Problem: Identity revealing information (profiling) in domains (commerce, medical, government) where this is unwanted.

Solution: Anonymous Communication between Agents

Approach:
- Generate a new pseudonym (a handle) for an agent per communication event
- Integrate in agent platform by offering an anonymizing service
- Proof of concept in AgentScape

A need for anonymity
Due to demands of the domains such as:
- medical (e-health)
- legal (in Courts of Law)
- finances (e-cash)
and due to individual needs:
- e-commerce, auctions (buyer profiling)
- e-voting
- . . .

• Agents have one (secret) Global Unique Identifier (GUID)
• Agents use handles to communicate with each other
• An agent can have as many handles as it requires
• Handles are mapped back to GUID's by an lookup service that can only be used by the agent platform

handle\(_1\) = sha(GUID + 1)
handle\(_2\) = sha(GUID + 2)
...
or more general:
handle\(_n\) = sha(GUID + n) with \(n \in \mathbb{N}^+\)

The implementation in AgentScape scales well and has a limited overhead

• The anonymizer service (A), arranges automatic anonymous communication between Agent B & C.
  • It works as a router and generates new handles per communication event.
  • The logical communication (red arrow) stays the same.