

Glossary

- 2-D** graphics representation two-dimensional objects, as opposed to 3-D
- 3-D** graphics representation of three-dimensional objects, with perspective and lighting effects, as opposed to 2-D
- 3D** CERN project for distributed condition Database
- 3270** a class of terminals made by IBM since 1972 and their communication protocol
- Accelerator** a device used to accelerate elementary particles or nuclei via an electromagnetic field
- ADA** programming languages developed under the auspices of the U.S. Department of Defence
- ADAMO** a system for scientific programming based on the Entity-Relationship (ER) model
- ADL** ATLAS Description Language
- ADSL** Asymmetric DSL, a DSL where the upload data connection speed (from the user to the server) is less than the download one (from the server to the user)
- AEGYS** Operating System developed by Apollo
- AFS** Andrew File System, a distributed file system providing a homogeneous, location-transparent file name space to all the clients
- AIS** Accounting Information System
- ALEPH** A Large Electron Positron experiment at the CERN LEP accelerator
- ALICE** A Large Ion Collider Experiment, a major experiment at the CERN LHC
- AliEn** ALICE Environment, a set of middleware tools developed by the ALICE experiment
- ALPHA** 64-bit RISC computer architecture developed by DEC
- Alphanumeric** attribute of an output device capable of displaying letters and numbers
- AlphaServer** a server computer base on the Alpha architecture produced by DEC
- Amazon** a U.S.-based multinational electronic commerce and software company
- AMD** Advanced Micro Devices is one of the leading semiconductor companies together with Intel

- AMD** Advanced Micro Devices, a CPU and other computer component manufacturer
- Amdahl's law** mathematical formula governing the expected speedup of a parallel algorithm with respect to its sequential version
- AMSEND** Automatic Mail SENDing, a electronic mail distribution system used by ALEPH and DELPHI in the eighties
- Apache** The Apache Software Foundation is a software development group who is producing a widely used HTTP server
- API** Application Programming Interface
- Apollo** a computer manufacturer
- Apple** a computer manufacturer
- ARC** Advanced Resource Connector, a middleware developed by the NorduGrid project integrating computing resources and storage facilities, making them available via a secure common Grid layer.
- Archetype** a universal symbol behaviour pattern, from which others are derived, often used in myths and traditional storytelling
- ARDA** Architectural Roadmap towards Distributed Analysis, a CERN Requirements Technical Assessment group setup in 2003 and charged to draw up a blueprint for the Grid components needed to effectively run the analysis
- ARPA** U.S. Advanced Research Projects Agency, renamed the Defense Advanced Research Projects Agency (DARPA) in 1972
- ASA** American Standard Association
- ASCAP** American Society of Composers, Authors and Publishers, an U.S. not-for-profit performance-rights protection and license fee collection organization
- Assembler** low-level programming language
- AT&T** the largest provider of fixed telephony, broadband and subscription television services in the U.S.
- ATHENA** Software framework developed by the ATLAS collaboration and based on GAUDI
- ATLAS** A Toroidal LHC ApparatuS, a major experiment at the CERN Large Hadron Collider
- Atomic transaction** a transaction where all operation involved either all succeed or none succeed
- Authentication** process by which a system verifies the identity of an entity (user or process) who wishes to access it; it involves the authority of a third party called Certification Authority
- Authorisation** verification that an authenticated entity is allowed to perform certain operations or access given resources; it has to be preceeded by authentication
- B-tree** a sorted data structure in form of a tree allowing searches, sequential access, insertions, and deletions in a time that grows with the logarithm of the data size
- BaBar** experiment at the PEP-II storage ring at SLAC
- BARB, BARBascii** a computerised documentation system developed in the 1970s
- Batch** operating mode of a computer where a request for work is executed asynchronously till completion with little or no control by the user

- Baud** Unit of transfer of information corresponding to one binary digit (bit) per second
- BBC** a point-to-point network file copy application developed at SLAC the BaBar collaboration to transfer files at approaching line speeds in the WAN
- Big Bang** theory according to which the universe originated from extremely hot and dense state whose expansion, which is continuing today, caused the universe to cool and resulted in its present state
- Bind variable** a place-holder variable in a SQL statement that must be replaced with a valid value to execute the statement
- Bit** Binary digit that can assume the values of 0 or 1
- Bitmap display** a computer screen where each pixel on the monitor corresponds directly to one or more bits in the computer's video memory
- BITNET** network protocol developed by IBM
- Block device** a computer component (device) through which the Operating System moves the data in blocks to increase transfer efficiency; examples are disks or CDs
- Blog** a type of website where different individuals write regular entries of commentary, descriptions of events, including graphics or video
- BMI** Broadcast Music Inc., an U.S. not-for-profit performance-rights protection and license fee collection organization
- BNL** Brookhaven National Laboratory
- Boinc** an Open Source software platform for using volunteered computing resources
- BOS** Bank Organisation System
- Bose-Einstein condensate** a quantum state that can be reached a class of subatomic particles where all components occupy the lowest energetic level
- Boson** a subatomic particle that can participate to a Bose-Einstein condensate
- BSD** Berkeley Software Distribution is a Unix operating system derivative
- Bubble Chamber** a container filled with a super-heated transparent liquid where electrically charged particle moving through it create small bubbles that allow to reconstruct their trajectory
- Buildbot** a system to automate the compile and test cycle required by most software projects to validate code changes
- Bus** a device for data transfer between the components inside a computer
- Byte** Sequence of binary digits (bits), usually of size 8
- C** programming language
- C++** computing language
- Cache** a component that transparently holds data which has been requested, so that data can be served faster in case of further requests
- cache miss** request for data which is not in the cache, and which therefore it will take longer to retrieve
- Calcomp** a brand of pen plotters
- CAP** Computing for Analysis Project, a FNAL project with the goal of enabling rapid HEP analysis and event selection from multi-TeraByte datasets

