# **CAR: Consent-informed Attribute Release system**

Background: At many universities and colleges today, a user doesn't have say in the release of their personal information (e.g. email address) to a vendor site that is in a relationship with the institution.

The CAR system:

- enables user choice ("consent") about release of their personal information on a per vendor site basis.
- · balances institutional policies with a user's policies.
- works across all browsers and devices.
- is protocol agnostic: can work with SAML-based Identity Providers and OAUTH/OIDC Resource Servers
- · can be used in a variety of "user not present" scenarios, including bulk feeds to external providers, provisioning, and scientific batch programs.
- · is open-source; currently being deployed at a major US University.

This site offers information about CAR. Most of the information is intended for people who already are familiar with "identity management," but we give a bit more background for normal people immediately below. We follow the background material with a brief overview of CAR's component services. The bottom of the pages contains links to in-depth technical information about CAR (e.g architecture and policy language documents).

The user's policy choices are permit, deny, "ask me" and "use my institution's advice." For example:

- "permit release of my email address to LibrarySite"
- "ask me about release of my surname to LearningManagementVendor"
- ° "use my institution's advice about release of my faculty role to SomeOtherSite"
- etc

The institution's policy choices are permit and deny.

- if the user's choice "wins," the institutional decision of permit or deny becomes "advice" the user can see and choose to use or not. institutional policy allows for groupings of vendors and groupings of users for ease of administration. For example:
  - "permit release of email for students to all Research & Scholarship vendors"
    - "deny release of given name and surname for staff and faculty to all other sites"

CAR's policy language document describes the policy statements in glorious, geeky detail.

- initially designed to be a policy service about the release of personal information typically stored by higher education institutions in their campus directories.
  - · Each directory item (e.g. email) about a given user is called an "attribute" hence CAR's name "Consent-informed Attribute Release."
- extended early on to work as an authorization service for many types of user resources and operations (e.g. "view selfies").
- works both for the user present and user-offline cases. ° user-chosen "While I'm away" setting fills in for the "ask me" choices if the user is not present.
- provides policy decisions of "permit" or "deny" to the holder of the user's resource (or its proxy), be it a directory, a photo service, etc.
- the holding service the "Resource Holder" in CAR terminology makes the final choice as to whether to enforce the decision from CAR.
- currently under development at Duke University through the auspices of Internet2.
- catalyzed by a grant from NSTIC grant from NIST.
- CAR Architecture & Implementation Team: Rob Carter (Implementation Lead, Contributing Architect), Marlena Erdos (Architecture Lead), Ken Klingenstein (CAR Evangelist & Project Manager), Mary McKee (UI Lead, and Duke University Liaison/Evangelist), Shilen Patel (Shibboleth Integration).

## CAR Components: three separate, but interacting services. These are:

### Consent Policy Service For Users (COPSU):

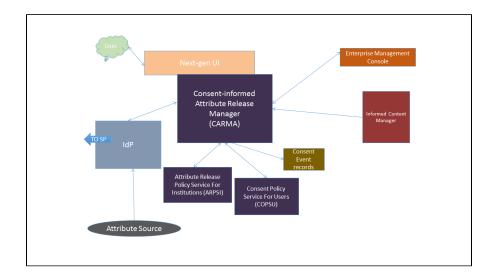
- Stores user policies (including "ask me") with respect to release of specific values of attributes
  – or OAUTH scopes or OIDC claims
  – to specific relying parties (RPs).
- Answers queries about a given user's choices with respect to a given RP, and a specific set of attributes/scopes/claims.
- Doesn't hold a user's actual attribute values; instead holds the release policy around the attributes and their values.

### Attribute Release Policy Service For Institutions (ARPSI):

- Stores Institutional attribute release policies about users, attributes, values, and relying parties (RPs).
- Answers queries about the institutional choices with respect to a given user, a given RP, and a specific set of attributes.

### Consent-informed Attribute Release Manager (CARMA)

- · Handles all UI interactions with end users on their policy choices
- Handles all UI interactions with administrators who set institutional or user attribute release policies.
- Handles requests for decisions on attribute release from callers (e.g. IdPs) via requests to the ARPSI and COPSU.
- Holds and applies a "meta policy" to decide what to do when institutional and user policies conflict.
- Takes care of authenticating and authorizing identity providers, users, and admins, so that the COPSU and ARPSI don't have to.



Architecture Document Policy Language Document Requirements-Connected-To-Use-Cases User Attributes: Policy & UI Designations (aka "Taxonomy")

CAR & OIDC/OAUTH: Integration Discussion

CAR Architecture In-Depth (PDF diagram) Please see the Scalable Consent site.