



TSAMerms

Top 200 SAM Terms –
A Glossary Of
Software Asset Management Terms

Glossary Of Software



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Executive Summary

This glossary explains terms and abbreviations used by licensing professionals in Software Asset Management (SAM). It will help you to understand the meanings behind current, and former, Software Asset Management (SAM) terms and licensing vocabulary.

This report is aimed at those in management (with little experience in licensing) faced with the challenges of Software Asset Management. It may also help software asset managers and licensing experts convey information to their management.

The glossary presents over 200 SAM and licensing terms:

Terms related to Software Asset Management (SAM). SAM refers to the organization, processes, data and tools used to manage the life-cycle of software assets. The standard ISO/IEC 19770-1:2012 and the Infrastructure Library ITIL set a framework for SAM. SAM tools – supplemented by discovery tools – generate data and support SAM processes.

Terms related to licenses (commercial data). The Effective License Position (ELP) maximizes customers' license estates. Software vendors differentiate base licenses from maintenance or trade-ups, and term such as perpetual or fixed term licenses (FTL), licensing metrics, etc. Licenses may be purchased in bundle packages (software bundles) or in license packs.

Terms related to deployments (technical data). Deployments (installations) on infrastructure – servers and client devices – create the technical usage, which is subsequently used to calculate the license demand by applying metrics to hardware attributes or users. Hardware metrics take into account hardware attributes. User metrics, such as Authorized User or Floating User, take into account users and sometimes their roles.

Terms related to compliance audits. During a compliance audit, software vendors assess software license compliance. The compliance balance shows customers' over-compliance (unnecessary assets) and incompliance (over-deployment) positions. The audit settlement is comprised of an audit relief and a settlement amount (settlement licenses).

Should you have any questions, please contact OMTCO; contact details are listed at the end of this report. For those executives interested in sharing their thoughts on Software Asset Management and software license management, we highly welcome your feedback and comments.

Glossary Of SAM Terms

Agent | Software installed on a device to retrieve data, such as attribute or relationship data, and to be provided to a server installation. Examples: IBM Tivoli Asset Discovery for Distributed (TAD4D) is a software discovery tool with a server installation gathering installation data, hardware attributes and cluster/host relationships from its agents. The agents are installed on each server (hardware or virtual) to be monitored.

Annual License | License with software product-use rights limited to a period of one year, starting on the day of purchase. You may not use the software product afterwards, unless you prolong the license contract. Examples: Oracle Fixed Term License (FTL) with term of 1, 2, 3, 4 or 5 years. IBM Fixed Term License (FTL) with a regular duration of 12 months. Any subsequent period (prolongation of the license) may be submitted to different pricing than the initial period.

Application | Software program or group of software programs designed for end users.

Application Virtualization | Packaging of applications into units isolated from other applications as well as from host operating systems and computers. Application virtualization comprises Remote Desktop Services (RDS) and Desktop Virtualization. Application virtualization bears great licensing pitfalls mainly because both, the application virtualization software and the virtualized applications must be correctly licensed.

Assessment (SAM Self-Assessment) | The measurement and judgment of an organization's Software Asset Management (SAM) maturity, frequently measured against established standards such as ISO/IEC 19770-1:2012 or a best practices framework such as the Information Technology Infrastructure Library (ITIL) 2011.

Asset | Item of value owned by an individual or company. In SAM, we often speak of a license asset (covering only the purchased licenses, including maintenance, trade-ups , etc.) and software assets (covering both, licenses and deployments).

Asset base | The assets (licenses and deployments) and infrastructure subject to the processes of Software Asset Management (SAM) or Information Technology Asset Management (ITAM).

Assignment | Software vendors require that licenses are assigned to one device or one user, preventing sharing a license across more than one device or one user, and restricting transfers of licenses. Example: Microsoft volume licenses must be assigned to a device/user/server etc. (depending on the license metric) before

installing/using or accessing the software, whereas reassignment may be restricted (refer to the 90-day rule and to license mobility). Microsoft Full Packaged Product (FPP) licenses do not require a license assignment. Microsoft Original Equipment Manufacturer (OEM) and System Builder (SB) licenses are assigned to the device enduringly (Microsoft licensing terms forbid to reassign those licenses).

Attribute | Descriptor of a software or hardware asset or configuration item. Typical hardware attributes are number of processors, of cores, processor type, etc.

Audit (Compliance Audit, Compliance Verification) | A verification of the licensing compliance and non-compliance positions of a customer. The audit may be initiated by a software vendor and conducted by internal, such as group audit services, internal license management, and/or external parties, such as an auditor (e.g. Deloitte, KPMG). Compliance audits drive for the discovery of any unlicensed software and may result in subsequent compensation payments (penalty) and the enforcement of purchase of supplementary settlement licenses.

Audit Relief | Part of the audit settlement agreement, in which a vendor agrees not to pursue the customer for the non-compliance reported in the audit. Customers should note that only the past history of reported installations is relieved, hence any (future) additional non-compliance and any (past and future) non-reported usage can be audited anytime and pursued by the vendor. The audit relief is usually obtained by means of compensation payments and purchase of settlement licenses.

Authorization | Completion of a customer's registration process. At this point in time the product - and its components and extensions - have been installed and registered and an authorization file (key) has been sent to the customer.

Authorized User | Unit of measure by which a software can be licensed (in the metric Authorized User). An Authorized User is a unique person who is given access to the software, whereas the access may not actually take place (potential access). Each Authorized User may have simultaneous access to any number of instances of the Program at one time, on any device. However, the licensing of software per Authorized User may impose supplementary restrictions, such as a limitation of the number of devices or the prohibition to receive remote access to the software (for instance, per Terminal Server). Further restrictions create further metrics, such as IBM Authorized User Value Unit (AUVU) (differentiation in pricing depending on the type and number of users), Concurrent Users (restriction on time), Floating Users (restriction on time and instance).

Base License | An original license contract upon which further license contracts, such as maintenance, reinstatements, migrations and trade-ups, are based. A base license is necessary as proof of license (also called Proof of Entitlement (PoE)).

Maintenance, reinstatements or any product or metric migration are worthless without a base license.

Base License Agreement | Standard agreement that software customers accept when they download, install, or purchase any software product. For example, IBM base agreements are, most often, the International Program License Agreement (IPLA), which applies to warranted IBM programs. Other base agreements, such as the International License Agreement for Non-Warranted Programs (ILAN), the International License Agreement for Evaluation of Programs (ILAE) or the International License Agreement for Early Release of Programs (ILAR), are seldom used. The base agreements, the relevant Licensing Information (LI) and Program Announcement Letter (PLETs), and the current price list at time of purchase, represent the complete licensing picture of a specific product/edition/version. Base agreements contain important licensing restrictions applicable to all products. Oracle base agreement used to be the Oracle License and Services Agreement (OLSA) – but was replaced in January 2013 by the Oracle Master Agreement (OMA).

Baseline (BL) | Point of reference for companies' devices, infrastructure or network configuration, used for future discrepancy reporting and gap analysis. For instance, the Base Line of the Compliance Balance is the collection of all non-compliance positions before restructuring installations and infrastructure. As to IBM licensing: Lowest price in Passport Advantage, slightly lower than the price in Passport Advantage Express. Customers who were enrolled in the Passport Advantage Program at a Level A, B or C before 2003 now purchase at BL level (therefore IBM price levels A, B and C do not exist any more). BL does not require any points. Price levels with higher discount levels are: D, E, F, G, H, I and J for corporates or EDU/GOV for area of education and governments.

Batching | A term in licensing related to databases which comprises the automated processing of jobs, usually at scheduled times (if automated batching) or triggered by a user (if manual batching). Oracle Database does not require supplementary licenses for data batching in the Processor metric, and requires in the Named User Plus (NUP) metric supplementary users for manual batching (automatic batching is included).

Bundle Package (Software Bundle) | A collection of individually orderable components or products combined into a single offering, sometimes for promotional purposes, often for technical reasons, e.g. when particular software needs other software to operate. Bundles are important to identify as the bundle must not be licensed individually (saves costs for new licenses), but use restrictions must be abided by. IBM publishes bundles – and their restricted rights in Program Announcement Letters (PLETs) and Licensing Information Documents (LIs). For

instance, IBM Tivoli Asset Discovery for Distributed Version 7.5.0.10 (available since 2012) comprises in bundle, and subject to restricted use, IBM DB2 Enterprise Server Edition Version 9.7 (DB2 Restricted Enterprise Server Edition) and WebSphere Application Server v7.0. IBM Tivoli Netcool/OMNIBus Base Install v7.3.1 (available since 2011) comprises in bundle: IBM Tivoli Monitoring Version 6.2.2, IBM Tivoli Netcool/Impact Version 5.1.1, eWAS (embedded version of IBM WebSphere Application Server) 7.0, IBM DB2 Workgroup Server Edition Version 9.7, IBM DB2 Enterprise Server Edition Version 9.7.

Capacity-Based Metric | IBM Metric as of which hardware attributes are taken into account for the purpose of licensing. Since July 2006 the main capacity-based unit is the Processor Value Unit (PVU). Examples of capacity-based metrics: installation, hardware processing power or speed, Processor Value Unit (PVU), Resource Value Unit (RVU/PVU) based on PVU.

Central Processing Unit (CPU) | Hardware within a computer carrying out the instructions of a computer program by performing the system's basic arithmetical, logical, and input/output operations. Also a licensing metric, the CPU metric, based on the number of processors. The CPU metric is a legacy IBM metric, converted mandatorily since July 2006 to PVU.

Certificate Of Authenticity (COA) | Pre-installed Microsoft Windows OS require system builders to affix the COA label on the PC chassis. The COA label displays the name of the software purchased and the product key needed to reinstall the OS. Note that a COA is not a software license – the software license is purchased and documented by a COA on the hardware chassis, a hologram media (DVD), the documentation (manuals), and the software license terms (to be found within the software).

Client Device (Client, Workstation, Client Computer) | Client devices are typically running a desktop OS, but may also run a server OS. Client devices are typically used by individuals for their own need, such as a workstation or client computer.

Client Access License (CAL) | A license that gives a user the right to access the services of a server. CALs are primarily used for Microsoft Server products with a server/client licensing model. IBM differentiates its CAL concept from Microsoft's: an IBM CAL is the license related to a local installation and comprising the right to access the server software. Example: For Lotus Notes, each Proof of Entitlement (PoE), for each unique individual accessing the Program, includes a CAL providing the individual the right to connect and interact with an IBM Lotus Domino Server.

Client Operating System Environment (Client OSE) | Operating System Environment, "OSE running a client operating system" (Microsoft PUR).

Client-Server Architecture | A network architecture in which each computer or process on the network is either a client or a server. Servers are powerful computers or processes dedicated to managing disk drives (file servers), printers (print servers), or network traffic (network servers). Clients are PCs or workstations on which users run applications. Clients rely on servers for resources, such as files, devices, or processing power. Many professional software may have a dual structure, a server installation and clients installations. In licensing the duality client-server bears pitfalls as usually the server part and the client part of the software must both be licensed. Examples: Microsoft server license + CAL or Connector. IBM server installation + client installation (for example, Domino server licensed per PVU, and Lotus Notes licensed per Authorized User metric, such as CALs).

Client Software (Client Product, Client) | Client software is an application typically running on a desktop OS, installed usually on a client computer (workstation, personal computer) and seldom on a server. Client software may be standalone or part of a dual installation server/client.

