

## **A**

### **ABEND**

See **abnormal program end**.

### **abnormal program end (ABEND)**

A program that terminates prematurely or is in an error status. Analogous to “crash” or “fault” in UNIX terminology.

### **ACID property**

One of the properties of a transaction: atomicity, consistency, isolation, or durability.

### **ACID transaction**

A transaction involving multiple resource managers using the two-phase commit process to ensure atomic, consistent, isolated, and durable (ACID) properties.

### **address space**

The isolation of applications by creating a separate memory space for each running job. Analogous to “virtual machine” in UNIX terminology.

### **APAR**

See **authorized program analysis report**.

### **application**

One or more computer programs or software components that provide functionality in direct support of a specific business process or processes.

### **authorized program analysis report (APAR)**

A request for correction of a defect or bug in a current release of an IBM-supplied program. This is a vendor-specific term.

### **availability**

- (1) The condition allowing users to access and use their applications and data.
- (2) The time periods during which a resource is accessible.

### **available**

A term that pertains to a logical unit or device that is active, connected, enabled, and not at its session limit.

## **B**

### **batch**

- (1) A group of jobs to be run on a computer sequentially with the same program with little or no operator action.
- (2) A group of records or data processing jobs brought together for processing or transmission.

### **batch versus interactive**

Jobs that run on the system to complete processing with or without user intervention. Analogous to “background/foreground process” in UNIX terminology.

### **business integration**

An enterprise solution that moves information among diverse sources to perform business exchanges and that processes and routes information among disparate applications in the enterprise environment. The business integration system consists of an integration broker and one or more adapters.

### **business resiliency**

The ability of the enterprise to continue to function as effectively as possible in the face of natural and man-made problems and disasters affecting its IT.

## **C**

### **CA-7**

An automated production control over job queues, security, priority, scheduling, scheduling IDs, pre- and post-job processing requirements, and documentation.

### **Capacity Upgrade on Demand (CUoD)**

A System z operating system feature that allows users to permanently activate one or more inactive processors or memory units without requiring server restart or business interruption.

### **CICS**

See **Customer Information Control System**.

### **client**

- (1) A software program or computer that requests services from a server.
- (2) A runtime component that provides access to queuing services on a server for local user applications. The queues used by the applications reside on the server.
- (3) A classifier that requests a service from another classifier.

### **COBOL**

See **Common Business Oriented Language**.

### **Common Business Oriented Language (COBOL)**

A high-level programming language that is used primarily for commercial data processing.

### **connectivity**

- (1) The capability of a system or device to be attached to other systems or devices without modification.
- (2) The degree to which storage controls are joined to a direct access storage device (DASD) and processors to achieve adequate data paths (and alternative data paths) to meet data availability needs.

### **control unit (CU)**

A device that coordinates and controls the operation of one or more input/output devices, and synchronizes the operation of such devices with the operation of the system as a whole. Analogous to “storage controller” in UNIX terminology.

### **core**

One of several parts in a computer processor.

### **coupling facility (CF)**

A special logical partition that provides high-speed caching, list processing, and locking functions in a system complex (sysplex).

### **CU**

See **control unit**.

### **CUoD**

See **Capacity Upgrade on Demand**.

### **Customer Information Control System (CICS)**

A general-purpose transaction processing subsystem for the z/OS operating system. CICS provides services for running an application online, by request, at the same time as many other users are submitting requests to run the same applications, using the same files and programs.

## **D**

### **DASD**

See **direct access storage device**.

### **Data Facility Storage Management Subsystem (DFSMS)**

An operating environment that helps automate and centralize the management of storage. To manage storage, the storage management subsystem (SMS) provides the storage administrator with control over data class, storage class, management class, storage group, and automatic class selection (ACS) routine definitions. The subsystem is responsible for allocating space on a direct access storage device (DASD). Analogous to any storage management product in the UNIX environment.

### **data set**

Storage space on a direct access storage device (DASD). A data set can be either partitioned (with internal members) or sequential. In UNIX terminology, partitioned is comparable to an archive with multiple files; sequential is comparable to a file.

### **data sharing**

The capability to concurrently access data from multiple DB2 subsystems.

### **DB2**

The IBM flagship family of relational database management system (RDBMS) products that serve a number of different operating system platforms.

### **DFSMS**

See **Data Facility Storage Management Subsystem**.

### **direct access storage device (DASD)**

A storage device that can be directly accessed by the operating system (OS) through a control unit (CU). Analogous to "hard drive" in UNIX terminology.