- CASE** Computer Aided Software Engineering, a set of programs, methods and automated tools meant to improve the quality of existing software or to improve the efficiency and correctness of the software development process
- CASTOR** the CERN Advanced STORage manager is a hierarchical storage management system developed at CERN for physics data files
- CBM** Compressed Barionic Matter experiment at the FAIR facility, GSI, Darmstadt
- CCIN2P3** Centre de Calcul de l'Institut National Pour la Physique Nucléaire et des Particules, a computing centre in Lyon, France
- CCRC** Common Computing Readiness Challenge, exercise simulating the operating conditions of WLCG to test its readiness for real operation
- CDC** Control Data Corporation, a computer manufacturer
- CDF** The Collider Detector at Fermilab Tevatron proton accelerator
- CE** Computing Element is a gateway operated at each Grid site that provides services for the submission and control of jobs
- CERN** The Conseil Européen pour la Recherche Nucléaire, or European Council for Nuclear Research
- CERNET** CERN developed network system, comprising both hardware and protocol
- CERNLIB** CERN Program Library
- CERNVM** public interactive service on the CERN IBM mainframe running VM/CMS, active from 1984 to 1992
- CernVM** CERN Virtual Machine, a virtualisation environment developed at CERN
- Certificate Authority** an entity that issues digital certificates (trusted third party) certifying the ownership of a public key by the named subject of the certificate
- CHEETAH** a data management system produced at SLAC
- CHEOPS** a batch data dissemination system developed at CERN and based on the OLYMPUS satellite
- CHEP** Computing in High Energy Physics conference series
- Chip** an integrated circuit on a thin semiconductor material
- CINT** an interpreter for C and C++ code part of ROOT
- CIS** Corporate Information System
- Cisco** a company producing network equipments
- CLI** Command Language Interface, a way to interact with a computer programme by typing commands on a keyboard to perform specific tasks
- Client** an application or system requesting services from another programme on the same machine or across the network ("server")
- Cloud** Distributed computing infrastructure based on multiple server-based computational resources accessed and used via a network. Cloud users access the servers ubiquitously from different platform, from a desktop computer to a palm-held device or smart-phone. Applications, data and resources are maintained within and managed by the Cloud servers

- Cluster** computing system composed by several similar units, usually workstations, communicating via a common network to support a large number of users and applications
- CMT** code maintenance system
- CMZ** Code Management with ZEBRA
- CN** Computing and Networks, a CERN division, formerly known as Data Division (DD) and later as Information Technology (IT) division
- CNUCE** Centro Nazionale Universitario per il Calcolo Elettronico, an Italian computing centre located in Pisa, Italy
- COMIS** FORTRAN interpreter, part of CERNLIB
- COMMON BLOCK** fixed size memory are shared between different routines in a FORTRAN program
- COMPASS** Common Muon and Proton Apparatus for Structure and Spectroscopy, a multi-purpose experiment taking place at CERN's Super Proton Synchrotron accelerator
- Condition Database** Database holding the status of the experiment, including its alignment and calibration constants
- Condor** a project to provide tools and policies to support High Throughput Computing on large collections of distributively owned computing resources
- Consciousness** objective awareness of oneself and of the world
- COOL** a CERN developed condition Database for LHC
- CORAL** Common Relational Abstraction layer, a CERN project to provide functionality for accessing data in relational databases using a C++ and SQL-free API
- CORBA** Common Object Request Broker Architecture, a standard to enable software components written in multiple computer languages and running on multiple computers to interoperate
- CORE** Centrally Operated Risc Environment, a CERN project to provide computing resources based on RISC workstations that followed the SHIFT project
- CORE** graphics system developed in the 1970s by A. van Dam, Brown University
- Core** an independent processor part of a multi-core or many-core system
- COS** Cray Operating System
- CPP** C Pre-Processor
- CPU** Central Processing Unit, set of electronics circuits executing the arithmetic and logical instructions contained in the computing programmes
- Cray** a computer manufacturer
- Crossbar interconnect** an interconnect connecting multiple input and output nodes in a matrix manner, with one switch at each crosspoint
- CUDA** a parallel computing architecture and programming environment for Nvidia GPUs
- Cut** Selection of a portion of the events based on their characteristics
- CVS** Code Versioning System, a code management programme
- CWN** Column Wise N-tuple

- Cyclotron** a device that accelerates elementary particles or heavy nuclei along a curved path via a high-frequency alternating electric field, while the particle trajectories are bent by a magnetic field
- D0** D0 Detector at Fermilab Tevatron proton accelerator
- daemon** a computer programme performing a service and running in “background” and not under the direct control of a user
- DAG** Direct Acyclic Graph, a representation of a set where some ordered pairs of the objects are connected by links and there is no directed cycle
- DAQ** Data AcQuisition System, the hardware and software used to collect and record in digital format the signals coming from the detectors
- Data caching** transparent and temporary storage of data so that future requests for that data can be served faster
- Database** an organised collection of digital data
- DataSynapse** a provider of Grid and distributed software products
- DATE** Data Acquisition Test Environment, data acquisition system developed by the ALICE collaboration
- DB2** proprietary RDBMS software developed by IBM
- DBA** Data Base Administrator
- DBL3** DataBase for the L3 experiment at CERN
- DBMS** DataBase Management System, a software program that manages the information contained in a Database
- dCache** a system for storing and retrieving huge amounts of data, from a large number of heterogeneous servers, under a single virtual filesystem tree
- DD** Data Division, a CERN division, then named Computing and Networks (CN) and finally Information Technology (IT) division
- DDL** Data Definition Language, it is used to create and modify the structure of database objects in Database
- DEC** Digital Equipment Corporation, a computer manufacturer
- DECnet** DEC proprietary network protocol
- DeCSS** a program running on Unix systems used to decrypt and display commercially produced DVD video disc
- DELPHI** DEtector with Lepton, Photon and Hadron Identification at the CERN LEP accelerator
- Desktop computer** fixed personal computer
- DESY** Deutsches Elektronen-SYNchrotron, HEP laboratory in Hamburg, Germany
- DIANE** DIstributed ANalysis Environment, the result of R&D in CERN IT Division focused on interfacing semi-interactive parallel applications with distributed GRID technology.
- Dirac** a set of middleware tools developed by the LHCb experiment
- Distributed lock manager** a software system that provides distributed software applications with a means to synchronise their accesses to shared resources, such as a Database
- DML** Data Manipulation Language, it is used to manipulate data in a Database
- DNA** DeoxyriboNucleic Acid, an acid containing the genetic information for the development and functioning of most known living organisms

- DOC** IBM documentation system
- DOD** U.S. Department of Defence
- Domain** proprietary networking system developed by Apollo
- Doxygen** automatic documentation generator from the code comments
- DPM** Disk Pool Manager is a lightweight solution for disk storage management developed at CERN
- DRDC** CERN Detector Research and Development Committee
- driver** an Operating System component allowing applications to interact with hardware devices such as disks, screens, keyboards or printers
- DSL** Digital Subscriber Line, a data communications technology enabling data transmission over copper telephone lines by using frequencies that are not used by voice telephony
- DZDOC** A ZEBRA Bank Documentation and Display System, a CERNLIB package
- EARN** European Academic and Research Network launched by IBM in 1983
- EASI** European Academic Supercomputer Initiative launched by IBM in 1987 to establish partnerships with leading European academic and research organisations to foster supercomputing education and research
- EASINET** IBM sponsorship for European Networks part of the EASI initiative
- EBU** European Broadcasting Union, the largest association of national broadcasters in the world, promoting cooperation between broadcasters and exchange of audiovisual content.
- EC2** Elastic Compute Cloud, a web service provided by Amazon that offers resizable compute capacity in the Cloud in order to make Web-scale computing easier for developers
- ECFA** European Committee for Future Accelerators
- ECP** Electronics and Computing for Physics, a CERN division
- EDG** European Data Grid, (2001-2004) is a project funded by European Union with the objective is to build the next generation computing infrastructure providing intensive computation and analysis of shared large-scale databases, from hundreds of TeraBytes to PetaBytes, across widely distributed scientific communities
- EGEE** Enabling Grid for E-science, a Grid project funded by the European Union that aims to build on recent advances in Grid technology to develop a service Grid infrastructure for science
- EGI** European Grid Initiative, a foundation aiming at creating and maintaining a pan-European Grid infrastructure to enable access to computing resources for European researchers
- EGS** Electron Gamma Shower, radiation transport programme for electrons and photons
- Eiffel** programming language
- electron-Volt** one electron-Volt (eV) is the energy acquired by one electron falling through a potential energy gap of 1 Volt
- Eloisatron** Eurasiatic Long Intersecting Storage Accelerator, a particle accelerator project proposed by A. Zichichi