Cloud (Cloud Computing, Virtual Cluster) | IT resources are provided on the basis of virtualization, thereby encompassing on-demand infrastructure (CPU, storage, networks etc.) and on-demand software (operating systems, applications, middleware, development tools etc.), dynamically adapted to the respective demands of companies' IT processes. Cloud computing is recognized by software vendors on a very restrictive basis, especially due to the fact the inherent advantages of a cloud is contrary to usual licensing restrictions, such as assignment to a specific hardware, geography or allocation of hardware capacity (CPU power). For example, Oracle recognizes their own technology Exalogic Elastic Cloud for Oracle Databases and Oracle Technology products.

Commercial Data | Entitlements (licenses, maintenance, trade-ups, product migration, metric migration, etc.) and customer agreements (enterprise agreements, product bundle agreements). Entitlements give customers the right to use software products of a determined edition, version, quantity, and either perpetually or for a limited period of time, with certain restrictions. Examples of customer agreements usually without use rights: IBM (i)ESSO (International Enterprise Software and Services Option) agreements, Microsoft Enterprise Agreement. Examples of customer agreements with use rights: agreements containing an exhibit with licenses, such as Oracle Unlimited License Agreement (ULA), IBM (i)ESSO (only, if signed after an audit and containing settlement licenses), IBM CEO Option (often for Lotus or Cognos).

Compliance (Software License Compliance) | Legal usage of deployed software products complying with legal requirements with regard to software usage. Or, in licensing terms: License Demand (LD) deriving from the deployments is covered by the Effective License Position (ELP) deriving from the license assets.

Concurrent User (Concurrent Licensing) | Concurrent Licensing imposes a limitation on the number of users at any time. Concurrent User is a unit of measure by which a software can be licensed (in the metric Concurrent User). The Concurrent User metric is the restriction with a time component of the Authorized User metric.

Configuration | Internal arrangement and interconnection of an asset, or an information technology service or system. The configuration is crucial in licensing as it may impact license demand by applying the configuration to the metrics of deployed software.

Configuration Item (CI) | Information about each configuration item is recorded in a CI record in the CMDB and is maintained throughout its life cycle. CIs typically include hardware, software, buildings/geography, users and formal documentation such as process documentation and service level agreements.

Configuration Management Database (CMDB) | Represents the authorized configuration of the significant components of an organization's IT environment, helping to understand the relationship between these components and track their configuration. The CMDB records CIs and details about important attributes and relationships between CIs. The CMDB is an important source of information used in licensing, however may pose some issues as the life cycle of data in the CMDB may not be synchronized correctly with the life cycle of IT items.

Configuration Management System (CMS) | Collection of tools and databases covering configuration management processes. Often the CMS and the CMDB are synchronized.

Contract (Software Contract, Software License Agreement (SLA)) | Legally binding agreement stipulating the rights and responsibilities of both a software vendor and a customer.

Contract Management | Supervision that involves the recording, tracking and reporting of your license contract details (including your owners, overall terms, conditions and rights, start and end of maintenance, etc.).

Copyright Ownership | Possession of copyright for a software product. In a typical licensing agreement, you do not buy a software (copyright ownership), but you acquire the right to use it (license to use with restrictions).

Core | Processor, microprocessor or sub-component of a processor. Many vendors (such as Oracle and IBM) still use the word processor meaning processor-core.

Core-Based License (Core-Based Metric) | Unit of measure by which a software may be licensed (a metric). Examples: the IBM Processor Value Unit (PVU) is a core-based metric, taking into account the cores of the processors to be licensed, and allocating them a value PVU/Core. Most of Oracle Databases and Technology Products may be licensed per Processor metric (some exceptions apply), taking into account the number of processor cores, and multiplying this number by a Processor Core Factor.

Core CAL | A suite of Microsoft client access and management licenses including: Windows Server CAL, Sharepoint Server Standard CAL, System Center Configuration Manager Client Management License, System Center Endpoint Protection, and Lync Server Std CAL.

Crossgrade | Permission by the very same software vendor to migrate from one application to another. Sometimes the vendor may ask for a fee, the customer then purchases a trade-in license.

Database (DB) | Any computer repository of information organized to permit data access and retrieval. To access information in a database, you need a database management system (DBMS), which is a collection of programs enabling to enter, organize, and select data in a database. Examples of database: Oracle Database (several edition), Oracle Berkeley Database, Oracle MySQL (several commercial and free editions), IBM DB2 (several editions).

Data Center | A facility housing servers and equipment typically used in a corporate computing environment connected by a local area network (LAN). In SAM, data centers are of major importance, as they concentrate expensive installations on a large number of servers and concentrate technology bearing many licensing pitfalls, such as application virtualization or server virtualization.

Decommission | The process of deactivating your hardware and/or software assets, primarily by uninstalling and disposal. The step is highly important as it annihilates any future license demand – but not the past license demand. Decommissioning should be registered properly, such as in SAM tools, in the Configuration Management Database (CMDB) or in the Active Directory (AD), etc.

Deployment | Processes for delivering software – and any associated licenses – to a device, collection of devices, network or entire infrastructure. Restrictions on deployment may be imposed by the vendor. For instance, Microsoft volume licenses may be deployed per image and remotely, whereas OEM, SB and FPP products may only be installed by using the included media. As the foundation for

many subsequent SAM processes, effective deployment helps ensuring the proper usage is recorded adequately within a company's databases. Software deployment is used in licensing as the term to describe the deployed software itself.

Desktop | Non-portable computer. Desktop and portable devices (laptop) may be differentiated by licensing. For instance, Microsoft secondary use rights allow for installation on one desktop and one portable device. IBM secondary use rights usually do not differentiate (exceptions apply) between portable and non-portable devices.

