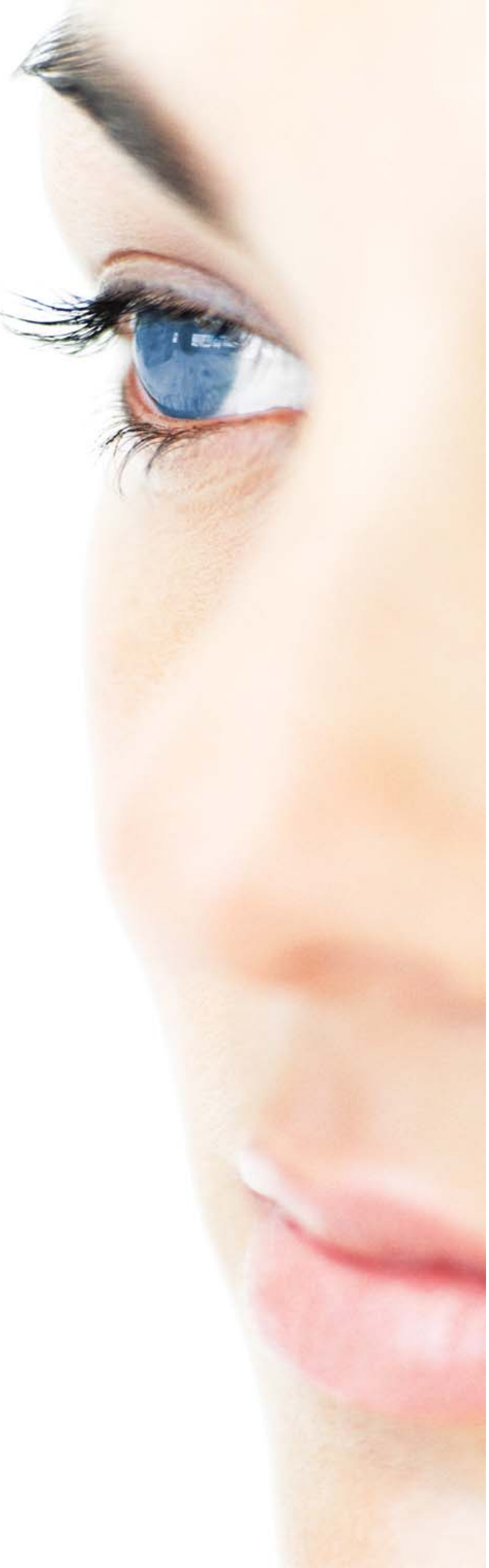

Virtual Hosting
Service Definition
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inTechnology

Service Overview

Introduction

Virtual Hosting is InTechnology's hosted managed service for virtual servers. Our virtualisation service enables you to make the most of your storage, network and computing resources, and deliver enhanced responsiveness and improved cost control to your business

Virtual Hosting provides Customers with a virtualisation solution based on a managed VMWare platform. It enables Customers to access one or more virtual machines, and run applications on Microsoft Windows or Red Hat Linux operating systems. The Virtual Servers run on physical servers located in an InTechnology data centre. The Virtualisation Software abstracts processor, memory, storage and networking resources into multiple virtual machines, delivering greater hardware utilisation and flexibility, and unparalleled levels of performance and scalability. InTechnology manages the entire virtual processing environment and the underlying infrastructure to provide Customers with expert installation, performance management and ongoing operational support.

Why Virtual Hosting ?

Virtualisation is an abstraction layer that decouples the physical hardware from the operating system to deliver greater IT resource utilisation and flexibility. The virtualised infrastructure simplifies IT so that Customers can make the most of storage, network and computing resources to control costs and respond faster to changing business requirements. This approach to IT management creates virtual services out of the physical IT infrastructure, which Customer's administrators can allocate easily to the business units that need them most in a matter of hours.

Who is the service for ?

The service is ideal for companies that need to run highly available applications on a high performance, cost effective platform. Virtual Server delivers the following benefits:

- Highly available Intel-based processing hardware on which to run business-critical applications.
- A fully-managed and hosted service within an InTechnology data centre, backed by around-the-clock technical support.
- Full remote administrative access to the virtual servers to add and update applications running upon them.
- On-line ordering and fast provisioning of virtual servers to rapidly make new capacity available.
- A managed environment in which to deploy, configure and maintain an operating system.
- Automatic transfer of operational applications form one hardware platform to another should the underlying hardware develop a fault.
- Integration with other InTechnology network, security and storage services.