- EMDIR** Electronic Mail DIRectory, an Oracle-based mail address database setup by the CERN Computing Division in the eighties
- Emulator** a computer that is able to reproduce via software the behaviour of the hardware of another computer
- Entanglement** when a quantum system in a given state becomes divided in two or more subsystems these are entangled: each one of them cannot be described separately from the others, no matter how far they are in space-time
- Entropy** a thermodynamic quantity that measures the disorder of a system, but also the amount of information and of useful work that can be extracted from it
- ER** Entity Relationship Model, where relations between data are modelled in tabular form
- ESA** European Space Agency
- ESD** Event Summary Data
- Ethernet** a family of computer networking technologies for local area networks based on the exchange of data packets
- Ethernet** networking technology for local area networks defining wiring, signalling standards and a common addressing format for computer networks
- ETICS** Einfrastructure for Testing, Integration and Configuration of Software, a E.U. funded CERN project aimed at developing and maintaining a distributed infrastructure and tools to manage Grid software configuration, builds and tests
- EUnet** a company providing network services
- Exa** prefix meaning 10^{18}
- ExaByte** one ExaByte corresponds to 10^{18} bytes
- exploit** a software or procedure exploiting a defect in a computer system in order to cause unexpected, and often harmful, behaviour, such as gaining unauthorised access to protected information
- Expresso** a CERN project to develop an in-house ODBMS
- F77** common abbreviation for the 1977 FORTRAN standard revision
- Facebook** a social networking service and website
- FAIR** Facility for Antiproton and Ion Research at GSI
- FATMEN** CERNLIB package for file cataloguing
- FDDI** Fiber Distributed Data Interface, an optical standard protocol for local area network based on optical fibers providing 100 Megabit/s to a distance of up to 200 km
- FDT** Fast Data Transfer, an application developed by the MonALISA project capable of reading and writing at disk speed over wide area networks
- FERMI** FERMI experiment at SLAC
- Fermilab** FNAL laboratory
- File catalogue** a logical list of the files on the Grid where each entry can correspond to one or more physical replicas on different Grid Storage Elements
- File replica** on a Grid the same file can be present in several sites for improved availability and access performance; each of these copies is called a replica
- File system** a (usually hierarchical) representation of a collection of data in a form that is human-readable
- FIND** documentation system developed by IBM

- Floating point** a system used on computer for representing numbers with a wide range of values using the form *significant digits* \times *base*^{*exponent*}
- FLUKA** FLUctuating KAscade, a fully integrated particle physics MonteCarlo simulation package
- FNAL** Fermi National Accelerator Laboratory near Chicago, Illinois, U.S.
- FORTRAN** FORmula TRANslation, a computing language invented in the sixties
- FPACK** a tape and file cataloguing system developed at FNAL
- Framework Programme** European Union program to fund collaborative Research and Development project across the European Union
- FroNTier** a CMS-developed server that distributes data from central databases to be read by many client systems around the world
- FTD** File Transfer Daemon, part of the AliEn middleware that manages file transfers between sites
- ftp** File Transfer Protocol, an Internet protocol used to transfer files between computers over the network
- FTP Software** a software company established in 1986
- FTS** File Transfer Service is a Grid service that transfer reliably files between two Grid locations
- FZ** ZEBRA package for sequential I/O
- G4ROOT** implementation of the GEANT 4 navigator system using a ROOT based detector geometry
- Ganga** The Gaudi/Athena and Grid Alliance is a front-end for the managing output collection, and reporting of computing jobs on a local batch system or on the Grid used by the LHCb and ATLAS experiments at LHC
- GAUDI** Software framework used by ATLAS and LHCb experiments at LHC
- GD3** Graphics library part of CERNLIB
- GEANT** CERN developed detector simulation package part of CERNLIB
- GEM** CERN project for a data manager program that was never completed
- Geoplex** a collection of computing clusters geographically distributed and continuously mirrored for augmented availability and reliability
- GEP** Graphics system developed at DESY
- GGF** Global Grid Forum, a conference series dedicated to the Grid
- GHEISHA** General Hadronic Electromagnetic Interaction SHower, simulation programme to transport hadrons in matter
- Giga** prefix meaning 10^9
- GigaByte** one GigaByte corresponds to 10^9 bytes
- GKS** Graphical Kernel System, first ISO standard for low-level computer graphics introduced in 1977
- gLite** Middleware suite produced by the EGEE project
- Globus** Globus Toolkit is an open source software toolkit used for building Grids
- Gnome** graphics environment for Unix workstations
- GNU** an Open Source mass collaboration project started in 1983 by R. Stallman at the Massachusetts Institute of Technology aimed at developing “a sufficient body of free software [...] to get along without any software that is not free.”

- Google** a company invested in Internet search, Cloud computing, and advertising technologies
- GPGPU** General Purpose GPU, the use of GPU for solving computational problems not necessarily linked with graphics
- GPL** GNU General Public License, widely used Open Source license
- GPS** Global Positioning System, a space-based satellite system that provides location and time information. It is maintained by the United States government and is freely accessible by anyone with a GPS receiver.
- GPU** Graphics Processing Unit, a specialised circuit designed to build and manipulate images intended for output to a display
- Great Unification** a putative physics theory that explains and encompasses in the same model all known physical phenomena, and can predict the result of any experiment that can be actually done
- Grid** A platform that allows direct, seamless and transparent access to high-end computational resources (computers, network, software and data), as is required by a range of collaborative problem solving and resource-brokering strategies emerging in industry, science, and engineering
- Grid service** a service specific to Grid computing
- GRIDFTP** a Globus project that produces high-performance, secure, reliable data transfer technologies optimised for high-bandwidth wide-area networks
- GriPhyN** Grid Physics Network, a Grid project funded by the U.S. National Science Foundation aimed at developing the concept of Virtual Data
- Group analysis** psychoanalytic doctrine that combines psychoanalytic interpretation with an understanding of interpersonal functioning according to a number of *basic assumptions*
- GSI** Gesellschaft für SchwerIonenforschung, centre for research on heavy ions at Darmstadt, Germany
- GSI** Globus Security Infrastructure, part of the Globus middleware providing secure access to the Grid resources via public key cryptography
- GTSGRAL** commercial implementation of the GKS standard
- GUI** Graphics User Interface, application allowing to interact with a computer via images and graphic elements rather than written text
- HADES** High Acceptance Di-Electron Spectrometer at GSI, Darmstadt
- HARP** HAdRon Production experiment at the CERN Proton Synchrotron
- HBOOK** Histogram BOOKing, histogramming and statistical analysis package part of CERNLIB
- HCP** High Ceremony Processes, the software development methodologies elaborated by classical Software Engineering
- HDD** Hard Disk Drive, a storage device to store persistent data in form of files using a spinning magnetic disk read by a head that moves on its surface
- Heap** internal memory pool set-up at the beginning of an application and used to allocate memory as needed
- HEP** High Energy Physics
- HEPCAL** HEP Common Application Layer, a specification of the common Grid functionality needed by the four major LHC experiments

- HEPDB** CERNLIB package for bookkeeping and Database management
- HEPDDL** HEP Data Description Language, an abandoned proposal made at the 14th Eloisatron Project workshop held in Erice, Sicily in 1990 for a language to describe HEP data structures
- HepODBMS** a class library developed for internal use by the CERN RD45 project to facilitate the development of HEP applications that use a commercial ODBMS
- HIGZ** High Level Interface to Graphics and Zebra programme part of CERNLIB
- Hilbert space** vector space with an infinite number of dimensions
- HiPPI** High Performance Parallel Interface, a computer bus for high speed communication between computers and storage devices
- HP** a computer manufacturer
- HPlot** graphics interface to the HBOOK programme part of CERNLIB
- HPSS** High Performance Storage System, an IBM developed software to manage PetaByte of data on disk and robotic tape libraries via hierarchical storage management that keeps recently used data on disk and less recently used data on tape
- HTML** HyperText Markup Language, system of textual annotations used to format, present and control the behaviour of web pages
- HTTP** HyperText Transfer Protocol, a networking protocol for information systems used as the foundation of data communication for the World Wide Web
- HTV** graphic programme part of CERNLIB
- HTVGUI** adaptation of the HTV graphics programme to bitmap displays, part of CERNLIB
- Hudson** a tool for continuous integration of software written in Java
- HYDRA** memory and data structure manager part of CERNLIB
- Hypertext** text on a computer or other device containing references (hyperlinks) to other text that can be readily accessed, by a mouse click or key sequence
- Hypervisor** a software that allows a computer to run one or more Virtual Machines (VM)
- I-WAY** Information Wide Area Year was a project conceived in 1995 as a large-scale test-bed for innovative high-performance and geographically distributed applications at the Argonne National Laboratory and at the University of Illinois at Chicago
- I/O** Input Output
- I/O bound** an application whose performance is limited by the data Input/Output
- IBM** Industrial Business Machines, a computer manufacturer
- icc** a C++ compiler from Intel
- ICL** a computer manufacturer
- IEEE** Institute of Electrical and Electronics Engineers, a non-profit professional association dedicated to technological innovation related to electricity and electronics
- IETF** Internet Engineering Task Force
- IN2P3** Institut National Pour la Physique Nucléaire et des Particules

- INDEX** a serial twisted pair network connecting terminals on the CERN site to central Gandalf system
- INESC** Instituto de Engenharia de Sistemas e Computadores, Lisbon, Portugal
- INFN** Istituto Nazionale per la Fisica Nucleare, Italian national agency for nuclear physics
- Ingres** a company producing Relational DataBase Management Systems
- Intel** CPU and other computer component manufacturer
- Interactive** operating mode of a computer where a request for work is executed synchronously and under full control by the users
- INTERCOM** Control Data Corporation operating system
- Internet** a global open system of interconnected computer networks Internet Protocol (TCP/IP) and linking billions of systems worldwide
- Interpreter** in computing jargon it is a programme that can read a source code and execute the instruction contained in it
- IP** Intellectual Property
- ISO** International Standard Organisation
- ISR** Intersecting Storage Ring, a CERN apparatus where protons are circulated in opposite directions and brought to collide, in operation from 1971 to 1984
- IT** Information Technology
- Itanium** a family of 64 bit Intel microprocessors that implement the Intel Itanium architecture
- ITU** International Telecommunication Union, United Nations specialised agency for information and communication technologies
- JADE** A compact magnetic detector at PETRA, experiment at the PETRA facility at DESY
- Java** programming language
- Job** In the computing jargon, a self-contained portion of work for a computing system
- Journal File** a log file of computer I/O operation that allows to recovery from a failure replaying the operations recorded in it
- KAPACK** a CERNLIB package providing random access to data records using keywords
- KDE** graphics environment for Unix workstations
- kernel** the main component of a computer Operating System that bridges between the applications and the actual operations done at the hardware level
- kilo** prefix meaning 10^3
- kiloByte** one kiloByte corresponds to 10^3 bytes
- KUIP** Kernel User Interface Package CERNLIB package to implement an interactive language to interact with a programme
- L3** detector at the CERN LEP accelerator
- LAN** Local Area Network
- laptop** portable personal computer
- Latency** a measure of time delay experienced in a system; in networks is the time elapsed from the emission of a signal to its reception by the intended receiver

- LCB** LHC Computing Board, CERN committee charged with the preparation of the software for the LHC era experiments
- LCG** LHC Computing Grid, synonymous for WLCG
- LCP** Low Ceremony Processes, the software development methodologies elaborated by modern Software Engineering
- LEAR** Low Energy Antiproton Ring, a CERN experiment
- LEP** The CERN Large Electron Positron accelerator, in operation from 1989 to 2000, colliding electrons and positron at a centre-of-mass energy of up to 209 GeV
- LEP DB** LEP Database Service
- LFC** LCG File Catalogue, a Grid file catalogue developed by CERN and EGEE
- LHC** Large Hadron Collider
- LHC++** toolkit written in C++ that should have replaced CERNLIB
- LHCb** LHC beauty experiment, a major experiment at the CERN Large Hadron Collider
- Linux** Open Source version of the Unix Operating System
- LIP** Laboratório de Instrumentação e física experimental de Partículas, Lisbon, Portugal
- LISP** LISt Processing, a programming language
- LLVM** project for the development of a collection of modular and reusable compiler and toolchain technologies
- LUSTRE** an Open Source parallel distributed file system, intended for large scale cluster computing
- Machine learning** a scientific discipline that studies algorithms allowing computers to evolve their behaviour based on data coming from sensor or databases
- MacOSX** Operating System developed by Apple
- mainframe** large high-performance computing system supporting numerous users and applications simultaneously
- Makefile** configuration file used by the Unix make build system
- Many-core** a multi-core system with a large number of cores
- Mass storage** persistent storage of large amounts of computer-readable data
- Master** in parallel computing, the process that starts, distributes the work to, possibly collect results from and stops the *worker* processes
- MCNP** MonteCarlo for Neutrons and Photons, transport programme for neutrons and Photons
- MEDDLE** MEeting with Data Division and LEP, a committee set-up to discuss the LEP experiments computing needs
- Mega** Prefix meaning 10^6
- Mega** prefix meaning 10^6
- MegaByte** one MegaByte corresponds to 10^6 bytes
- Megatek** company producing high-end graphics displays in the 1980s
- Message passing** a form of communication where information is contained in messages passed from a sender to one or more receivers