### **distributed system**

A collection of autonomous computers linked by a computer network and equipped with distributed system software. This software enables computers to coordinate their activities and to share the resources of the system hardware, software, and data. Users of a distributed system should perceive a single, integrated computing facility even though it may be implemented by many computers in different locations. This is in contrast to a network, where the user is aware that there are several machines whose locations, storage replications, load balancing, and functionality are not transparent.

### **dump**

All storage and memory for an ABENDED task that have been dumped to disk for debugging purposes. ABEND dump shows the virtual storage predominantly for an unauthorized program. To produce a dump when one is requested for an error, a JCL DD statement of SYSUDUMP, SYSABEND, or SYSMDUMP must be included in the input job stream. An operator can also request an ABEND dump while ending a program, an address space, or canceling a job. There are three types of ABEND dumps:

- (1) SYSMDUMP – This is an unformatted dump that requires IPCS to view and format. Unformatted dumping is sometimes more efficient because only the storage requested is written to the data set, which can allow the application to capture diagnostic data and be brought back online faster.
- (2) SYSABEND - The largest of the ABEND dumps, this is a pre-formatted dump containing a summary dump for the failing program plus many other areas useful for analyzing processing in the failing program.
- (3) SYSUDUMP – This is the smallest of the ABEND dumps, containing data and areas only about the failing program.

Analogous to "core file" in UNIX terminology.

## **E**

### **EBCDIC**

See **External Binary Coded Decimal Interchange Code**.

### **encryption**

In computer security, the process of transforming data into an unintelligible form in such a way that the original data either cannot be obtained or can be obtained only by using a decryption process.

### **Enterprise Systems Connection (ESCON)**

A set of products and services that provides a dynamically connected environment using optical cables as a transmission medium.

### **ESCON**

See **Enterprise Systems Connection**.

### **Extensible Markup Language (XML)**

A standard metalanguage for defining markup languages that is based on Standard Generalized Markup Language (SGML).

### **External Binary Coded Decimal Interchange Code (EBCDIC)**

A format for encoding characters in a System z Operating System (z/OS) environment. Most UNIX and Windows machines use ASCII code page.

## **F**

### **fibre channel connection (FICON)**

A fibre channel communication protocol designed for IBM mainframe computers and peripherals.

### **FICON**

See **fibre channel connection**.

## **H**

### **hard disk**

A nonremovable storage medium used for storage of data on a personal computer.

### **hard disk drive (HDD)**

A stand-alone disk drive that reads and writes data on rigid disks and can be attached to a port on the system unit.

### **HDD**

See **hard disk drive**.

### **HFS**

See **hierarchical file system**.

### **hierarchical file system (HFS)**

Representations of a traditional UNIX file system (with directories and files). An HFS is stored in a data set. Analogous to file system on a partition in UNIX terminology.

### **host**

(1) A computer that is connected to a network and provides an access point to that network. The host can be a client, a server, or both a client and server simultaneously.

(2) In a cooperative processing environment, the system running the server program with which the CoOperative Development Environment/400 session communicates.

(3) In TCP/IP, any system that has at least one Internet address associated with it.

(4) In performance profiling, a machine that owns processes that are being profiled.

(5) The controlling or highest-level system in a data communications configuration.

**IDS**

See **Intrusion Detection Services**.

**IFL**

See **Integrated Facility for Linux**.

**IMS/TM**

See **Information Management System/Transaction Manager**.

**Information Management System/Transaction Manager (IMS/TM)**

The IBM dedicated IMS-product TP monitor (TP calls through CBLTDLI interface). IMS/TM has the same functionality as CICS, but it is a different product. IMS/TM has no direct application program access to native VSAM files. IMS/TM is typically installed in IMS shops.

**initial program load (IPL)**

(1) The process that loads the system programs from the system auxiliary storage, checks the system hardware, and prepares the system for user operations.

(2) The process of loading the operating system and other basic software into main storage.

Analogous to “boot” in UNIX terminology.

**instance**

A single implementation of an OS on a zSeries box, whether using the entire box, an individual LPAR, or a guest of z/VM.

**Integrated Facility for Linux (IFL)**

A central processor (CP) dedicated to Linux workloads.

**Intelligent Resource Director (IRD)**

A z/OS software component that allows for automatic tuning of resources between LPARs.

**Interactive Problem Control System (IPCS)**

A component of z/OS that permits online problem management, interactive problem diagnosis, online debugging for dumps, problem tracking, and problem reporting.