Desktop Virtualization | Installation of multiple guest operating systems onto one host desktop by keeping the guests isolated from one another using logical partitions, as well as from the host operating system or computer. Example: Microsoft Virtual Desktop Infrastructure access requires Remote Desktop Services (RDS) CAL plus Virtual Desktop Access (VDA), whereas VDA is not required in case of active SA for Desktop OS.

Development Tool | Product used to create software, e.g., a debugger or compiler. A programming tool or software development tool is a program or application that software developers use to create, debug, maintain, or otherwise support other programs and applications. Development tools are sometimes free (often product Software Development Kit (SDK)), sometimes to be paid for (often standalone SDK).

Device | In licensing, a single instance of hardware, e.g., a router, computer, switch, personal digital assistant, server or mainframe. There may be more than one Operating System (OS) on a device by means of virtualization. The Device metric is a licensing metric by which the number of devices attached or managed by the program are counted.

Discount Pricing | Lower-than-list prices unilaterally offered by a software producer or vendor, without negotiation or formal contract, e.g. education pricing, multi-license breaks, limited-time or introductory offers based on a commitment to purchase a given number of licenses over time. Examples: IBM foresees a discount level – price levels D, E, F, G, H, I and J for corporates – based on the total purchase volume (counted in points). Microsoft proposes a similar system.

Discovery | The process of identifying an infrastructure's hardware devices and their installed applications, software components and configuration items. Discovery includes, but is not limited to, identification of servers, workstations, routers, switches, applications, executables, services and the relationships between them. It applies to hardware and virtualized environments and may be supported by a discovery tool.

Discovery Tool | Software application that automates discovery. Examples of discovery tools: iQSonar (iQuate), IBM TAD4D, IBM ILMT.

Distribution | Software deployment and allocation within an organization. Software distribution is decisive in licensing, as deployed software creates technical usage, hence license demand.

Documentation | Coming along with the purchased software license and with the software media (DVD/download), a documentation (paper, PDF) is delivered containing information, such as an installation guide, a user manual, installation or registration keys (product key card). The documentation may be part of the Proof of License (PoL), such as for Microsoft OEM licenses.

Downgrade | Change to a lower version/product.

Downgrade License | Allows you to run a software version prior to and in place of the most current version. The most common case is a license under active maintenance. The license and the maintenance contracts give you the right to use a software product until the version permitted by the last day of maintenance. If downgrade rights apply, the license also allows using all former versions of the software.

Downgrade Right | Authorizes you to use the prior versions of the specific software – beside or instead of your current version, in accordance to your agreement terms and conditions. Downgrade rights may be specific to a product or generalized for all products of a vendor. Examples: Microsoft offers downgrade rights to volume licensing programs. IBM and Oracle, with exceptions, offer unlimited downgrade rights, applicable for all products (few restrictions). AutoDesk proposes only restricted downgrade rights.

Download | Electronic transmission of software from one device to another. Downloads are important in licensing as creating a licensing relationship between a vendor and a customer. Example: IBM International Program License Agreement (IPLA) already applies by the time of download of a software. If the software is downloaded from Passport Advantage or Passport Advantage Express, International Passport Advantage Agreement (IPPA) applies.

Effective License Position (ELP) | The best coverage possible derived from the customer's entitlements, i.e. the maximization of customer's commercial estate value. The ELP is maximized by considering the whole estate of entitlements purchased by the customer and by assembling (licensing term for: collating licenses, S&S, etc.) the entitlements in interdependency, e.g. the licenses and their subsequent S&S, reinstatements, trade-ups and migrations. Indeed, the Effective License Position offered by all entitlements combined is greater than the sum of

the Effective License Positions offered by each single entitlement (the ELP of the sum > the sum of the ELP).

End of Marketing (EOM) | Date on which a product of a specific edition and version will no longer be available for purchase, i.e. the part number ceases to be active and can no longer be ordered from standard price lists. Example: The IBM EOM date is communicated by IBM in Program Announcement Letters (PLETs), often differentiated by geography and languages.

End of Support (EOS) | The last date, a software vendor will deliver standard support services for a given version/release of a particular product. This date is one of the most important dates in the Software Life Cycle. Example: The IBM EOS date is communicated by IBM in Program Announcement Letters (PLETs), often differentiated by geography and languages.

End User | Final or ultimate individual user of a computer system; using a software product after it has been fully deployed. The rights and obligations of the End User are determined by the End User License Agreement (EULA).

End User License Agreement (EULA) | Contract between the licensor and purchaser of a software product, establishing the purchaser's right to use the software.

Enterprise Licensing Agreement (ELA) (Enterprise Agreement (EA)) | Enterprise-wide agreement, standardizing the software offer. ELAs offer benefits to customers – but contain major drawbacks. We recommend a thorough analysis for each specific customer situation to determine whether one should enter an ELA agreement. Examples of ELA: Microsoft Enterprise Agreement (EA), IBM ELA and Oracle ELA.

Enterprise User (Enterprise Application User) | Software user within the framework of a company – opposed to software used by individuals.

Entitlements | All purchased contracts providing use rights of software products, i.e. licenses (perpetual and Fixed Term Licenses (FTL)), maintenance (Subscription & Support (S&S)), reinstatements, trade-ins for cross-grade, trade-ups for products or editions, and product or metric migrations.

External User | “User that are not either your or your affiliates' employees, or your affiliates' onsite contractors or onsite agents (Microsoft PUR)”. Also IBM differentiates employees from external users in selected User Value Unit (UVU) metrics (depending on the product).

Fat Client | Performing the bulk of data processing operations within a client/server architecture. The data itself is stored on the server.

