

Management Library

The management library is a thread-safe C-library (libvscmgmt) which provides the RMS a well-defined abstract interface to cluster management.

It provides atomic functions to deploy and retract VMs on cluster hosts, control the power state of VMs and provide basic network management functions which are implemented in a separate network backend with an explicit API.

The network backend API consists of functions to setup/teardown networks defined in a configuration file (network/mask, gateway, ...) and requesting/release IPs for VMs of this network. The latter is only used within the library when deploying and retracting VMs.

Due to the decoupled network back-end and its well-defined API, the network management functionality can be easily expanded or exchanged by re-linking the application.

The network backend implemented with the project group providing complete network and VM IP management and writing a config file for the ISC DHCP server.

So, the management library provides complete functionality to control the hosts and VMs including VM deployment and retraction with network and resource configuration and migration of VM between homogeneous hypervisors.

As the management library uses libVirt to controll the hypervisors, is manage the hosts remotely by making use of the remote capabilites of libVirt.

This means, that hypervisors for which a remote capable libVirt is available, do not have to be modified, so no warranty or support requirements will be voided.

If there exists no libVirt driver which by itself can manage a specific hypervisor complete over the network (for Xen e.g.), the libVirt daemon (libvirtd) can be installed within the hypervisor / management console (e.g. Dom0) and thereby allow remote management.

The following figure shows the general architecture of the management library:

