

Butler Group ▶
a **Datamonitor** Company



Sustainable IT Provision

Meeting the Challenge of Corporate,
Social, and Environmental
Responsibility

December 2007

SECTION 10: Glossary

3G

Third generation cellular network.

ACP

The Advisory Committee on Pesticides.

Ajax (Asynchronous JavaScript And XML)

Ajax was originally coined as an acronym AJAX by Jesse James of Adaptive Path, however, it is now favoured in the capitalised name form, and refers to a set of Web development technologies and languages for building Rich Web Applications.

API (Application Programming Interface)

The prescribed method by which an application program can make requests to an O/S or to another program.

ATA (Advanced Technology Attachment)

A disk drive implementation that integrates the controller on the disk drive itself.

BERR

Department for Business, Enterprise and Regulatory Reform.

BSI Group

The BSI Group is a global independent business services organisation. The Group operates through its three divisions – BSI British Standards, BSI Management Systems, and BSI Product Services.

BT (Binary Translation)

A technique used to emulate one set of instructions so that they operate as another set of instructions.

Blade Centre

Broad range of storage and networking options from IBM integrated into a chassis to simplify infrastructure, complexity, and manageability.

CA (Continuous Availability)

A system or component that runs continuously without stopping.

CAS

Content-Addressable Storage.

CDP (Continuous Data Protection)

Data is backed-up whenever a change is made.

CDU

Cabinet Power Distribution Unit.

CEP

Council on Economic Priorities.

CER

Certified Emission Reduction.

CFCs

Chlorofluorocarbons.

CHP

An efficient technology for generating electricity and heat together.

Clustering

Connecting two or more computers together so that they behave like a single computer. It is used for parallel processing, load balancing, and fault tolerance.

CMDB (Change and Configuration Management Database)

A CMDB is the term used for a centralised approach for holding the relationship information about all the assets in an organisation.

CO₂

Carbon Dioxide.

CPU (Central Processing Unit)

One or more CPUs give a computer the ability to run software, such as an operating system.

CSER (Corporate, Social, and Environmental Responsibility)

An umbrella term for the commitment of businesses to behave ethically and contribute to economic development while improving the quality of life of the workforce as well as of the local community and society at large.

DAS (Direct Attached Storage)

Traditional form of storage where the storage devices are directly attached to, and managed, by an individual server.

DC

Direct or continuous current.

DCE

Data Centre Efficiency metric.

DCEA

Data Centre Environment Assessment.

DC-EEP

The Data Centre Energy Efficiency and Productivity Index.

DCPE

Data Centre Performance Efficiency metric.

Defra

The Department for the Environment, Food, and Rural Affairs (UK).

DFE

Designed For Environment.

DLL (Dynamic Link Library)

Used in Microsoft Windows as an approach to a shared library, which eliminates the need to hold multiple copies of commonly executed code.

DMA (Direct Memory Access)

The transfer of data from memory-to-memory without using the CPU.

DNS (Domain Name Server)

DNS is the method by which the Internet uses for translating an IP address to a physical server.

DoE

Department of Energy.

DR (Disaster Recovery)

The provisions an organisation puts in place via a disaster recovery plan to deal with a disaster from an IT perspective, so that it can get its systems up-and-running again with minimum downtime.

EAI (Enterprise Application Intergration)

A combination of processes, platforms, standards, and software that together provide a framework for facilitating integration between applications.

EAL 5 (Evaluation Assurance Level 5)

EAL 5 is the fifth-highest level in a seven-level set of 'Common Criteria' computer security standards maintained by the Computer Security Resource Centre (CSRC). EAL 5 is semi-formally designed and tested.

EC2

Electronic Compute Cloud.

EEAS

Energy Efficiency Accreditation Scheme.

EEM

European Emerging Markets.

EIU

Economist Intelligence Unit.

EMA

Environmental Management Authority.

EMAS

Eco-Management and Audit Scheme.

EPA

US Environmental Protection Agency.

EPS

Expanded Polystyrene.

ERU

Emission Reduction Unit.

ETS

Europe's Emissions Trading Scheme.

