Identities in the SchedD

Each job managed by the SchedD has several different identities associated with it, depending on the context being considered. For example, HTCondor has long kept the job's "identity" in the context of files in the spool directory distinct from the "identity" in the context of resource usage accounting. These identities have not always been well-defined within the SchedD; this document is a proposal for how we believe these should behave.

Jobs will have additional identities in HTCondor and identities that SchedD must manage but are not used by the SchedD. For example, the operating system identity used by the StartD will be derived from the job ad but not necessarily known to the SchedD. The SchedD will manage the X.509 identity associated with the job (credentials are considered separate from identities) but does not currently use it for job management.

A job's **HTCondor Identity** is the identity of the job according to the SchedD:

- This is set to the authenticated identity of the job submitter (value can be overridden by a superuser at submit time).
- When editing, holding, releasing, or removing a job, the remote authenticated identity must match the job's HTCondor identity (check can be overridden by a superusedr).
- The HTCondor identity may not be set or changed after submit.
- This identity is used by the starter to determine what Unix user the job will start as.
- This identity is used to manage the SchedD transfer queue.

We propose the HTCondor identity is saved in the `User` attribute of the job. Its value has the form `Name@Domain`.

The job's local SchedD **Operating System (OS) Identity** is the identity used for the operating system resources (files, processes) associated with the job:

- Any process on the submit host (such as the shadow) will use the OS identity when acting on behalf of the job.
- Any job-related files (such as the spool) will be owned by the OS identity.
- When the job's HTCondor identity domain matches the SchedD's UID domain, then the job is OS identity is set to the HTCondor identity's user name. For example, if the HTCondor identity is `badger@wisc.edu` and the SchedD UID domain is `wisc.edu`, then the OS identity is set to be `badger`.
  - This can be overridden by a superuser.
  - If the HTCondor identity domain and the UID domain do not match, the OS identity is set to `nobody`.

The OS identity is saved in the `Owner` attribute of the job and its value is a Unix or Windows username.

The job's **Accounting Identity** is used for job negotiation and accounting:

- The Accounting Identity is used as the submitter name for the submitter ads.
- When the negotiator contacts the schedd, it will ask for resource requests from a specific Accounting Identity.
- Resource usage is aggregated by Accounting Identity by the accountant.

The Accounting Identity defaults to the HTCondor Identity but may be overridden by the user (subject to restriction put in place by the SchedD administrator).