Fix Term License (FTL) | License for a software product, valid for a predefined period (IBM: in most cases 12 months; Oracle: 1 to 5 years) primarily purchased by companies with varying usage requirements over time. They may begin on the date that your purchasing order is accepted by the respective software vendor and may stop or be automatically renewed. Examples: IBM FTL usually have a term of 12 months, starting on the date of purchase, ending one calendar year (one exact day before the anniversary date) later. IBM FTL may be prolonged with a FTL renewal for another 12 months. IBM FTL licenses include maintenance - as all licenses purchased through Passport Advantage - for as long as the FTL is in effect. Oracle FTL licenses offer a duration of 1, 2, 3, 4 or 5 years, whereas pricing depends on the number of years.

Floating License (FL) | A limited number of licenses for a software application are shared among a larger number of users over time. When an authorized user requests to run the application, the user requests a license from a central license server. If a license is available the license server allows the application to run. When the user finishes using the application, or when the allowed license period expires, the license is reclaimed by the license server and made available to other authorized users.

Floating User (FL) | A Floating License is a license for a single software installation that can be shared among multiple team members; however, the total number of concurrent users cannot exceed the number of Floating licenses purchased. Floating users, therefore are a restriction to the number of access, at any time, per install of the Authorized User metric (or, in other words, a restriction of the install of the Concurrent User metric).

Freeware | Proprietary software authorized to use without purchase, though typically still requiring licenses and subject to copyright law.

Frequency of Use | Measurement of software usage by direct application use or last use.

Front End | In client/server applications, the client part of the program is often called the front end and the server part is called the back end.

Full Capacity (FullCap) | An IBM counting procedure associated with the Processor Value Unit (PVU) and the Resource Value Unit (P/RVU) - based on PVU metrics, by which all cores of the underlying hardware must be licensed. The major consequence for IBM customers is that the licensing of virtual machines (LPAR) does not limit licensing to just the virtual environment, but the full underlying hardware must be licensed (exceptions apply, see virtualization as a means to reduce licensing, limited to selected technologies). Full Capacity (FullCap) and Sub-Capacity (SubCap) bear major pitfalls for IBM customers.

Full Package Product License (FPP) (Shrink-Wrap License) | A license included within a boxed product, purchased from retailers. Examples: Microsoft FPP, IBM shrink-wrap.

General Availability (GA) | Date from which a product of a specific edition and version is available for purchase, depending, however, on language, region, electronic vs. media availability. Example: IBM GA date is communicated by IBM in both, Program Announcement Letters (PLETs) and IBM lifecycle database. GA depends on the geography of the customer, language of the software, means to make the software available (electronic download vs. media).

Geography (in Metrics) | Seldom, metrics take geography into account as a metric attribute. For instance, the Establishment metric requires entitlements per establishment, defined usually as any establishment of a legal entity in a 50km geofenced area. Also some metrics take continents into account, defined usually as three world regions - EMEA (Europe, Middle East, Africa), AM (Americas - incl. the North, Central and South Americas) and APAU (Asia, Pacific, Australia - incl. New Zealand and Oceania). Example: IBM takes continents in the operations of the IBM Tivoli Asset Discovery for Distributed / IBM License Metric Tool (TAD4D/ILMT) into consideration.

Home Use License (Home Use Right) | A contract permitting product-use rights outside of a main enterprise/commercial site, e.g., at home. Example: Microsoft Home Use Program for Volume Licensing.

Host | Device or program providing services to smaller or less capable devices or programs. In virtualization, a computer or an operating system on which virtualized software and guests are installed.

IMAC Activity (Install, Move, Add, Change) | Four events in the asset life cycle describing the actions conducted with an asset throughout an infrastructure.

Incompliance (Software License Incompliance, Software Non-Compliance) | Position in the License Demand (LD) which is not covered properly with adequate licenses from the Effective License Position (ELP). Incompliance discovered in a compliance audit typically leads to an audit settlement. The settlement usually comprises an audit relief for the customer's benefit and a settlement penalty for the vendor's benefit (associated with a purchase of entitlements, such as licenses, maintenance, reinstatements, trade-ups, etc.).

Independent Software Vendor (ISV) | Specialty software publisher providing software products, typically as application-specific or embedded software, from other software producers. Examples: IBM has a comprehensive ISV program. Oracle

products may be embedded in other software (ESL license) or used in other software (Application Specific Full Use license (ASFU)).

Information Technology Asset Management (ITAM) | Business discipline by which an organization aims to optimize investments in software and hardware by controlling, managing and improving upon configuration management, life cycle management, inventory and license compliance processes. The collection contains checklists, tasks and procedures that can be tailored to nearly any organization, regardless of size or sector. Version 3, published in 2007, places special emphasis on software asset and license management.

Information Technology Infrastructure Library (ITIL) | Set of best practices and references for IT Service Management developed in the early 1980s by the Office of Government Commerce (OGC). The current edition is ITIL 2011, which updated the previous 2007 edition. ITIL is comprised of five core publications covering the IT life cycle. We recommend management teams to take their roots from the ITIL framework, but in reality commercial organizations do not have much possibility for implementing ITIL to the letter.

Information Technology Service Management (ITSM) | Process-based practice intended to align the delivery of information technology (IT) services with needs of the enterprise, emphasizing benefits to customers. ITSM involves a paradigm shift from managing IT as stacks of individual components to focusing on the delivery of end-to-end services using best practice process models.

Infrastructure | IT-framework of an information system, collection of information technology assets or configuration items. In software asset management, infrastructure refers to the software asset base or portfolio.

Infringement of Copyright (Copyright Infringement) | Infringement of the copyright ownership of a work or product developed. Software, as an intellectual property, is protected by copyright law. The use of software without a license or contrary to the license agreement is an infringement of copyright.