Service Definition

Virtual Hosting uses enterprise-class server hardware running software which supports a controlled environment for multiple operating systems. The managed virtual environment offers a number of strategic advantages over traditional deployments:

- Rapid provisioning of new virtual servers to meet requirements for increased capacity at short notice.
- Consistent, standardised deployment of operating systems; deployments do not need to be configured specifically to support the physical hardware.

This service offers a first-class environment to run business critical applications. The hardware is located in a carrier-class data centre at the heart of InTechnology's network. The service benefits from around-the-clock support of the data centre environment, the hardware layer and the virtualization layer. Customers deploy and support their own operating system and applications on the virtual servers for maximum flexibility.

Specification

Servers are built according to a set of standard specifications. Each of the following standard specifications represents the resource that is guaranteed to be allocated to the virtual server, assuring a predictable performance.

Virtual Server	CPU	Memory	Resource Units
Bronze	1 Ghz	1 GB	100
Silver	2 Ghz	2 GB	200
Gold	4 Ghz	4 GB	400
Platinum	8 Ghz	8 GB	800

The concept of a Resource Unit has been developed to offer maximum service flexibility; further details are included in the charging section.

Each virtual machine has a maximum of two customer usable virtual LAN (VLAN) interfaces for connection to other resources. One of the interfaces can connect virtual machines together (only); the other can connect virtual machines together and to an external network, such as a customer VPN or Internet via a firewall.

Integration with existing environments

There are a number of options available for building the Virtual Hosting environment:

- Build the virtual machine from scratch using templated operating systems made available by InTechnology.
- Customer supplies a pre-built VMware image to InTechnology for deployment.
- Migrate existing physical configuration to new virtual environment using InTechnology Professional Services.

Service Management

Software updates

InTechnology will monitor VMWare product lifecycles and notify the Customer when there is an opportunity or need to upgrade to a newer version. Critical patches, and patches required in response to VMWare published security alerts, will be applied as appropriate.

Pricing and Charging

Customers make a contractual commitment to a number of servers and an amount of resource for an agreed term. In addition to this, servers can be upgraded and additional temporary servers can be created by Customers using the management portal. Committed servers and resources are charged at a lower price, on a monthly basis, than those that are created dynamically through the management portal.

Resource units allow InTechnology to offer maximum flexibility. A Customer can commit, for example, to 3 servers of silver specification (i.e. a total of 3 Virtual Servers & 600 units) for a 36 month period. At any point during the contract, the Customer can temporarily upgrade one (or more) of the servers and simply pay for the additional units for the months that they are used. Precisely the same principle applies to additional servers that are created. E.g. if the same Customer created a 'gold' server they would be billed for their contractual commitment (3 servers & 600 units) at the 'committed' (lower) rate plus 1 server & 400 units at the dynamic (slightly higher) rate.

InTechnology constantly monitors the Customer's Virtual Hosting environment and charging is based on three components: 1) the maximum number of concurrent virtual servers running in the previous calendar month, 2) the maximum concurrent 'Resource Units' consumed in the previous calendar month and 3) the maximum amount of allocated disc storage in the previous calendar month.

To assist capacity planning, the maximum number of resource units that can be used in any month is limited to twice the number of (committed) resource units detailed in the Customer contract; other arrangements may be possible by prior written agreement.

Ordering Information

Part-code	Description
H-SVR-30	Virtual Server Instance - Harrogate DC
H-SVR-31	Virtual Server resource units - Harrogate DC
H-SVR-32	Virtual Server Instance - Goswell Road DC
H-SVR-33	Virtual Server resource units - Goswell Road DC

Customer responsibilities

The Customer is responsible for the following:

- Identify and select suitable solution including appropriate data management and storage services.
- Installation, support and licensing of operating system.
- Upgrade and patch application to operating system.
- Installation, support and licensing of applications.
- Ensure that the required Operating System can be supported in a VMware environment.
- Ensure that the required applications can be supported in a VMware environment.

InTechnology responsibilities

InTechnology is responsible for the following:

- Provide, support and maintain physical data centre environment.
- Provide, support and license highly available physical processing platform.
- Provide, support and license highly available virtual environment.

Dependancies

- **Connectivity** – InTechnology's network services and/or the Internet are required to access the Virtual Hosting service.
- **Data Management** – InTechnology provides managed storage, backup and archiving services.
- **Security** – InTechnology's Managed Firewall Service provides protection for traffic traversing network boundaries with different trust levels.

