

Feature/ capability	Current ¹ state/limitations	Future enhancements	Expected date
ORCA clearinghouse	No externally accessible clearinghouse available.	Externally accessible clearinghouse maintained as a production capability. Ready to accept broker implementations from other teams	07/2009
Inter-actor SOAP implementation	Current implementation is functional and undergoing robustness testing.	Fully functional SOAP implementation capable of interconnecting actors located in different containers with no restrictions on actor/container arrangements.	06/2009
Configuration manager	Current configuration manager is capable of invoking a series of Ant tasks that always execute in the same sequence. Limited to idempotent driver implementations using either a node agent or XML-RPC interface described above.	Flexible configuration manager with an abstraction layer for device capabilities using XML and perhaps a scripting language (Groovy, Jython, Ruby), capable of executing arbitrary sequences of configuration actions with complex control flows on complex substrates. Configuration commands can be created using either NDL toolkit or custom mechanisms.	TBD, expected late 2009
Resource description mechanisms	Most commonly used resource description mechanism is table driven (i instances of type T).	NDL-OWL based resource description framework extended to multiple substrate types: optical networks, wireless networks, edge resources.	On-going work. Early prototype schema available 07/2009
Resource allocation policies	Current policies rely on the current table-driven resource description model.	Policy framework to allow for co-scheduling of disparate types of resources including wireless, optical network links, edge resources, core network resources as well as cross-layer path computation under multiple constraints.	On-going work. Early prototype API available 07/2009
Interface for external experiment control tools or experiment managers.	Custom XML-RPC built for Gush and DOME.	These interfaces allow externally built-actors/tools to interact with a generic ORCA slice controller. We plan a generic XML-RPC interface for use by experiment control tools written in multiple languages. This interface supports a subset of ORCA resource reservation capabilities modeled after the ProtoGENI XML-RPC interface.	TBD
Management interface	Current management interface is embedded in the portal attached to each container. Allows for implementation of custom plugins that implement management tasks.	An extensible SOAP-based interface allowing ORCA to interface with management entities (e.g. GMOC, distributed network operations, visualization tools etc.).	TBD