Installation | Process of loading software on a computer or infrastructure and / or linking hardware into a network. The installation often triggers the need for a license, whereas some licensing requirements demand a license already at download (before installation) and / or at actual use (after installation).

Instance | Set of files accounting for your software; stored in executable form and ready to run. An instance of software is created, by executing the software's setup or install procedure, or by duplicating an existing instance. Instances of software can run on both, physical or virtual hardware systems. In licensing, instances are important, as the basic need for licensing is generated by an instance: each specific

instance must be licensed. Not to be confounded with the License Demand. A specific instance requires to be licensed, but the license demand may be zero, such as in an establishment metric, where all instances are covered by the establishment license.

Internal User | Person, program or device employed or implemented by a company, licensed to use a software product or service under terms and conditions (opposed to external users). Example: IBM in its User Value Unit (UVU) metric often implements, the concept of internal users (Employee User Value Unit (EUVU)), external users (External User Value Unit (XUVU)), or undifferentiated users (Authorized User Value Unit (AUVU)).

Inventory Management | Control over discovered data and all repositories holding all software and hardware assets, configuration items or attribute information.

ISO/IEC 19770-1:2012 | Standard for Software Asset Management from the International Organization for Standardization (ISO). ISO defines: "ISO/IEC 19770-1:2012 establishes a baseline for an integrated set of processes for Software Asset Management (SAM), divided into tiers to allow for incremental implementation, assessment and recognition". ISO 19770-1:2012 has emerged from the previous version ISO 19770-1:2006. ISO 19770-1:2012 and ISO 19770-1:2006 differs in major aspects: ISO 19770-1:2012 has abandoned the idea to define Software Asset Management, and proposes only a baseline; ISO 19770-1:2012 proposes tiers of incremental implementation, whereas ISO 19770-1:2006 set an unreachable, too high standard; ISO 19770-1:2012 has no pretension to effectiveness, although ISO 19770-1:2006 had: "(Software Asset Management is) the effective management, control and protection of software assets within an organization".

Keycode | Unique number in the feature line of your license or authorization file, that controls access to your software product. The keycode only allows access to the parts of the software that have been licensed.

Large Account Reseller (LAR) | A license reseller authorized to provide select licenses.

License (Software License) | Provides the legal right to install, use, access, display, run, or otherwise interact with a software program bought, not necessarily including the direct rights to additional media, manuals, or even support.

License Compliance Table (LCT) (License Compliance Balance, Compliance Table, Compliance Balance) | Matching both the license demand and offer in a two-sided balance, showing the customer's compliance position for each single product, edition, version in use (differentiated per metric). The demand side of the balance is

generated by the License Demand – derived from the technical data. The offer side of the balance is generated by the Effective License Position (ELP) – derived from the commercial data. All incompliant positions are aggregated into the overall incompliance position, often valuated as a penalty (monetary figure).

License Demand | Position showing the required use rights, e.g. from entitlements (licenses, maintenance) and customer’s agreements (Unlimited Agreement, etc.). The License Demand is derived from the Technical Usage, firstly by pre-selecting the optimum permitted metric based on technical data, and secondly confirming/ changing this selection by matching it with the commercial data. In the end, not just any License Demand should be determined, but the optimum License Demand that makes the most out of customer’s commercial estate (use rights).

License Key (License Number) | Software-based key or number which certifies that the copy of the software is original. License keys are often used for activation of the software.

License Management (Software License Management) | Sub-discipline of Software Asset Management (SAM), covering software license compliance. License Management is the active administration of enterprise-wide license purchase, allocation, deployment, operation, redeployment / pooling and the maintenance of compliance according to terms and conditions of software license agreements.

License Metric | Descriptor for measuring the product-use rights specified in the entitlement portion of a software license agreement, particularly for determining licensing and product usage pricing. Each vendor defines its own metrics, based on hardware or user attributes, geography, etc.

License Novation | Transfer of the property of a software license from one owner (a legal entity) to another owner (another legal entity). The receiver of the license usually pays for the license once, directly. If only use rights are transferred, but not the property of the license, the receiver pays usually with a leasing model (regular payments).

License Pool | A collection of purchased licenses identifying those not in use and therefore available for deployment. The license pool is constituted by the available licenses from entities in surplus and licenses from the license pool may be transferred to entities in need. License pooling is undermined however, with many issues, such as tax and value-added tax issues related to the international transfer of licenses, transfers forbidden by some countries, transfers of selected licenses not permitted by some licensing agreements, etc. Consequences from wrong pooling may range from licensing incompliance to committing felony/misdemeanor (tax issues). Customers willing to practice license pooling should do so with the support of a licensing expert with pooling experience.

License Registration | Activation of a software product for legal use by a user or company.

License Terms (Acceptance Terms) | As a key event within the framework of a Software License Agreement the software buyer needs to accept the license terms and conditions: The respective date approved thereby triggers all – the start of your warranty period, the start of your support, the terms of your license, and the clock on your payment.

License Type | Categorization of software license by its variables, including means of acquisition, packaging, intended purpose, license metric or duration of license agreement. Every software company has their unique software license type apart from the several common license types. Examples: Oracle differentiates licenses between perpetual vs. Fixed Term License (FTL); Full Use (FU) vs. Application Specific Full Use (ASFU) vs. Embedded Licenses (ESL); License vs. Software Update License & Support (SUL&S).

Licensing Information (LI) | Product-specific documentation of licensing rules.

Life Cycle (Software Life Cycle, IT Life Cycle) | Sequence of stages describing the existence and use of an asset or configuration item. This term refers to install/move /add/change activities, as well as procurement, requisition, disposal and other events. As the fundamental component for a SAM solution, it provides the baseline process to maintain a software asset inventory, containing the following five stages: (1) Planning, (2) Acquisition of Software (3), Deployment, (4) Software Management, (5) Retirement of Software.