Reporting

A real-time view of machines provisioned, regardless of whether they are switched on or off, along with allocated storage is available via the management portal.

Storage

InTechnology's Managed Storage Service is used in conjunction with the Virtual Hosting Service; it offers extremely scalable, high performance aggregated storage and is essential to deliver the enhanced availability associated with virtual servers.

Each Virtual Machine that is created (whether it is running or not) is allocated 24GB storage for the VM profile and Operating System.
Customers can create extra 'Drives' for Virtual Machines for 'local' storage; the following sizes are available 50, 100, 250 & 500 GB.
If an extra drive is created (of say 100GB capacity), the entire (100GB) capacity will be billed regardless of whether it is used or not.

Dynamic Creation

In order to offer the valuable flexibility that this service offers, the portal interface allows customers to self provision virtual machines and storage. The services are billed on 'peak' monthly usage so any resource that is provisioned will incur at least a full months charge. It is essential that staff authorized to create virtual machines and storage are made aware of these cost implications.

Service Level Agreement

This Service Level Agreement (SLA) sets out terms on which InTechnology shall provide the Service to the Customer. The purpose of this Service Level Agreement is to set out the agreed supply, operation and management of the Service by InTechnology.

Service Quality Parameters

The SLA performance will be measured on the average availability of the Virtual Hosting Service. Availability will be continually measured and averaged over the period of one month.

The InTechnology Virtual Hosting Service is built on a fully resilient and redundant platform. Customer's virtual machines (and applications) will migrate from one physical host to another if the management platform identifies a failure of the primary physical host.

Service Availability Limitations

The Customer should acknowledge that the warranties provided above shall not apply in the event that any failure or suspension of the Services arising as a result of a failure of the Customer Equipment, or is caused by any action or omission of the Customer, its employees, agents, sub-contractors or invitees. InTechnology shall not be liable for any failure to comply with the service levels defined where the Customer is in breach of any warranties set out in the contract.

In calculating Service availability the following circumstances are excluded:

- Service unavailable or affected as a result of Service suspension pursuant to the Service Agreement.
- Service unavailable or affected due to faults on the Customer's side of the service.
- Service unavailable or affected due to circumstances created by the Customer.
- Service unavailable or affected due to planned maintenance.
- Service unavailable or affected due to emergency maintenance.
- Service unavailable or affected due to Force Majeure.

Planned maintenance can involve a temporary suspension of part or all of the service in order to enable InTechnology to undertake vital remedial/maintenance or upgrade work. Planned maintenance and controlled outages will always be notified to the customer at least seven days in advance and be planned in such a way to have minimum impact on the Customer's operations. Controlled outages will not be classified as faults as the core systems are fully redundant and availability will be unaffected.

Controlled outages to the service for planned maintenance takes place at 04:00 – 06:00, Monday and Thursday. Emergency maintenance required as a result of identifying a problem through ongoing monitoring and management, that could potentially cause an outage or failure of the service, will be notified to the Customer at the earliest possible time and be managed in such a way to have minimum impact on the Customer's operation.

Service Credits

InTechnology shall pay Service Credits if the average availability of the platform falls below 99.99% when measured over a period of one month.

InTechnology shall pay the Customer by way of Service Credits, a sum equal to one hour's Service Charge (exclusive of VAT) for each full-completed hour in excess of the SLA based on the following calculation:

$$\text{Service Credit} = \frac{\text{(Monthly Service Charge)} \times \text{Full completed hours in excess of SLA}}{\text{Number of hours in a month}}$$

Any reduced charges under this Service Level Agreement will be confirmed by credit note issued by InTechnology to Customer, confirming the adjustment to be made to the following monthly charge.

InTechnology designs and supports the best IP solutions for business with a range of applications seamlessly integrating clients' communications needs through the delivery of secure voice, data and mobile solutions.

Listed on the LSE: AIM, InTechnology employs 200 people and has data centres in Harrogate, London and Reading.

Head Office

Central House
Beckwith Knowle
Harrogate
HG3 1UG
Tel: 01423 850 000

London Office

17 St Helens Place
Bishopsgate
London
EC3A 6DG
Tel: 0203 040 5000

Reading Office

Commensus House
3 – 5 Worton Drive
Reading
RG2 0TG
Tel: 0870 777 7778

Enquiries: 0800 528 2522
www.intechnology.co.uk

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