- Meta-computing** this expression used to indicate in the 1980s and 1990s experiments with high-performance computationally intensive computing applications over wide area networks
- Metadata** data describing a set of data, usually in a Database
- metafile** a file containing graphical elements in textual format from which a picture can be produced on a graphic device
- MeV** one MeV (Mega electron-Volt) corresponds to 10^6 electron-Volts
- MFC** Microsoft Foundation Classes, C++ API for part of the Microsoft Windows system functionality and services
- Micro-processor** single integrated circuit that contains all the functions of a central processing unit of a computer
- Microsoft** software company producing the Windows Operating System and other applications for personal computers
- Middleware** software used to connect other programs or people and their applications across networks.
- MIMD** Multiple Instructions Multiple Data, parallel execution where different instructions are executed simultaneously on different data
- Mini-computer** a multi-user, multi-application middle-size computer system, between the mainframes and the single-user systems (microcomputers or PCs)
- MINOS** Main Injector Neutrino Oscillation Search, a long baseline experiment sending neutrinos from Fermilab to Soudan, Minnesota
- MonALISA** networked distributed monitoring system developed at the California Institute of Technology
- MONARC** Models of Networked Analysis at Regional Centres for LHC Experiments, project aiming at designing a distributed computing model to process LHC data
- Monte-Carlo** computational algorithm based on the repeated sampling of functions or distributions via computer-generated pseudo-random numbers
- Moore's law** Empirical law enunciated by G. Moore stating that the number of transistors that can be placed on a single integrated circuit, and hence the performance of the CPU, doubles every 18 months
- Moose** nickname for the RD41 project
- Mortran** parametric (macro) extension to FORTRAN
- MOSAIC** first X11-based Web browser
- MOTIF** graphical user interface and toolkit for computer graphics based on X11 and introduced by the Open Software Foundation (OSF)
- MoU** Memorandum of Understanding
- MPI** Message Passing Interface, a message library to program parallel computers
- MPP** Massively Parallel Processor systems
- Multi-core** (processor) a computing component with two or more independent processors ("cores"), which read and execute program instructions independently
- Multimedia** media and content using a combination of different content forms
- Multistreaming** a data transmission technique where the data to be transmitted is divided in chunks which are transmitted in several independent streams in

parallel, for example when transmitting Web page images together with the Web page text

MVS Monitoring Virtual System, an operating system introduced by IBM

Myrinet a commercial high-speed local area network, designed to interconnect machines forming computer clusters

MySQL Open Source implementation of a RDBMS system

n-tuple ordered sequence of n elements

NA3 CERN experiment at the North Area experimental hall

NA4 CERN experiment in the North Area experimental hall

NA48 CERN experiment in the North Area experimental hall

NA49 CERN experiment in the North Area experimental hall

NA57 a CERN experiment in the North Area experimental hall

NA60 a CERN experiment in the North Area experimental hall

NADIR NAmE DIRectory, an Oracle-based database of the members of an experiment used by ALEPH and DELPHI in the eighties

Namespace a logical container providing a context giving a precise meaning to the identifiers it holds and preventing ambiguity with the same identifiers in another namespace

NAT Network Address Translation, the process of modifying the address of data flowing onto the Internet, usually to address multiple computers sharing a single Internet address

NCSA National Centre for Supercomputing Applications, University of Illinois at Urbana-Champaign

Network a set of computers and devices linked by communications channels that allow sharing of resources and information

Neurosis a type of mental disorders involving distress without delusions nor hallucinations, and where behaviour remains within socially acceptable standards

NexT a computer manufacturer

NexTStep operating system of NexT computers

NFS Network File System, a protocol by Sun allowing a client computer to access files on a server over a network as if they were located in its own local storage

NIC Network Interface Card (or Controller), a computer hardware element that connects a computer to a network

Non-regression procedure that verifies that the next version of a software production is “not worse” than the previous

NorduGrid the NorduGrid Collaboration coordinates the development of ARC and provides the best-effort support through community mechanisms

Norsk-Data a Norwegian computer manufacturer

Nvidia a company producing graphics processing units (GPU) and driver for computer graphics

O2 a commercial object-oriented Database Management System

Object an element of a computer programme that associate data and the algorithms that operate on them, which is the basic component of object-oriented programming and Design

- Object Databases** Database system where information is stored as object and not as records
- Objective C** programming language
- Objectivity** commercial object-oriented DataBase Management System
- ObjectStore** a commercial object-oriented Database Management System
- ObjectTime** a commercial CASE tool
- Obsession** an idea maintained so firmly that it resists any attempt to modify it
- OCCI** Oracle C++ Calling Interface, an API to access the Oracle database from programmes written in C++
- ODBMS** Object DataBase Management System, a database system manipulating objects instead of records
- ODMG** a consortium aiming to put forward a set of specifications that allowed a developer to write portable applications for object database and object-relational mapping products
- Offline** in HEP jargon it is the software used to process HEP data after that they have been recorded onto mass storage
- OGF** Open Grid Forum, an open community committed to driving the rapid evolution and adoption of applied distributed computing
- OGSA** Open Grid Service Architecture, a grid architecture blueprint based at first on Open Grid Service Infrastructure and later on Web services
- OGSI** Open Grid Services Infrastructure, a set of mechanisms for creating, managing, and exchanging information among entities called Grid services
- OID** an unique number that identifies every object in an object-oriented DataBase application
- OL** Object Life, a Software Engineering technique
- OLYMPUS** an ESA telecommunications satellite launched on July 12, 1989
- Omega** Spectrometer at CERN West Area experimental hall operated as a facility for some 48 experiments from 1972 to 1996
- OMG** Object Management Group, a consortium, originally to set standards for distributed object-oriented systems
- OMT** Object Modelling Technique, a Software Engineering technique
- OMTool** Object Modelling Tool, a commercial CASE tool
- OMW** Object Management Workbench, a commercial CASE tool
- On-line** in HEP jargon it is the software and the components that collect the events from the detector, format and write them onto mass storage
- OO** object-oriented design and programming
- OOADA** object-oriented Analysis and Design with Applications, a Software Engineering technique
- OPAL** Omni-Purpose Apparatus at LEP, one of the experiment at CERN LEP accelerator
- OPCAL** OPAL experiment CALibration Database
- Open Office** suite of applications for office use
- Open Source Software** Open-source software indicates software available in source code form provided under a software license allowing inspecting, changing and possibly distributing the software