Life Cycle Management | Process of monitoring, tracking and controlling software, hardware and related assets, from acquisition through decommission and disposal. This area covers management of install/move/add/change activities.

Limited License | Granting product-use rights for a specified portion of a specific software product – mostly for trial purposes.

Logical Partition (LPAR) (Virtual Machine (VM)) | Non-physical division of hard drive space, commonly implemented in virtualization. Often used as a synonym to Virtual Machine (VM).

Logical Server | Non-physical server.

Main Site (Site) | Primary or central location of a company, where its software products are used. Geography and reference to a (main) site can be used in a metric. The main site is difficult to determine in licensing, therefore licensing metrics using main site concepts define the main site, pragmatically. For example,

IBM defines the site or establishment, in the metrics site or establishment, as all locations in a circumference of 50 km.

Mainframe | Computer used primarily by large organizations for processing bulk quantities of data. Mainframes are still offered by IBM under the name IBM System z. The licensing of most products for System z is to be differentiated from the licensing of non-mainframes.

Maintenance (Software Maintenance, Upgrade Protection, Upgrade Advantage, Software Assurance) | Maintenance (also known as Upgrade Protection, Upgrade Advantage, Software Assurance, etc.) is granted in an agreement, i.e. the copyright owner grants the user (who has been already using its software) to use new versions of the computer program issued under effect of the agreement, and the user is obliged to pay (generally annually) a remuneration. Examples: Microsoft maintenance is called Software Assurance (SA). IBM maintenance is called Subscription & Support (S&S). Oracle maintenance is called Software License Update & Support (SLU&S).

Maintenance Renewal Date | The date by when your maintenance contract for a product expires and you need to consider a renewal. This date is specific to each maintenance contract. Multiple copies of the same product may expire on different dates. Examples: IBM maintenance ends at the so-called end date, usually one year minus one day after purchasing the license (longer terms may be purchased, multiple of one year; shorter terms are possible on customer's request to synchronize several licenses for instance from the same Passport Advantage site).

Major Release | Release of a new version of a software product, featuring significant changes in comparison to the previous one, typically indicated by a whole number change (e.g., from version 3.2.1 to 4.0) and may require additional costs or program modification to upgrade to the new version. Major releases are important in licensing as software vendors may require from customers to pay extra for major releases. Examples: IBM Cognos BI (starting at version 8) is a new product and is not to be installed as upgrade from IBM Cognos Series 7, even with an active maintenance contract.

Media | Form of physical data storage containing the files required to both install and use the software for company use (e.g. Installation-DVD, manual). Media is more and more replaced by download. Media is important in licensing, as some vendors - still providing media - require from customers to collect and present media as part of the Proof of License (PoL). Example: Media may be part of the PoL for Microsoft OEM/SB licenses.

Metering (Software Metering, Active Software Metering, Passive Software Metering) | Act of controlling your deployment and use of software constraining

both, its access and use thereby enforcing compliance according to the product-use rights. Overall objective is to reduce user licensing costs by restricting concurrent access to the application to no more copies (licenses) than have been purchased. Active software metering occurs when a user is specifically denied use of a metered application. Passive software metering occurs when application use is simply recorded and no control is asserted over maintaining a maximum concurrent usage level. Example: Selected vendors of software with a Concurrent User metric, may require a license server (such as a Flex server). For example Citrix XenApp on Concurrent User metric uses a license server to monitor and control access.

Metric | As a statistical unit, descriptor or quantifier, metrics define how usage is measured and to be paid for. If several metrics are applicable for a specific installation (product/version), then the customer may select one metric and license the product using the selected metric. Example: Oracle WebLogic Server Standard Edition, Oracle WebLogic Enterprise Edition or Oracle WebLogic Suite all are licensable per user (Named User Plus) or per Processor license.

Middleware | Software serving as a mediator between two distinct applications for interoperability across a network. IBM and Oracle are champions of middleware. The licensing of middleware is very important as middleware products are expensive, used broadly in enterprises, and most of the license metrics of middleware are complex.

Migration | Consolidating, upgrading or moving all users of a specific piece of software or hardware to another version, platform or environment. A migration can be a migration of product or edition (also called trade-up) and/ or a migration of metric (to migrate to another metric more favorable to the customer). Migrations – and their licensing pitfalls – create often incompliance, as customers forget to purchase mandatory migration licenses.

Million Instructions per Second (MIPS) | Performance metric for processor power of mainframes. This is used in selected IBM metrics.

Million Service Units (MSU) | Performance metric for processing work-per-hour for mainframes. This is used in selected IBM metrics.

Minor Release (Service Pack, Hotfix, Patch) | Release of a software product version with new features and/or changes, not significant enough to warrant the cost of upgrading on the part of the customer or a whole number change in a multi-digit version number on the part of the software vendor. Smaller minor releases may be called hotfixes or service packs, depending on the vendor, especially if they target mainly security issues. Even minor releases and hotfixes require an active maintenance contract to be installed and may imply change in licensing

requirements. Example: IBM DB2 Connect EE fix version 9.7.0.6 and version 9.7.0.7 have different licensing information documents.

Multi Packs (Packs) | Offered by many software vendors, software multi packs, usually include one set of media, one set of manuals and a license agreement for a specific number of users – 10 or 50 or 100. In case of downloads, packs are typically a number of licenses to be purchased in one set. Example: IBM PVU products are often offered in set. IBM Tivoli Asset Discovery for Distributed 10 Processor Value Units (PVUs) License + Software Subscription & Support 12 Months, is offered in packs of 10 PVUs.