ETSI

European Telecommunications Standards Institute.

Fibre Channel

An interface standard for connecting computers to mass storage devices such as disk drives and tape libraries. It is widely used in SANs.

GDP

Gross Domestic Product.

Global Namespace

A namespace allows clients to access files without knowing their location (just as they access Web sites without knowing their IP addresses). A namespace also enables an administrator to aggregate file storage across heterogeneous, geographically-distributed storage devices and to view and manage it as a single file system.

Grid

Grid computing is using the resources of many computers in a network to work on a single problem at the same time, usually very large projects with vast amounts of data. Grid services will build on this to create environments where resources such as storage, computational power, and applications can be shared.

GWh

Gigawatt hour.

HA (High Availability)

A system or component that is continuously available for a long period of time; 'five nines' (99.999%) availability is the desired level.

Halons

Ozone-depleting chemicals used in many fire extinguishers.

HBA (Host Bus Adaptor)

Hardware that provides an interface between the host microprocessor and the disk controller.

HCFCs

Hydrochlorofluorocarbons.

HDI (Help Desk Institute)

An organisation set up to assist organisations with the finer points of running help desks.

HPC (High-Performance Computing)

The use of parallel processing for running advanced application programs efficiently, reliably, and quickly.

Hypervisor

A thin layer of software that is installed directly on to the hardware before the operating system is installed, its purpose is to enable the hardware to be shared between multiple instances of different environments.

IA-32

A set of instructions developed by Intel that operate on the current low- and mid-range servers and PCs used today.

IEEE

Institute of Electrical and Electronics Engineers.

IIS (Internet Information Services)

Internet Information Services is a set of Internet-based services for servers using Microsoft Windows.

ILM (Information Lifecycle Management)

A comprehensive approach, combining technology and process, to the management of data and associated metadata from creation and initial storage to deletion or transfer to a permanent archive. It can include the use of tiered storage.

In-band Virtualisation

Storage virtualisation where the virtualisation software or appliance is in the data path.

Intelligent Switch

A high-level SAN routing switch that provides features such as storage virtualisation, Quality of Service (QoS), remote mirroring, data sharing, protocol conversion, and advanced security.

Internal-Grid Computing

It can be only loosely described as coupled computer systems. They are used to extract idle computing resources and apply them to many different tasks. Typically they follow the master/slave principal, where a master node controls all the allocation of work, and the slave's sole responsibility is to perform the tasks allocated and return the results to the master process.

I/O (Input/Output)

The Input/Output of the computer from/to an external device.

IP (Internet Protocol)

The IP is a protocol that uses datagrams to communicate over a packet-switched network.

IPSec (Internet Protocol Security)

IPSec is a suite of protocols for securing network connections.

IPTV (Internet Protocol Television)

IPTV is a system where a digital television service is delivered by using Internet Protocol over a network infrastructure.

iSCSI (Internet Small Computer System Interface)

A protocol which emulates SCSI protocols, but the connection method is via an IP network instead of a direct SCSI-compatible cable.

ISO

International Organization for Standardization.

ISO 14001

An international environmental management system standard.

ISV (Independent Software Vendor)

A company that makes and sells software solutions for a wide range of platforms.

ITIL (Infrastructure Technology Information Library)

A comprehensive, non-proprietary, and publicly available set of guidelines for 'best practice' IT services management. Each library module provides a code of practice intended to improve IT efficiencies, reduce risks, and increase the effectiveness and quality of IT services management, and infrastructure.

IT-PEW

IT Productivity Per Embedded Watt.

Java EE (formerly J2EE: Java Platform, Enterprise Edition)

Defines the standard for developing multi-tier applications using Java. J2EE simplifies enterprise applications by basing them on standardised, modular components; by providing a complete set of services to those components; and by handling many details of application behaviour automatically without the need for complex programming.

KVM (Keyboard Video Mouse)

KVM is a hardware device that allows a user to control multiple computers from a single keyboard, video monitor, and mouse.

Kyoto Protocol

A legally binding agreement signed in Japan in 1997 to reduce emissions of a basket of six greenhouse gases.

