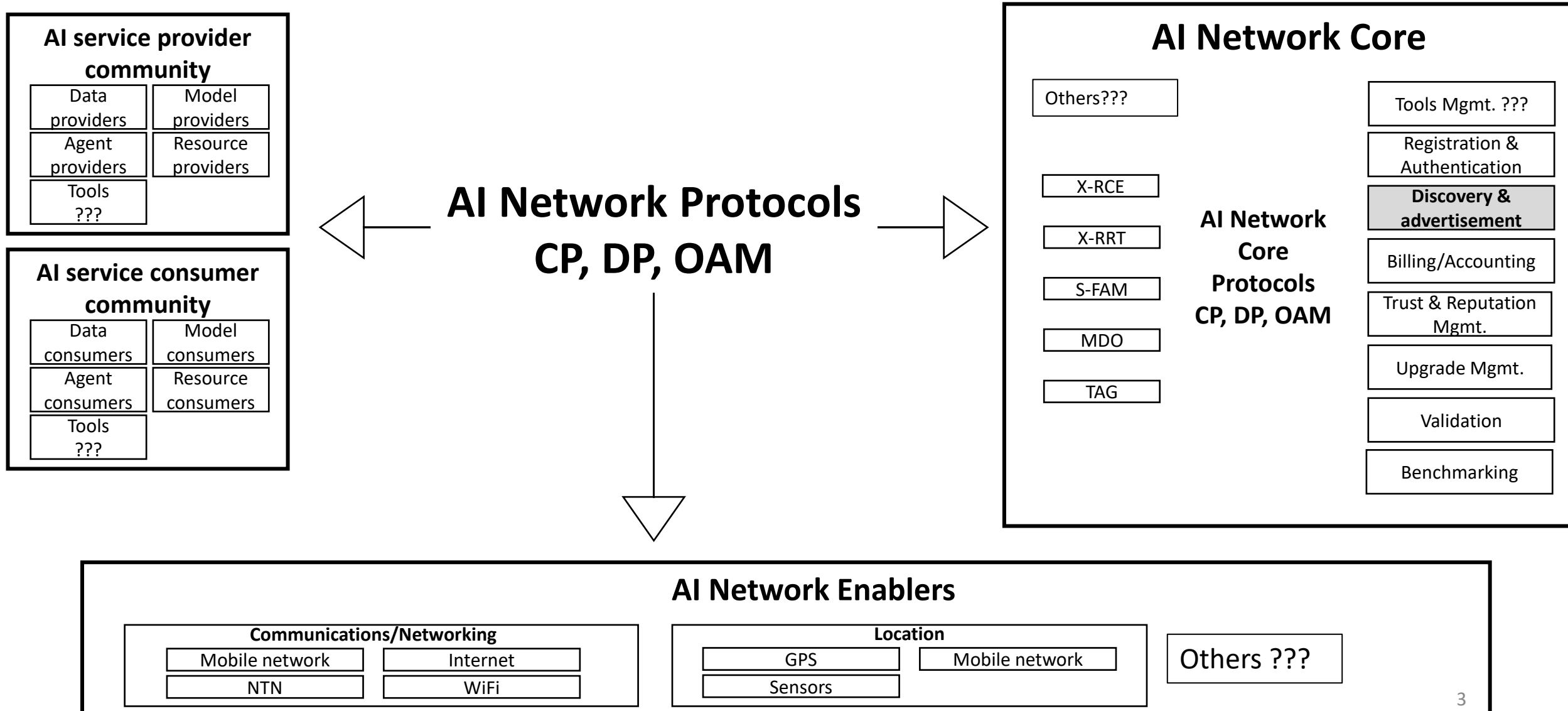
Main purpose of the work

- Propose a consumer-provider overlay network architecture supporting:
 - Agentic interactions, AI training workflows, AI inference workflows, Discovery of ecosystem components, Cross-domain interoperability
- **The proposed architecture serves to highlight areas that could benefit from standardized protocols and mechanisms, rather than being the focus of standardization itself.**

What we hope to achieve is

- Identify AI ecosystem standardization opportunities in IETF and their respective venues.
- Identify common work items and their respective potential alternative discussion venues.
 - Help distinguish Agentic specific work items from those that agents have in common with other services in AI network.
 - Help establish a WG dedicated to agentic work with a focused scope in order to achieve timely deliverables.

Consumer-Provider Overlay Network for AI services



IETF Work

Work that might be done in IETF

- Agent specific work:
 - Standardizing agents' specific communication protocols, session management, multi-modal data plane, and APIs.
- AI services common work items:
 - Develop vehicles and mechanisms related to AI network framework such as: discovery, registration, authentication, authorization - perhaps in different focused venues.

Potential IETF venues where the work might be done

- Areas: ART, Others (depending on various work items in AI ecosystem)
- Existing WG: TBD...depending on various work items in AI ecosystem
- New WG: AIPROTO, others(with tight and focused charter).

Work to Date and Future Plans

Side meetings have been held so far

- IETF 122: Initial meeting with small group within the community.
- IETF 123: [Side meeting materials](#)
- IETF 124: [Side meeting materials](#) , [Hackathon materials](#), [NMRG presentation](#), [Agent Discovery via DNS](#)

Existing I-Ds

- [AI Network](#) , [Task-Discovery](#), [AI discovery](#), [Dnsop-dnsaid](#), [Agent-discovery](#), [AI-agent-6g](#), [Use-cases-requirements](#), [Protocol-agent](#), [Agentic AI Architectural Principles](#)

Discussion venues:

- Agent-2-agent, dmsc, side meetings, conference calls, email exchanges.

Plans for IETF 125:

- Side meeting: AI Ecosystem and Discovery
<https://github.com/DA-ITN/draft-mamwp-ai-network-task-discovery>

Future plans: Help creating an agent specific WG and start developing standards.