Eco4Cloud on Cisco UCS: Unified Efficiency

The abstraction of resources natively provided by Cisco UCS is the perfect starting point for the dynamic real-time workload consolidation performed by Eco4Cloud

Unified Efficiency – Resource abstraction

The abstraction of resources natively provided by Cisco UCS is the perfect starting point for the workload consolidation provided by Eco4Cloud. Indeed, Cisco UCS creates a homogeneous environment tailored to applications migration and dynamic server hibernation and resume.

In fact, workload consolidation requires a well maintained configuration of all the entities in the virtual environments, such as virtual machines, physical hosts, virtual devices, virtual disks, virtual switches, shared storages, virtual LANs and clusters. If one or more such entities are misconfigured virtual machines mobility can be impacted, with negative implications on both workload consolidation and risk management.

Cisco UCS Service Profiles - Using Cisco UCS service profiles, Cisco UCS Manager provides logical grouping capabilities for both physical servers and service profiles, together with their associated templates. This pooling or grouping, combined with fine-grained role-based access, allows businesses to treat a servers farm as a flexible resource pool that can be reallocated in real time. This allows migrating virtual machines and switching-on/off physical hosts much more easily than with any other computing platform currently available in the market.

Unified Efficiency – Server architecture aimed at Virtualization

Eco4Cloud contributes to augment the power efficiency of Cisco UCS. Cisco's white paper *Power Efficiency Comparison: Cisco UCS 5108 Blade Server Chassis and HP BladeSystem c7000 Enclosure* compares the performance-to-power ratio of two similar Cisco and HP blade solutions, and results show that the Cisco UCS consumes less power for all the values of target load considered. Cisco UCS' higher efficiency can then be augmented by the intelligent workload consolidation provided by Eco4Cloud.

Cisco UCS is in fact the best computing platform to maximize the workload consolidation performed by Eco4Cloud, especially in VMware virtualized environments. VMware's vCompute leverages Intel's Xeon processors to deliver more of the processor's power to applications, and Cisco UCS is actually built on this particular processor. However virtualization is not just about sharing CPU resources. In fact many virtualized environments are memory-bound and require to upgrade to more expensive four-socket servers, just to support memory requirements. In order to address this challenge, Cisco UCS transparently extends the memory to twice what is typically available with traditional two-socket servers, thus providing a memory footprint of up to 384GB; i.e. the maximum possible on board of a server based on Intel's Xeon 5600 series processors.