LAN (Local Area Network)

A group of computers and associated devices that share a common communications line or wireless link.

LDAP (Lightweight Directory Access Protocol)

A set of protocols for accessing information directories.

LPAR

Logical partition describes how enterprise-class servers can be split into smaller resource pools independent of each other, even though they are all part of the same physical server.

LUNs (Logical Unit Numbers)

A unique identifier used on a SCSI bus that enables it to differentiate between up to eight separate devices, each of which is a logical unit. Each LUN is a unique number that identifies a specific logical unit.

MAC (Media Access Control) address

A MAC address is a quasi-unique identifier attached to most network adapters.

MPI (Message Parsing Interface)

MPI is a language-independent communications protocol used to program parallel computers.

MPLS (Multi-Protocol Label Switching)

Short for Multi-protocol Label Switching, an initiative that integrates Layer 2 information about network links (bandwidth, latency, utilisation) into Layer 3 (IP) within a particular autonomous system in order to simplify and improve IP packet exchange.

MPP (Massively Parallel Processing)

Parallel computers are either SMP (symmetric with shared memory) or MPP (massively parallel with distributed memory). SMP systems are normally small but use powerful CPUs. MPP systems normally use less powerful CPUs, but use hundreds or even thousands of them. There is a clear trend to construct "small" (64-CPU systems) using off-the-shelf, i.e. cheap components.

NAP

Network Access Point.

NAS (Network Attached Storage)

A storage device located on the network dedicated to file sharing.

NEF

The National Energy Foundation.

NGOs

Non Government Organisations.

NIC (Network Interface Card)

A NIC is a piece of computer hardware designed to allow computers to communicate over a computer network.

NIS (Network Information Service)

Network Information Service or NIS (originally called Yellow Pages or YP) is Sun Microsystems' client-server directory service protocol for distributing system configuration data, such as user and host names, between computers on a computer network.

NLB (Network Load Balancer)

Is an approach to allocating the incoming demand to a server farm.

NUMA (Non-Uniform Memory Architecture)

Non-Uniform Memory Architecture (NUMA) is a computer memory design used in multiprocessors, where the memory access time depends on the memory location relative to a processor.

NWML

The National Weights and Measures Laboratory.

OFR

Operating and Financial Review.

OSI (Open Systems Interconnect)

OSI is a layered, abstract description for communications and computer network protocol design, developed as part of Open Systems Interconnect initiative. It is also called the OSI seven-layer model. The layers described below are, from top-down: Application, Presentation, Session, Transport, Network, Data Link, and Physical.

Out-of-band Virtualisation

The virtualisation software is installed on an appliance situated to the side of the hosts outside of the data path.

PAS

Publicly Available Specification.

PBB

Polybrominated biphenyl.

PBDE

Polybrominated diphenyl ether.

PCBs

Hazardous substances.

PUE

Power Usage Effectiveness metric.

RAID (Redundant Array of Independent (or Inexpensive) Disks)

A category of disk drives that employ two or more drives in combination for fault tolerance and performance.

Replication

The process of making a copy of data.

RoHS

The restriction of the use of certain hazardous substances in electrical and electronic equipment. This Directive bans the placing on the EU market of new electrical and electronic equipment containing more than agreed levels of lead, cadmium, mercury, hexavalent chromium, polybrominated biphenyl (PBB) and polybrominated diphenyl ether (PBDE) flame retardants.

RTM (Release to Manufacturing)

A term used by some software vendors to describe the date that the software is passed from development and testing to the packing department, ready for release.

RWA

Rich Web Applications.

SaaS (Software-as-a-Service)

A term used to describe a software application delivery model where a software vendor develops a Web-native software application.

SAI

Social Accountability International.

SAN (Storage Area Network)

A high-speed sub-network of shared storage devices.

SATA (Serial Advanced Technology Attachment)

A new standard for connecting hard drives into computer systems, based on serial signalling technology.

SBC

Server-Based Computing.

SCSI (Small Computer Systems Interface)

A method of connecting servers to their storage devices.

SI-ERR

Site Infrastructure Energy Efficiency Ratio.

SIP

Session Initiation Protocol.