- OpenLab** a collaboration between CERN and industrial partners to develop new knowledge in Information and Communication Technologies through the evaluation of advanced solutions and joint research to be used by the worldwide community of scientists working at the Large Hadron Collider
- OpenMP** Open Multi-Processing, an API for programming on multi-platform shared memory multiprocessing in C, C++, and FORTRAN based on compiler directives and environmental variables controlling run-time behavior
- OPN** Optical Private Network, a virtual circuit over an optical network transport layer providing guaranteed capacity between two or more end-points
- Opteron** processor line produced by AMD with a 64 bit architecture
- OQL** standard query language for object-oriented databases derived from SQL
- Oracle** a software company producing relational database management systems
- OS** Operating System: software that manages the computer hardware providing services to run the user applications and to control the computer status and operations
- OSF** Open Software Foundation, nonprofit organisation established in 1988 to define open standard implementation for the UNIX system. It has now been absorbed by the OpenGroup
- OSG** Open Science Grid is a consortium of software, service and resource providers and researchers, from universities, national laboratories and computing centres across the U.S., funded by the National Science Foundation and the Department Of Energy.
- OSI** Open Systems Interconnection model proposed by the International Organisation for Standardisation based on a layered description of communication systems
- OSM** Open Storage Manager, a disk and tape management system developed at DESY
- P2P** peer-to-peer or point-to-point, simplest network topology consisting in direct links between all the devices on the network
- PA-RISC** HP implementation of the RISC computer architecture
- PAF** Pico Analysis Framework developed for the BaBar experiment and based on ROOT
- PAM** Patchy Master file
- Panda** a set of middleware tools developed by the ATLAS experiment
- Panda** experiment at the FAIR facility, GSI, Darmstadt
- PAR** Proof ARchive, a single file in compressed archive format containing the files to execute some user code under PROOF
- Parallel computing** simultaneous execution of different parts of a programme to reduce the running time
- Pascal** a computer language
- PASS** Petabyte Access and Storage Solutions, a SSC project aimed at solving the data storage and access problem for the LHC and SSC experiments
- PATCHY** early CERNLIB code management system
- PAW** Physics Analysis Workstation programme part of CERNLIB
- PC** Personal Computer, computer destined to be used by a single user

- PDC** Swedish Centre for Parallel Computing
- PDP 11** a computer model manufactured by DEC
- PEP, PEP-II** Positron Electron Project for a storage ring and collider at SLAC in operation since 1980
- Perl** programming language
- PERQ** a computer manufacturer
- Persistency** attribute of data that outlives the process that created them, usually by means of writing them into a file
- Peta** prefix meaning 10^{15}
- Peta** prefix meaning 10^6
- PetaByte** one PetaByte corresponds to 10^{15} bytes
- PetaByte** one PetaByte corresponds to 10^6 bytes
- PETRA** storage ring based X-ray source operated at DESY, Hamburg
- PHIGS** Programmer's Hierarchical Interactive Graphics System, a standard for 3-D computer graphics developed in the 1990s
- PI** Physicist Interface, LCG Application Area project aimed at providing the interfaces and tools by which physicists will directly use the software
- PIAF** Parallel Interactive Analysis Facility developed at CERN
- Pilot jobs** a Grid job that acquires its workload only after a communication with some central service holding the job queue
- PIONS** Partial Implementation of Our New System, CERN project for a graphics package
- PL1** programming language
- Platform Computing** a provider of Grid and distributed software products
- plotter** a computer output device capable of displaying vector graphics, i.e. drawing lines
- Poet** a commercial object-oriented Database Management System
- POOL** Pool Of persistent Objects for LHC, LHC Application Area project aimed at providing a neutral persistency layer for LHC experiments
- Posix** Portable Operating System Interface for UniX, a set of IEEE standards defining API and interfaces for software intended to run on a variant of the Unix Operating System
- PostgreSQL** an open source RDBMS
- PowerPoint** application developed by Microsoft to prepare computer-based presentations
- PPDG** Particle Physics Data Grid, a collaboration of High Energy Physics laboratories in the United States, which was set up in 1999 to gain experience in applying this technology to the problems of particle physics
- process** a thread of activity on a computer
- PROOF** Parallel ROOT Facility, an extension of ROOT enabling interactive analysis of large sets of ROOT files in parallel on clusters of computers or many-core machines
- proxy** a server computer system or application program acting as an intermediary from clients requesting resources.
- PSS-05** Software Engineering Standard of the European Space Agency

- pthread** Posix standard for threads
- PTT** Postal, Telegraph, and Telephone service government agency responsible for postal mail, telegraph, and telephone services, usually working in a regime of monopoly
- PVM** Parallel Virtual Machine, a message library to program parallel computers
- Python** programming language
- QCD** Quantum ChromoDynamics, a theory of the force describing the interactions of the quarks and gluons (strong interaction) that composed the hadrons, such as the proton, neutron or pion
- QT** GUI toolkit produced by TrollTech
- Quantum Information Theory** the theory of the information referred to the quantum world
- R602** a CERN experiment
- RAC** Real Application Cluster, allows multiple computers to run Oracle RDBMS software simultaneously while accessing a single database, thus providing a clustered database
- RAL** Rutherford Appleton Laboratory in U.K.
- RAM** high-speed Random Access Memory
- RARE** Réseaux Associés pour la Recherche Européenne is a research organisation founded in 1986 by several European networking organisations to promote the OSI protocol)
- Rational Rose** a commercial CASE tool
- RB** Resource Broker
- rBuilder** a tool to build and maintain Virtual Machine images
- RD41** CERN R&D project to study the viability of the object-oriented software approach for reconstruction code for the LHC experiments
- RD44** CERN R&D project to implement in C++ a new version of the GEANT detector simulation programme (GEANT 4)
- RD45** CERN R&D project to investigate object-oriented databases solution for the coming experiments, proponent of the use of Objectivity for physics data
- Red Hat** one of the major provider of Open Software, including a version of Linux
- Reflection** possibility for a programme to dynamically access the description of its own data structures
- REFLEX** C++ reflection system, supposed to be the main deliverable of the SEAL Project
- Resource Broker** synonymous for Workload Management System (WMS)
- RHIC** Relativistic Heavy Ion Collider facility at BNL
- RIOS** Remote Input Output Station, a room equipped with a card puncher and a printer connected to the CERN main computer system
- RIPE** Réseaux IP Européens is the Regional Internet Registry (RIR) for Europe, the Middle East and parts of Central Asia
- RIR** Regional Internet Registry, an organisation that manages the allocation and registration of Internet addresses within a particular region
- RISC** Reduced Instruction Set computer architecture

