Consolidation software - JellyFish

Development status

Phase 4

The transition from the prototype to the final and fully functional form. At this stage, the prototype is already fully tested, or the technology is certified and ready for mass deployment.

IP protection status

Software - copyright protection

Partnering strategy

investment, licensing

Institution

Jihočeské Univerzitní a Akademické centrum transferu technologií

University of South Bohemia in České Budějovice

Challenge

One of the main business areas of the current IT industry is the so-called cloud computing. Its essence is the provision of services (applications) or computing resources available from the Internet, e.g. using a web browser or native applications (mobile phones, tablets and PCs). In this case the user does not need their own software or computing infrastructure, but specific cloud services can be hired to use them. For corporate clients, cloud computing is interesting in allowing the provider's computing infrastructure to be used without the need to purchase and manage its own infrastructure, resulting in reduced operating costs. In practice, user requirements for cloud services vary greatly. Providers therefore seek flexibility in the allocation of their computing resources and to maintain user separation from direct access to IT infrastructure. Virtualization is used for this purpose. Users of this tool can achieve significant savings in electricity thanks to SW Jellyfish.

Description

The main idea of the JellyFish system is to cluster (consolidate) virtual machines only on the necessary parts of virtualization infrastructure (necessarily running virtualization nodes), while the under-loaded rest of the infrastructure is hibernated, runtime-optimized, or disabled. It is possible to perform clustering of VMs directly on the fly, without stopping them by using the so-called "virtual machine". live migration (move). This method leads to a significant reduction in electricity consumption in the order of tens of percent depending on the specific conditions of operation. Another innovative factor is that our solution, compared to others, considers the heterogeneity of individual virtualization nodes. It is common in practice that different virtualization infrastructure systems have significantly different electricity consumption at similar output.

Commercial opportunity

Significant energy savings in the use of the consolidation SW JellyFish are of interest to plants that deal with this area of expenditure and are

interested in reducing them. The user can be RaD institutions, data centers, etc.