SMP (Symmetric multiprocessing)

SMP is a multiprocessor computer architecture where two or more identical processors are connected to a single-shared main memory. Most common multiprocessor systems today use an SMP architecture.

SO₂

Sulphur Dioxide.

SOA

Service Oriented Architecture.

SOX

Oxides of sulphur.

SSL (Secure Sockets Layer)

SSLs are cryptographic protocols that provide secure communications on the Internet for such things as Web browsing, e-mail, Internet faxing, instant messaging, and other data transfers.

Storage Arrays

A method for storing information on multiple devices.

Storage Virtualisation

Software deployed in SANs as a way of pooling the storage resource and creating logical disks that are then assigned to applications.

Sustainable Organisation

An enterprise that can meet its own environmental, social, and economical needs.

Switches

A device that filters and forwards packets between LAN segments.

Synchronous Replication

In synchronous replication as each transmission of data is received, a response is returned indicating success or the need to resend the data.

TFT

Thin Film Transistor.

Thin Provisioning

The ability to provision a pre-defined amount of storage to an application or server, but to serve it up in smaller chunks, automatically assigning an additional chunk each time a threshold is reached.

TLB (Translation Lookaside Buffer)

A cache in a CPU that is used to improve the speed of virtual address translation.

TWh

Terawatt hours.

UNEP

United Nations Environment Programme.

UPS

Uninterruptible Power Supply.

URL (Uniform Resource Locator)

Abbreviation of Uniform Resource Locator, the global address of documents and other resources on the World Wide Web.

V2oIP

Voice and Video over IP.

V2P (Virtual to Physical)

Used to describe the transition between a virtual environment and a physical environment.

V2V (Virtual to Virtual)

Describes the process for moving between virtual environments.

VDI (Virtual Desktop Infrastructure)

Used to describe the approach of server hosted virtual desktop implementation where a virtual image of a desktop is hosted on a central server and this is accessed from a remote device.

VE (Virtual Environment)

Similar to a Virtual Machine, but used in hosted virtualisation technologies.

VHD (Virtual Hard Disk)

The Microsoft VHD file format specifies a virtual machine hard disk that can reside on a native host file system, encapsulated within a single file. The format is used by Virtual PC 2004 and Virtual Server 2005, and the format will be used by a future version of Microsoft Windows Server that includes Hypervisor-based virtualisation technology.

Virtual Appliance

Pre-built, pre-configured, ready-to-run enterprise applications that are packaged with an optimised operating system in a virtual machine.

VLAN (Virtual Local Area Network)

Virtual LANs can be viewed as a group of devices on different physical LAN segments, which can communicate with each other as if they were all on the same physical LAN segment.

VM (Virtual Machine)

Describes the instantiation of different environments on a physical server. Typically used in Hypervisor terminology.

VoIP

Voice over IP.

VMCS (Virtual Machine Control Structure)

Created by Intel, this new structure handles much of the virtualisation management functionality.

VMFS (Virtual Machine File System)

VMFS is a cluster file system that leverages shared storage to allow multiple instances of VMWare's ESX Server to read and write to the same storage, concurrently.

VMM (Virtual Machine Monitor)

Another term for a Hypervisor.

VPN (Virtual Private Network)

A secure network that uses public wires, most commonly the Internet, to connect nodes, often remote computers, to a network.

VSAN

Virtual Storage Area Network.

WAN (Wide Area Network)

A geographically-dispersed telecommunications network.

WEEE

The EU Waste Electrical and Electronic Equipment directive.

WFF-US

World Wildlife Fund.

This Report reveals:

- The business drivers and issues providing a compelling reason to act now.
- Why being environmentally-friendly is beneficial for both IT and the enterprise.
- How to develop a sustainable IT strategy.
- Why IT must take the lead in being more responsible.
- The technologies and strategies that make a more efficient operation and save costs.
- Why energy consumption is an important area of focus for the IT manager.
- How using services can contribute to a sustainable approach.
- The industry and vendor initiatives that can help shape IT thinking.
- What other organisations are doing to comply with their responsibilities.

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Analysis without compromise

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