UNIVERSITY OF TORONTO

Server Virtualization Services

Enterprise Infrastructure Solutions @ Information + Technology Services

What is Server Virtualization?

Virtualization allows a single physical server to be partitioned into multiple "virtual" servers so that each one has the appearance and capabilities of a dedicated machine. Each virtual server can run its own operating system (Windows or Linux), is assigned its own hostname and IP address, and may be independently administered, configured, and rebooted without affecting the other virtual servers.

Why use the EIS virtual hosting service?

The EIS virtual hosting service is designed to be suitable for all levels of use – from mission critical applications to development or testing spaces. The IT infrastructure is fully redundant and is based on Cisco UCS, Cisco Nexus routing and switching, and Nexenta Software defined storage. The virtualization software used is VMware Enterprise Plus with Cisco Nexus 1000v virtual network switches. The virtual hosting service is housed in a Tier II data centre with redundant site infrastructure capacity components. The data centre is physically secure and has redundancy both in the physical infrastructure (redundant cooling, UPS and diesel generator, Novec 1230 gas fire suppression) as well as in the IT infrastructure (network, compute, and storage). Clients of the EIS Server Virtualization Services can expect a high standard of service availability and delivery

Pay only for what you need, when you need it.

All too often, you buy far more server than you actually need in order to meet peak loads at certain times of the year or to accommodate future expansion and growth. The rest of the time, the server may only be using a small fraction of its available capacity while still using the same amount of power. When you multiply that wasted capacity and energy consumption across multiple physical servers it adds up to a very inefficient use of resources and capital.

With virtual server hosting, you pay only for the capacity you need and you can add to that capacity incrementally when the need arises. Because multiple virtual machines can be running on a single server, it results in a more efficient use of a shared pool of physical resources. Nevertheless, we are able to guarantee the CPU, RAM and disk capacity that your server requires for those peak loads.

We are also able to rent you a VM server for short periods of time for research projects, testing new versions of software, etc, saving you from having to find a physical server to host your application.

Because VMware abstracts the hardware layer from the OS layer, you can set up identical production and testing instances, reducing potential errors or conflicts resulting from differences in hardware components between servers.

High Availability

Our virtualization environment is designed with high-availability and scalability in mind. Our server cluster will grow to meet demand and provides redundancy and high availability, allowing us to migrate your VM from one physical host to another without shutting it down. This reduces downtime due to hardware failure or scheduled maintenance. Similarly, our SAN

(Storage Area Network) infrastructure provides resiliency against hard drive failures and can be scaled up as storage demands increase. Our SAN and virtual server infrastructure is mirrored to our remote disaster recovery site to protect against data loss and to facilitate restoration of service in the event of a catastrophic failure in the primary St. George Campus data centre. Disaster recovery site replication is included in the monthly hosting price.

Pricing (*New Pricing as of May 1, 2013*)

In order to make your initial selection process easier, sample virtual server configurations are included below. Additional resources are available to meet your specific needs and can be added incrementally to the base annual price (see table below). VM sizing is based on VMware's recommended settings for the sample operating system listed.

Service Description	Specifications	Annual Price
Basic VM	1 CPU (1 vSocket, 1 vCore), 1GB RAM, 1 NIC, 40GB Storage	$265
Windows Server 2012 x64	1 CPU (1 vSocket, 1 vCore), 4GB RAM, 1 NIC, 40GB Storage	$565
Windows Server 2008 R2 x64	1 CPU (1 vSocket, 1 vCore), 4GB RAM, 1 NIC, 40GB Storage	$565
Windows Server 2008 R2 x32	1 CPU (1 vSocket, 1 vCore), 2GB RAM, 1 NIC, 40GB Storage	$365
Windows Server 2003 x32	1 CPU (1 vSocket, 1 vCore), 1GB RAM, 1 NIC, 40GB Storage	$265
RedHat Enterprise Linux 6 x64/x32	1 CPU (1 vSocket, 1 vCore), 2GB RAM, 1 NIC, 40GB Storage	$365
Debian GNU/Linunx 6 x64/x32	1 CPU (1 vSocket, 1 vCore), 1GB RAM, 1 NIC, 40GB Storage	$265
Ubuntu / FreeBSD x64/x32	1 CPU (1 vSocket, 1 vCore), 1GB RAM, 1 NIC, 40GB Storage	$265
Solaris 11 x64	1 CPU (1 vSocket, 1 vCore), 3GB RAM, 1 NIC, 40GB Storage	$465

Additional Storage** (minimum 10GB block)	$10 per block
Additional RAM (per GB)	$100.00
Additional CPU (vSocket or vCore)	$100.00
Additional NIC	$25.00

Please note: Cost of operating system licensing & 3rd party applications not included in the price.

** If disk performance is expected to be a bottleneck for your application, custom storage options can be engineered to suit at an additional cost. Please contact us for details.

Free Trial Period

When you sign up for a 1-year hosting contract, you have 30 days to decide if you are satisfied with the service. At the end of the 30-day trial period, if you do not wish to continue having your VM hosted you may cancel your contract without penalty.

Interested? Contact Us.

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