- RLS** Replica Location Service, a Grid service that handles the information on the location and status of File replicas on the Grid
- ROOT** High Energy Physics data manipulation and visualisation package developed at CERN
- rootcint** utility programme part of the ROOT package to generate the reflection dictionary and the I/O methods for the root classes
- Router** a device to steer data packets over computer networks
- RPC** Remote Procedure Call, a network protocol allowing a programme running on a computer to execute code on another computer
- RS232** name for a set of standards for serial binary signals using in computing serial communication ports
- RSA** Rivest, Shamir and Adleman, the inventors of an algorithm for encrypting a computer message via public-key cryptography in a way that it can only be read by the intended recipient, possessing the corresponding private-key
- RSCS** Remote Spooling Communications Subsystem Networking is an IBM proprietary networking protocol
- RTAG** Requirements Technical Assessment Group, technical subcommittees mandated by WLCG to explore a particular problem area
- RWN** Row Wise N-tuple
- RZ** ZEBRA package for direct access I/O
- S3** Simple Storage Service, a service provided by Amazon to store and retrieve data from any location on Internet at any time
- SaaS** Software as a Service, a software access model where software is delivered on demand over the Internet to users requesting it via a thin client, usually a Web portal, typically in the context of a computing Cloud
- SAN** Storage Area Network, a dedicated storage network that provides access to disk
- SASD** Structured Analysis and Structured Design, a Software Engineering technique
- SCANBOOK** a bookkeeping system used by the ALEPH experiment in the nineties
- Scheduler** a computer programme supervising the concurrent execution of different tasks by a computer
- Schema evolution** possibility to change the model of data or objects stored in a Database preserving the capability to read the old data
- SCI** Scalable Coherent Interface, a standard for a shared-memory high-speed interconnect used in multi-processor systems and for message passing
- SCRAM** code maintenance system
- SE** Storage Element provides a view of the data stored at each Grid site, maps Grid names to the local namespace, and supports services for data management and transfers
- SEAL** LCG Application Area project aimed at providing a C++ reflection system
- Search engine** a system designed to search and retrieve information on the Web and FTP servers
- SEFT** Helsinki Reserach Institute in High Energy Physics

- Self-scheduling** a mechanism where each worker gets a decreasing amount of work, based on its performance in executing it, to ensure that all thread terminate as closely as possible
- Serialisation** conversion of a set of data in memory into a format where the objects are placed one after the other, so that it is possible to store them into a file or transmit them across a network, together with the information that allows the original structure to be “expanded” in its original form when it is read or received
- Server** a programme running to serve requests of other programmes (“clients”) on the same computer or across a network. By extension, a server also denotes the computer that runs such programmes
- Service** in computer science a service is a mechanism that allows one electronic device to discover, request and obtain a service from another over a network
- Service machine** a computer that act as a server
- SGI** a computer manufacturer
- SGML** Standard Generalised Markup Language, an ISO standard for generalised markup languages for documents
- SHIFT** Scalable Heterogeneous Integrated Facility, a CERN project aimed at providing computer resources to the experiments in the form of networked computers and storage
- SIGMA** array manipulation and visualisation package part of CERNLIB
- SIMD** Single Instruction Multiple Data, parallel execution where the same instruction is executed synchronously on multiple data.
- SLAC** The Stanford Linear Accelerator Centre at Stanford, California, U.S.
- SmallTalk** programming language
- SMP** Symmetric Multi Processor, a parallel computer where every processor has access to the shared memory via a single shared bus
- SMS** Short Message System, text message communication on mobile communication system, mostly phones
- SMTP** Simple Mail Transfer Protocol an Internet standard for e-mail transmission over IP networks
- socket** logical endpoint of a bidirectional inter-process communication across a network
- Software Engineering** a “systematic approach to the analysis, design, assessment, implementation, test, maintenance and re-engineering of software, that is, the application of engineering to software.”
- Solaris** proprietary operating Unix based operating system developed by Sun
- Sony** a Japan-based leading manufacturer of electronics products for consumers and professionals
- SPIRES** Stanford Physics Information Retrieval System, a physics database containing information on HEP pre-prints
- SPS** CERN Super Proton Synchrotron particle accelerator
- SQL** Structured Query Language, used to manage data in relational databases
- SQL/DS** a company producing Database systems
- SQLite** software library that implements a self-contained, serverless, zero-configuration, transactional SQL database

- SQS** Simple Queue Service, a service provided by Amazon that offers a reliable, highly scalable, hosted queue for storing messages as they travel between computers
- Squid Web Cache** a caching proxy supporting a range of Web protocols aimed at reducing bandwidth and improving response times by caching and reusing frequently-requested web pages
- SRM** Storage Resource Manager is a protocol for Grid access to mass storage systems resulting from an collaboration of HEP laboratories
- SSC** Superconducting Super Collider Laboratory, a planned particle accelerator complex to be built in the vicinity of Waxahachie, Texas set to be world's largest and most energetic, surpassing the current record held by LHC
- SSD** Solid State Drive, a storage device for persistent data in form of files and using solid-state memory rather than spinning disks
- STELLA** communication satellite launched at the beginning of the eighties
- STK** Storage Technology Corporation, a data storage technology company focussing on tape backup devices and the associate software
- STL** Standard Template Library, a C++ library of container classes, algorithms, and iterators
- StorageTek** alternative name for STK
- STOREGATE** ATLAS data access framework
- StP** Software through Pictures, a commercial CASE tool
- Subconscious** according to Sigmund Freud's theory, it is the repository for memories, thoughts and emotions excluded from the conscious mind by the psychological mechanism of repression
- SUMX** statistical analysis package developed at Berkeley
- SUN** a computer manufacturer
- SURL** Storage URL, a string that identifies a file on the Grid with its physical location and access protocol
- SVN** SubVersioN system, a code management system which is an evolution of CVS
- Switched interconnect** a connection between multiple elements based on switches
- Synchronicity** meaningful coincidence events, that are apparently causally unrelated or unlikely to occur together by chance
- Synchrotron** a cyclic particle accelerator in which the magnetic and electric fields used to guide the particles are synchronised with the circulating beam
- syslog** Unix monitoring service
- Tag** collection of important features of each event in a given set, which are used to select the interesting events for further processing without reading the full event collection
- Task queue** a list of workloads to be performed by a computing system, possibly on a Grid
- TATINA** programme to simulate the interaction of hadrons with nuclei
- TCP/IP** Transmission Control Protocol/Internet Protocol, a protocol to manage the connection of computer systems to the Internet