**Interactive System Productivity Facility (ISPF)**

An IBM licensed program that serves as a full-screen editor and dialog manager. Used for writing application programs, it provides a means of generating standard screen panels and interactive dialogs between the application programmer and terminal user.

**Intrusion Detection Services (IDS)**

Rules that are applied to System z through the policy agent to detect attempts to compromise system security. IDS functions only within the z/OS host. In z/OS, IDS can be configured to detect, report, and prevent all well-known attacks on the host, such as flood attacks, redirection attacks, and restricted protocol attacks. The capabilities of IDS in z/OS can be expanded to include scanning, which is a systematic accessing of network resources over a period of time from a single IP address. Although scan attacks are not detrimental to the host, they indicate that a host on the network is attempting to determine which ports are open for business on the target host.

**IPCS**

See **Interactive Problem Control System**.

**IPL**

See **initial program load**.

**IRD**

See **Intelligent Resource Director**.

## *The Value and Differentiation of System z*

### **Glossary Terms and Definitions**

#### **ISPF**

See **Interactive System Productivity Facility**.

## **J**

#### **Java**

An object-oriented programming language for portable interpretive code that supports interaction among remote objects. Java was developed and specified by Sun Microsystems, Incorporated.

#### **JCL**

See **job control language**.

#### **JES**

See **Job Entry Subsystem**.

#### **job control language (JCL)**

A command language used on IBM mainframe operating systems to instruct the system on how to run a batch job or start a subsystem. Analogous to “shell script” in UNIX terminology.

#### **Job Entry Subsystem (JES)**

An IBM-licensed program that receives jobs in priority queuing into the system and processes all output data that is produced by jobs.

#### **JOBLIB/STEPLIB**

Data definition statements that are used to indicate additional Multiple Virtual Storage (MVS) datasets that should be searched for programs and/or libraries.

## **L**

#### **Linux for zSeries**

A variant of Linux designed to run on zSeries hardware, supported by Red Hat and SUSE Linux.

#### **logically partitioned mode (LPAR)**

A capability provided by the Processor Resource/Systems Manager (PR/SM) that allows a single processor to run multiple operating systems using separate sets of system resources, or logical partitions. Analogous to “system partition” and “domain” (on Sun) in UNIX terminology.

#### **LPAR**

See **logically partitioned mode**.

## **M**

#### **memory**

Program-addressable storage from which instructions and other data can be loaded directly into registers for subsequent running or processing.

#### **middleware**

Software that acts as an intermediate layer between applications or between client and server. It is used most often to support complex, distributed applications in heterogeneous environments.

#### **mixed workload**

A combination of dozens or hundreds of jobs, processes, or transactional systems with disparate characteristics. Some workloads might have high input/output throughput requirements; others might need more compute power; and still others might need to share the same data. The priorities also vary, with some needing rapid service, such as transactional systems, while others might be delayed somewhat without violating service level agreements. The ability of z/OS to manage large numbers of workloads with differing requirements is one of its strengths.

## O

### **Open Systems Adapter (OSA)**

A network controller that can be installed in a mainframe I/O cage. The adapter integrates several hardware features and supports many networking transport protocols. The OSA card is the strategic communications device for the mainframe architecture. It has several key features that distinguish it from CCW-based communications.

### **OS/390**

The IBM operating system that includes and integrates functions previously provided by many IBM software products, including the Multiple Virtual Storage (MVS) operating system, for the IBM S/390 family of enterprise servers.

### **OSA**

See **Open Systems Adapter**.

## P

### **Parallel Sysplex**

A cluster of IBM mainframes acting together in a single system image, usually with z/OS combining data sharing (typically using Peer-to-Peer Remote Copy) and parallel computing to allow a cluster of up to 32 computers to share a workload for high performance and high availability.

### **partitioned data set (PDS)**

A storage protocol on z/OS direct access storage device (DASD) for organizing collections of artifacts, such as source, executable, scripts, configurations, and so forth.

### **PDS**

See **partitioned data set**.

### **PKI**

See **public key infrastructure**.

### **PMR**

See **problem management report**.

### **Portable Operating System Interface (POSIX)**

An interface standard governed by the IEEE and based on UNIX. POSIX is not a product. Rather, it is an evolving family of standards describing a wide spectrum of operating system components ranging from C language and shell interfaces to system administration.

### **POSIX**

See **Portable Operating System Interface**.

### **power supply**

An electrical system that converts AC current from the wall outlet into the DC currents required by the computer circuitry.

### **problem management report (PMR)**

A record that has been opened with the IBM Support Center to report a program or technical problem. This is a vendor-specific term.

