Synergy

• The problem in OpenStack
  – static partitioning: the resource allocation to the user projects can be done only by granting fixed quotas
    • one project cannot exceed its own quota even if there are unused resources allocated to other projects
  – the user request fails (and is lost) if no resource can satisfy it

• Synergy allows the IaaS administrators to allocate a subset of resources to be shared among different projects, besides the ones statically partitioned
  – shared resources are handled by Synergy which allows the definition of fair-share policies (then enforced by Synergy implementing the algorithm used in the SLURM batch system)
  – Synergy also provides a persistent priority queuing mechanism for handling user requests that can not be immediately fulfilled

• Implemented in the context of the Indigo-DataCloud project
  – Included in the 1st Indigo release (released in August)