- TCP/IP window scaling** the amount of data transferred in a TPC/IP connection is limited by the receive window set by the receiver between 2 and 65,535 Bytes; if a receiver is ready to receive more, it can indicate a scaling factor to go beyond the maximum specifiable size
- Tektronix** a U.S. company producing electronic test measurement equipment which used to produce also computer graphic displays
- telnet** a protocol used on Internet or local area networks to provide a text-oriented virtual terminal connection
- Tera** prefix meaning 10^{12}
- TeraByte** one TeraByte corresponds to 10^{12} bytes
- TeV** one Tera electron-Volt corresponds to 10^{15} electron Volts
- thread** a unit of processing within a computer programme, which can possible be executed in parallel with other threads
- Throughput** amount of computing work performed in a given amount of time
- Tier 0** in the MONARC model the Tier 0 (T0) is the laboratory where data originate (in case of LHC this is CERN) that performs initial processing of the data and maintains master copies of the raw and other key data-sets to be exported to Tier 1's and Tier 2's.
- Tier 1** in the MONARC model a Tier 1 (T1) is a large computing centre providing long term data warehousing, holding synchronised copies of the master catalogues, used for the data-intensive analysis tasks, and act as data servers for smaller centres
- Tier 2** in the MONARC model a Tier 2 (T2) is a centre used for end-user analysis and simulation.
- TIFR** Tata Institute for Fundamental Research, Mumbai, India
- Tk/TCI** Tool Command language, a scripting language for rapid prototyping of user interfaces
- TMS** Tape Management System, a system to catalogue and manage computer magnetic tapes
- Token ring** network protocol using a three-byte frame called token travelling in a ring and providing permission to transmit to the medium.
- Trigger** in HEP jargon a trigger is a very fast signal generated by the detector that activate the recording of the current event used in order to reduce the data volume and only record interesting events
- Tru64** a 64 bit Unix operating system for the Alpha architecture
- TSO** Time-Sharing Option, an IBM Operating System component
- UA1** CERN detector aimed at studying the proton-proton collisions and installed in the Underground Area 1 experimental hall of the CERN Super Proton Synchrotron. In 1982 with this apparatus, C. Rubbia discovered the Z and W bosons, discovery for which he was awarded the 1984 Nobel Prize for Physics
- Ultrix** Unix based Operating System developed by Digital Equipment Corporation
- UML** Unified Modelling Language, a modelling language for object-oriented software engineering
- Unix** multitasking, multi-user operating system developed in 1969 at AT&T Bell Labs

- UNOSAT** United Nations institute for training and research Operational SATellite applications programme, to deliver integrated satellite-based solutions for human security, peace and socio-economic development, in keeping with the mandate given by the UN general assembly since 1963
- Unus Mundus** One World, the concept that everything belongs to a unified reality from which everything comes and returns to
- UPDATE** code management system on CDC computers
- URI** Uniform Resource Identifier set of characters identifying a resource on Internet
- URL** Uniform Resource Locator, a set of characters indicating how to find a resource on Internet
- Usenet** a worldwide Internet discussion system precursor of nowadays blogs, built on the general purpose UUCP architecture of the same name
- Usenix** the Advanced Computing Systems Association
- UUCP** Unix-to-Unix Copy, a collection of programmes and protocols for remote execution of commands and transfer of files, email and netnews
- VAX** Virtual Address eXtension, an instruction set computer architecture developed by Digital Equipment Corporation
- VAXcluster** a cluster of DEC computers running the VMS operating system
- VCR** Video Cassette Recording, a domestic video format designed by Philips and based on magnetic tapes
- VDT** The Virtual Data Toolkit is an ensemble of Grid middleware software produced by the OSG project as its software distribution
- Vector graphics** graphic composed by lines of different colours and thickness, as opposed to pixel or bitmap graphic, where the graphical representation is obtained by assigning a colour to each point (pixel) on the surface
- Vectorisation** Optimisation of the code where the same arithmetic operation is performed simultaneously on several values. It allows to obtain performance improvements on vector machines such as the Cray
- Versant** a commercial object-oriented Database Management System
- Virtualisation** procedure by which a real hardware components are replaced by programmes reproducing their functions via software emulation
- VM** Virtual Machine, a software programme that emulates the behaviour and components of a complete computer
- VM/CMS** Virtual Machine / Conversational Monitoring System, proprietary name of an IBM Operating System
- VMC** Virtual MonteCarlo, a virtual interface to MonteCarlo particle transport programme developed by the ALICE collaboration
- VME** VME or VMEbus a standard for computer component connections developed for the Motorola 68000 CPUs, widely used for many applications and later standardised by the American National Standard Institute
- VMS** Virtual Memory System, an Operating System introduced by DEC
- VMSS** Virtual Mass Storage System, the XROOTD global distributed namespace that is seen by a site like a virtual mass storage system
- VMware** application to run virtual machines

- VO** structure and associate software tools that define and manage a community of Grid users
- VO box** Virtual Organisation box, a machine running Virtual Organisation specific Grid services
- VOMS** Virtual Organisation Membership Service, a Globus component for managing authorisation data within multi-institutional collaborations
- VT100** video terminal produced by DEC, whose attributes became the de facto standard for terminal emulators
- W3C** World Wide Web Consortium, principal standards organisation for the World Wide Web
- WAN** Wide Area Network
- Web service** a service using the Web communication protocols
- Website** a collection of related Web pages hosted on one or more servers and accessible from a top-level page usually called “home”
- Widget** a standard configurable and reusable element in computer graphics such as a drop-down menu or a dialog box
- Windows** Microsoft proprietary operating system
- WIPO** World Intellectual Property Organisation, a U.N. agency created in 1967 “to encourage creative activity, to promote the protection of intellectual property throughout the world.”
- Wireless network** a computer network where the computers communicate via radio signals
- WISNET** early implementation of the TCP/IP protocol by Wisconsin University
- WLCG** Worldwide LHC Computing Grid
- WMS** Workload Management System
- WN** Worker Node, one physical or virtual machine that participates to the execution of the Grid workload
- Worker** in parallel computing one of the several processes that are controlled by the *master* and that execute the workload in parallel
- Workload management** distribution of computing tasks amongst different computing elements to optimise application performance
- Workstation** medium size computing system supporting a limited number of users and application simultaneously
- X-Windows** synonym for X11
- X.25** an international standard protocol for packet-switched wide area networks
- X11** X Windows System is a software that provides the basic elements for a graphics interface for networked computers
- Xerox** a company producing multifunction printers and photo-copiers
- XFIND** extension of the FIND system developed at CERN
- XNS** Xerox Network Services, a network protocol developed by Xerox
- XP** eXtreme Programming, a software development methodology aiming at improving software quality via lightweight procedures and rapid response to changing customer requirements
- XRDCP** high performance file copy utility part of the XROOTD software

- xrootd** software package developed at SLAC and aiming at giving high performance, scalable fault tolerant access to data repositories of many kinds
- XWHO** electronic phone-book developed at CERN
- Y2K** Year 2000, shorthand notation for the problem which resulted in the practice used during the twentieth century of abbreviating four-digit years to two digits, both for computer programs and non-digital documentation
- YouTube** a video-sharing website on which users can upload, share and view videos
- ZBOOK** memory and data manager programme part of CERNLIB
- ZCEDEX** Zebra based Command EDition and EXecution programme
- ZEBRA** CERNLIB package for dynamic memory management
- ZOO** proposal for Zebra object-oriented presented in 1994

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