### **processor**

- (1) A device for processing data from programmed instructions. It could be part of another unit.
- (2) One or more integrated circuits that process coded instructions and perform a task.
- (3) In a computer, the part that interprets and executes instructions. Two typical components of a processor are a control unit and an arithmetic logic unit.

## ***The Value and Differentiation of System z***

### **Glossary Terms and Definitions**

#### **program temporary fix (PTF)**

A software update released (usually as a result of an APAR) by IBM for System i, System p, and System z products to resolve any product issues that might arise. Analogous to “patch,” “fix,” and “support pack” in UNIX terminology.

#### **PTF**

See **program temporary fix**.

#### **public key infrastructure (PKI)**

A system of digital certificates, certification authorities, and other registration authorities that verifies and authenticates the validity of each party involved in a network transaction.

## **Q**

#### **quiesce**

To put a computer, a program, a thread, or some other computer resource into a temporarily inactive or inhibited state. A resource that is in a quiesced state can be reactivated more quickly than one that has been completely removed from the system.

## **R**

#### **RACF**

See **Resource Access Control Facility**.

#### **RAS**

See **Reliability, Availability, Serviceability**.

#### **reliability**

The probability that an item will perform a required function without failure under the stated conditions for a stated period of time.

#### **Reliability, Availability, Serviceability (RAS)**

A term that refers to the main considerations of all research, development, and support staff within the System z family. Analogous to “service guarantees” in UNIX terminology.

#### **Resource Access Control Facility (RACF)**

An IBM security manager product that provides for access control by identifying and verifying the users to the system, authorizing access to protected resources, logging the detected unauthorized attempts to enter the system, and logging the detected accesses to protected resources. Analogous to “PAM” (Linux) or any other security tool in UNIX terminology.

#### **Resource Measurement Facility (RMF)**

A feature of z/OS that measures selected areas of system activity and presents the data collected in the format of printed reports, System Management Facility (SMF) records, or display reports.

#### **RMF**

See **Resource Measurement Facility**.

## **S**

#### **scalability**

The ability of a system to expand as resources, such as processors, memory, or storage, are added.

#### **scalable**

(1) A term that pertains to a system's ability to increase its capacity to distribute information or data as demand heightens.

(2) A term that pertains to the capability of a system to adapt readily to a greater or lesser intensity of use, volume, or demand. For example, a scalable system can efficiently adapt to work with larger or smaller networks performing tasks of varying complexity.



## ***The Value and Differentiation of System z***

### **Glossary Terms and Definitions**

#### **SDSF**

See **Spool Display and Search Facility**.

#### **secure**

To control who can use and to what extent an object can be used by controlling the authority given to the user.

#### **secure network**

A set of nodes that is controlled by a single administrative party.

#### **secure server**

A server that encrypts files that it is sending and decrypts files that it has received to facilitate secure communication with a client.

#### **server**

- (1) A software program or a computer that provides services to other software programs or other computers.
- (2) In WebSphere MQ, a queue manager that provides queue services to client applications running on a remote workstation.
- (3) A definition that identifies where an application will be tested or published.
- (4) The target of a request from a remote requester. In a DB2 database system, the server function is provided by the distributed data facility, which is used to access a DB2 database from remote applications.

#### **server consolidation**

An approach to the efficient usage of computer server resources in order to reduce the total number of servers or server locations that an organization requires.

#### **service-oriented architecture (SOA)**

A conceptual description of the structure of a software system in terms of its components and the services they provide, without regard for the underlying implementation of these components, services, and connections between components.

#### **SMP/E**

See **System Modification Program/Extended**.

#### **SNA**

See **Systems Network Architecture**.

#### **SOA**

See **service-oriented architecture**.

#### **spool**

A storage mechanism used by Job Entry Subsystem (JES) to manage work queues.

#### **Spool Display and Search Facility (SDSF)**

An IBM-licensed program that provides a menu-driven full-screen interface that allows a user to manage events on the JES Spool and view the output of jobs and started tasks. Analogous to “top,” “renice,” “kill,” and other process management commands in UNIX terminology.

#### **SQL**

See **Structured Query Language**.

#### **Structured Query Language (SQL)**

A standardized language for defining and manipulating data in a relational database.

## ***The Value and Differentiation of System z***

### **Glossary Terms and Definitions**

#### **subsystem/started task**

Core operating system function, such as security, storage management, and server. Analogous to “daemon” in UNIX terminology.

#### **sysplex (system complex)**

A set of z/OS systems (LPARs) that communicates with each other through certain multi-system hardware components and software services to process customer workloads. Analogous to “highly enhanced cluster” in UNIX terminology.

