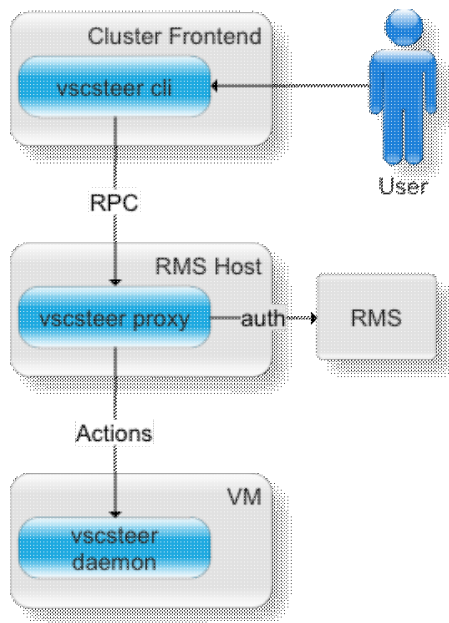




Steering

The steering mechanism allows users and RMS to communicate with VMs.

The steering system allows the user to start predefined tasks or arbitrary commands within his VMs or track the progress of computations via the steering CLI or any application implementing RPC communication to the steering proxy.

Steering allows the RMS to tell the VM to prepare for migration, suspend, power off and the like or to recover after a resume or checkpoint. All these functions are optional and may or may not be implemented by the user. All the user has to do is providing an arbitrary executable performing the desired actions.

The steering daemon - which has been implemented in Perl for simplicity and compatibility reasons - has to be installed within the VMs by the user, before deploying them to the cluster.

The steering proxy has been introduced for security reasons. The user can only connect to the steering proxy which after a successful login transparently forwards the RPC calls to the desired VM if it belongs to the user.

This application layer filtering is necessary as it cannot be done on network layer as many users are using the same cluster frontend node and therefore the user authenticity cannot be determined on IP level.

The steering architecture is shown at the right.