

Draft Cloud Accounting Usage Record Schema

Some assumptions related to the version below:

1. Many of the properties defined in the Usage Record may be set to NULL, this is based on the assumption that different Resource Providers may want to publish different sets of data, but we want only one Usage Record, usable by all.
2. The fields for GlobalUserName and FQAN relate to an existing method of authorizing grid users, if this authorization mechanism were to be used for cloud usage as well then these would provide a method of associating VM usage with a user and then querying usage in a portal could be based on user, VO etc.
3. I suggest that the RecordId field contains a concatenation of CurrentTime, SiteName and MachineName. (Note: CurrentTime is the time the record was created on the client machine, Machine Name is the VMid)
4. We have job accounting and storage accounting systems and their related usage records already - we therefore account for jobs and storage using these existing records/methods.

The following table provides a draft schema:

Cloud Usage Record Property	Type	Null	Definition
RecordId	varchar(255)	No	Unique identifier of a record, created by concatenating the CurrentTime with the contents of the Site and MachineName fields
Site	varchar(255)	No	Suggest using GOCDDB SiteName - extend service types in GOCDDB to include cloud resource providers
ZoneName	varchar(255)		Location, e.g. EU, AM, AP
MachineName	varchar(255)	No	VM Id
LocalUserId	varchar(255)		Local user name
LocalGroupId	varchar(255)		Local group name
GlobalUserName	varchar(255)		Global identity of user (certificate DN)
FQAN	varchar(255)		Use if VOs part of authorization mechanism
Status	varchar(255)		Completion status - completed, started or suspended
StartTime	datetime		Must be set if Status = started
EndTime	datetime		Set to NULL until Status = completed
SuspendTime	datetime		Set when Status = suspended (Timestamp)

TimeZone	varchar(255)		
WallDuration	int		WallClock time - actual time used
CpuDuration	int		CPU time consumed (Duration)
CpuCount	int		Number of CPUs allocated
NetworkType	varchar(255)		
NetworkInbound	int		GB received
NetworkOutbound	int		GB sent
Memory	int		Memory allocated to the VM
Disk	int		Size in GB allocated to the VM
StorageRecordId	varchar(255)		Link to other associated storage record
ImageId	varchar(255)		Every image has a unique ID associated with it
CloudType	varchar(255)		