#### **System Modification Program/Extended (SMP/E)**

An IBM-licensed program that is used for software installation and maintenance facility. Analogous to “RPM” (Linux) or “SMIT” (AIX) in UNIX terminology.

#### **Systems Network Architecture (SNA)**

The description of the logical structure, formats, protocols, and operational sequences for transmitting information through and controlling the configuration and operation of networks.

## **T**

#### **TCO**

See **total cost of ownership**.

#### **Time Sharing Option (TSO)**

A base element of the System z operating system that users utilize to interactively work with the system.

#### **total cost of ownership (TCO)**

A methodology for calculating the actual cost of owning a product over the period of ownership and use based on combining costs of acquisition or leasing, training, deployment, support, residual equipment values, return on investment, time to market, and so forth.

#### **TPF**

See **Transaction Processing Facility**.

#### **transaction**

- (1) An exchange between two programs that carries out an action or produces a result. For example, the entry of a customer's deposit into a financial institution and the update of that customer's balance.
- (2) A unit of processing consisting of one or more application programs, affecting one or more objects, that is initiated by a single request.
- (3) A specific set of input data that triggers a specific process or job. A transaction also can refer to a message destined for an application program.
- (4) An atomic series of SQL statements that make up a logical unit of work. All of the data modifications made during a transaction are either committed together as a unit or rolled back as a unit.

#### **Transaction Processing Facility (TPF)**

An IBM platform for high volume, online transaction processing. It is used by industries demanding large transaction volumes, such as airlines and banks.

#### **TSO**

See **Time Sharing Option**.

## **U**

#### **UNIX system service (USS)**

A POSIX-based implementation of UNIX running on top of z/OS. It provides files, security, and system interoperability with z/OS. It also provides a layer for TCP/IP stack, HTTP services, WebSphere Application Server (WAS), and so forth, for z/OS.

#### **USS**

See **UNIX system service**.

## **V**

### **Virtual Storage Access Method (VSAM)**

An access method for direct or sequential processing of fixed-length and variable-length records on disk devices. The records in a VSAM data set or file can be organized in logical sequence by a key field (key sequence), in the physical sequence in which they are written on the data set or file (entry sequence), or by relative-record number.

### **Virtual Telecommunications Access Method (VTAM)**

An application programming interface (API) set for communicating between running programs and logical devices, such as 3270 terminals and printers, in an IBM Systems Network Architecture (SNA).

### **virtualization**

(1) In the storage industry, a concept in which a pool of storage is created that contains several disk subsystems. Subsystems from various vendors can be used. The pool can be split into virtual disks (VDisks) that are visible to the host systems that use them.

(2) A technique that encapsulates the characteristics of resources from the way in which other systems interact with those resources.

### **VSAM**

See **Virtual Storage Access Method**.

### **VSE/ESA**

A system that consists of a basic operating system for small mainframes (VSE/Advanced Functions), and any IBM-supplied and user-written programs required to meet the data processing needs of a user. VSE and the hardware that it controls form a complete computing system. Its current version is VSE/ESA; its predecessor was DOS/VSE.

### **VTAM**

See **Virtual Telecommunications Access Method**.

## **W**

### **WLM**

See **Workload Manager**.

### **Workload Manager (WLM)**

A component of z/OS that provides the ability to run multiple workloads at the same time within one z/OS image or across multiple images to optimize system performance based on the requirements.

## **X**

### **XML**

See **Extensible Markup Language**.

## **Z**

### **z9 Integrated Information Processor (zIIP)**

A special purpose processor. The main purpose of zIIP is to offload DB2 processing from the general mainframe central processors (CPs).

### **zAAP**

See **zSeries Application Assist Processor**.

### **zIIP**

See **z9 Integrated Information Processor**.

### **z/OS**

The latest family (zSeries) of IBM mainframe operating systems that uses 64-bit real storage.

## ***The Value and Differentiation of System z***

### **Glossary Terms and Definitions**

#### **zSeries Application Assist Processor (zAAP)**

A specialized processing unit available on the zSeries 990 (z990), 890 (z890), and z9. It provides a strategic z/OS Java execution environment for customers who want the powerful integration advantages and traditional Qualities of Service (QoS) of the zSeries platform.

#### **z/VM**

A System z9 and zSeries operating system that acts as virtualization software. z/VM can virtualize all system resources, including processors, memory, storage devices, and communication devices. z/VM supports the concurrent operation of hundreds of operating system instances.