SCIM Agents and Agentic Applications Extension

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Agenda

1. Why SCIM
2. Agent
3. Agent v User
    a. User-only attributes
    b. Similar attributes
    c. Agent-only attributes
4. Agentic Application
5. Feedback & collaboration

Why SCIM

- History repeating itself

SCIM for Users

The SCIM protocol was originally developed to address an **abundance** of complex standards for describing and exchanging **user** information.

“While there are existing standards for describing and exchanging user information, many of these standards can be difficult to implement and/or use...

This increases both the cost and complexity associated with organizations adopting products and services from multiple cloud providers, as they must perform redundant integration development…

SCIM seeks to simplify this problem through an easily implemented specification suite…”

- [RFC7643#Section-1.1](https://datatracker.ietf.org/doc/html/rfc7643#section-1.1)

What’s happening with agents?

We see another **abundance** of protocols emerging, with varying levels of industry adoption, as well as implementation complexity as many brilliant and enthusiastic early adopters rush to define new standards for cross domain **agent** identity interoperability.

This includes but is not limited to:

- ACP -https://agentcommunicationprotocol.dev/core-concepts/agent-discovery
- A2A - https://a2a-protocol.org/latest/topics/agent-discovery/
- ANS - https://genai.owasp.org/resource/agent-name-service-ans-for-secure-al-agent-discovery-v1-0/)
- AGNTCY - https://docs.agntcy.org/dir/overview/

KISS - SCIM for Agent

- Free the emerging standards in the agentic AI space to focus on truly novel concerns.

- Re-leverage implementations and trust relationships between SCIM clients and servers.

- For example, in the A2A protocol, instead of describing a very high level concept of Curated registries, we could encourage the discovery of Agent Cards via a SCIM client communicating with a SCIM server implementing this extension.

urn:ietf:params:scim:schemas:core:2.0:Agent

A workload with its own identifier, metadata and privileges which are independent of a particular runtime environment or containing application.

An agent is distinct from a traditional software workloads (lambdas, services, etc...) due to varying degrees of unpredictable behavior caused by delegation of control flow to artificial intelligence models.

Agent v User - User-only attributes

4.1.1. Singular Attributes

- password, name, preferredLanguage, locale, timezone, userType, nickName, profileUrl

4.1.2. Multi-Valued Attributes

- emails, phoneNumbers, ims, photos, addresses

Agent v User - Similar attributes

4.1.1. Singular Attributes

- displayName, description, active

4.1.2. Multi-Valued Attributes

- roles, entitlements, groups, x509Certificates

Agent v User - Agent-only attributes

Singular Attributes

- agentName, agentType, subject

Multi-Valued Attributes

- applications, protocols, parent, owners

urn:ietf:params:scim:schemas:core:2.0:AgenticApplication

An application exposing one or more agents to its users.

An agentic application is similar to a traditional native or web application, in that there are pre-defined ways authenticate and interact with the application; however, as soon as the application exposes agents, there are additional considerations for managing access to that application.

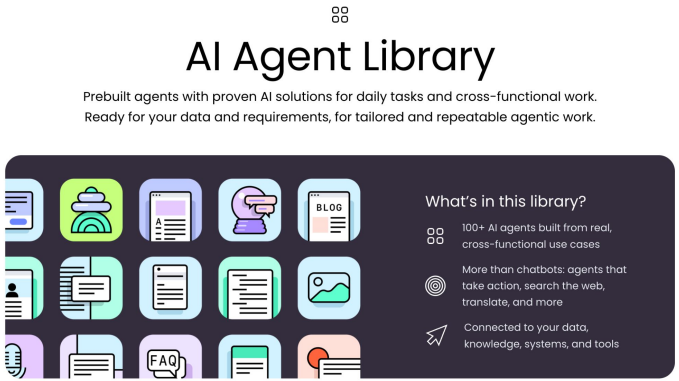
Why?

- Allow participating SCIM parties to discover what Agents are exposed to Users when Users are granted access to the Applications.

AgenticApplication Scenario: A SaaS service's SCIM server

- 0…1 AgenticApplication (self)
- 0…n 1st party agents
- 0…m 3rd party agents

Example: https://writer.com/agents/



AgenticApplication Scenario: An Identity Provider’s SCIM server

- K AgenticApplication
- N Agent associated with 1:K AgenticApplication

Example: Okta, Microsoft Entra, etc…

AgenticApplication Scenario: An Agent Platform’s SCIM Server

- K AgenticApplication
- N Agent associated with 1:K AgenticApplication

Example: https://docs.crewai.com/en/guides/crews/first-crew

Feedback and collaboration welcome

- Thank you to Dr. Matthias Winter for detailed feedback in response to e-mail to scim@ietf.org.
  - Posting PR incorporating all that feedback
- Would love to consolidate proposals with Mark Wahlberg
- Proposal link
- Github repository