Virtual Operating System Concept On Cloud Platform

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Abstract ***In last 50 year of computing we have progressed from using mainframes to minicomputers to personal computers to laptops and different operating systems on that platforms , most recently, the use of cloud OS based computers have been started . In the past, new operating systems have been written for each new class of computer hardware to facilitate resource allocation, manage devices, and take advantage of the hardware's increased computational capacity. The newest classes of cloud computers will provide a virtual operating system that need not to install like old operating systems which make advantage of the increased computational capacity and to simplify user's access to software and hardware resources using web browser . Present paper is a introductory survey about such types of new operating systems.***

Keywords : Virtual Operating System , Cloud OS , Web OS , Iaas , Opennebula

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1. INTRODUCTION

For many computer users there is no need to distinguish between the interface to an operating system and

the operating system itself. Presently operating systems are installed on user machine and need good hardware and software support . We will show that under certain conditions a uniform system interface can be provided across machine boundaries without disturbing vendor software. The method consists of creating a virtual operating system. The cloud based platform will help to design such types of operating systems .

2. WHAT IS CLOUD OS

A Cloud OS administers the complexity of a distributed infrastructure in the execution of virtualized service workloads. The Cloud OS manages a number of servers and hardware devices and their infrastructure services which make up a cloud system, giving the user the impression that they are interacting with a single infinite capacity and elastic cloud. In the same way that multi-threaded OS define the thread as the unit of execution and the multi-threaded application as the management entity, supporting communication and synchronization instruments; multi-tier Cloud OS define the VM as the basic execution unit and the multi-tier virtualized service (group of VMs) as the basic management entity, supporting different communication instruments and their auto-configuration at boot time. This concept helps to create scalable applications because you can add VMs as and when needed. Individual multi-tier applications are all isolated from each other, but individual VMs in the same application are not as they all may share a communication network and services as and when needed.

3. INTEROPERABILITY OF A CLOUD OPERATING SYSTEM

Being the core component in any cloud solution, interoperability is crucial for the success of a cloud management system. We can compare the cloud OS with a the kernel in "traditional" operating systems. The cloud OS represents the basic functions in a cloud and requires a well-defined communication with underlying devices and interface to expose administration and user functionality. At the cloud management level, interoperability means:

Modularity and flexibility to easily interface with any service or technology in the virtualization and cloud ecosystem.

Standardization to avoid vendor lock-in and to create a healthy community around In fact interoperability should be evaluated from three different angles:

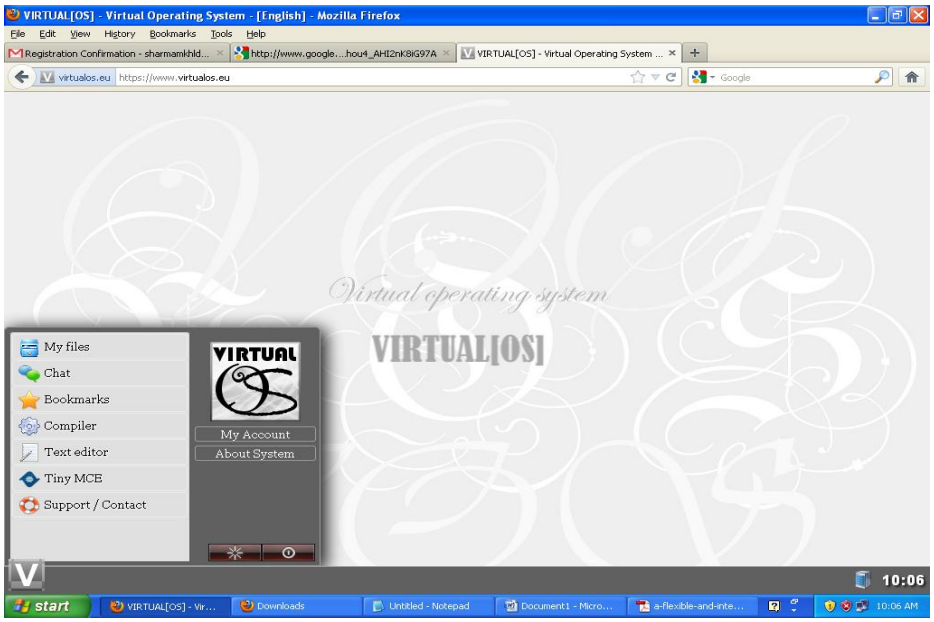
Infrastructure User Perspective: Users, application developers, integrators and aggregators are requiring a standard interface for the management of virtual machines,

network and storage. OCCI is a simple REST API for Infrastructure as a Service based Clouds that is being defined in the context of OGF. This interfaces represents the first standard specification for life-cycle management of virtualized resources.

Infrastructure Management Perspective: Administrators are requiring cloud OS to interface into existing infrastructure and management services, so fitting into any data center. OpenNebula provides a flexible back-end that can be integrated with any service for virtualization, storage and networking.

Infrastructure Federation Perspective: Administrators are requiring cloud OS to manage resources from partner and commercial clouds .

4.SNAPSHOT OF VIRTUAL OS



Source : https://www.virtualos.eu/

5.CONCLUSION

With high-end computing demands, cloud operating systems will continue to be a very active field of research and development. An open and flexible approach for cloud management ensures uptake and simplifies adaptation to different environments, being key for interoperability. The existence of an open and standard-based cloud management system like OpenNebula provides the foundation for building a complete cloud ecosystem, ensuring the new components and services in the ecosystem to have the widest possible market and user acceptability .

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