Multiplexing | Hardware or software used to pool connections, reroute information, reduce the number of devices or users that directly access or use a software product. This is also used to reduce the number of operating system environments (OSEs), devices or users the product directly manages. In most cases, licensing requirements demand that the devices and users are counted at the multiplexing front end, hence not reducing the number of licenses you need. Multiplexing may usually not be used as a means to reduce the license demand.

Named User License | A contract constraining product-use rights to pre-designated individual users who access the product on multiple computers. Usually a named user metric permits the access of an unlimited number of instances/ installations by the same user, except if the vendor has set restrictions to this in the licensing requirements. Named users are used in many metrics, such as the Authorized User metric, the Concurrent User metric (restriction on parallel access), Floating User (restriction on parallel access per instance), etc. Examples: Oracle Named User Plus metric. IBM Authorized User metric, Concurrent User metric, Floating User metric, etc. Microsoft User metrics can be selected for CALs and are obligatory for developer licenses (msdn) .

Non-Commercial Use License | A contract permitting product-use rights for personal or non-profit use only. Many open-source licenses are for non-commercial use. Some of the open-source software have commercial editions that are to be paid for (license or a subscription) though. Example: Oracle MySQL is offered in non-commercial editions (Classic, Community) and commercial editions (Standard, Enterprise, Cluster Carrier Grade).

Non-Perpetual | A license provides use rights for a limited period of time, only. Examples: Oracle Fixed Term Licenses (FTL) (1, 2, 3, 4 or 5 years), IBM Fixed Term License (FTL) (usually 1 year, renewable in consecutive 1 year terms), Microsoft subscription licenses as Enterprise Agreement Subscription or Open Value Subscription.

Non-Productive Environments (Non-Commercial Environments, Development, Testing and Staging Environments) | An OS used for application development, and their testing and staging. The environment is non-productive as it not supposed to be isolated from the production environments. In licensing, non-productive environments are important to be determine exactly as they are often to be licensed differently – or may offer cheaper licenses. Example: Oracle Technology Network (OTN) offers licensing of Oracle products for free, if OTN licensing restrictions are respected. This allows having – under strict OTN licensing restrictions – free development environments.

Open License | A license program from Microsoft (containing OPEN-NL, OPEN C, OPEN D (Governments and Non-Profit Organizations), Open E (Education), OPEN Value and OPEN Value subscriptions) for low license volumes. Not to be mistaken for open source software.

Open Source Software (OSS) | Software with publicly available source code. Open source software does not mean that the software is free or not to be licensed in general, but the open source license grants the right to consult, change/improve and redistribute the source code to licensees. Open source is often used as a marketing term in order to distribute software with commercial editions and free (restricted) editions by vendors.

Operating System Environment (OSE) | An operating system instance, or a virtual operating system instance, which enables separate machine identity.

Original Equipment Manufacturer (OEM) | A license program for computer manufacturers to provide their hardware with licensed software, especially operating systems.

Outsourcing | Assignment of internal company tasks to external companies providing IT infrastructure and services. The outsourcer provides services to an organization by means of an outsourcing contract, for example, an IT outsourcer provides hosting services, desktop computer management, IT support. Outsourcers are normally excluded from licensing agreement and subject to special permission by the vendor.

Over-Licensing | Situation in which the Effective License Position (ELP) – derived from assembling licenses, maintenances, reinstatements, trade-ups, etc. – exceeds for specific products (differentiated by all licensing relevant attributes, such as edition, version, metric, geography, entity, etc.) the License Demand (LD) – the number of licenses required to run a software product. Typically in this situation, customer has invested in assets which are not used, licenses could be pooled and transferred to other subsidiaries in need (permitted by most of vendors for

majority subsidiaries of a same corporation) – in a process called License Pooling – or licenses (depreciation) and maintenance (OPEX) could be terminated.

Packaging | Assembling of software components for distribution on devices. Packaging is essential in software licensing, as configuration data (incl. registries) is determined during packaging. Registries may be read out by scan tools or extracted by administrator commands.

Patch (Hotfix) | Minor software improvement or hotfix, covering security vulnerabilities and promoting usability or performance. Patches are seldom taken into account in licensing. Example: the licensing of IBM DB2 Connect EE takes into account the patch, as IBM DB2 Connect EE fix pack #6 (version 9.7.0.6) and fix pack # 7 (version 9.7.0.7) have different licensing information documents.

Peak Usage | Highest level (high-water mark) of license demand in concurrent metrics, such as in the concurrent user metric, concurrent session metric or concurrent device metric. Peak usage may also be used for metrics that do not show this concept inherently, such as the PVU peak usage measurement in sub-capacity, reported in signed reports in IBM ILMT/TAD4D. Peak usage may be determined by license servers, by server logs or administrator commands/scripts. License servers and server logs bear pitfalls as an all-time high – over a long period of time – is registered. Scripts measure only for a certain period of time, such as every 15 minutes for one week.

Peak License Demand | When moving instances within a server farm without license mobility (Microsoft), your peak license demand may top your planned license demand as you need to assign a license before installing/deploying the product on the device.

Perpetual License | A perpetual license grants use rights without time limitations, whereas a non-perpetual license is limited to a particular period of time. Examples: IBM/Oracle/Microsoft offer perpetual and non-perpetual licenses. Not to be mistaken for the period of active maintenance of a license (maintenance have no use rights).

Per Processor License | License metric based on access by individual processors within servers.

Per Server License | A license granting product-use rights for one server. Usually, in a dual server/client environments, or by concurrent client-side access to server software.

Physical Core | Each physical processor contains smaller processing units called physical cores. Processors may be mono-core (single core), dual-core (2 cores), quad-core (4), hexa-core (6), etc.

Physical OSE | “An operating system instance or a virtual operating system instance which enables separate machine identity (Microsoft PUR)”.

Platform | Usually an operating system – sometimes associated with a device – onto which other software, such as applications may be installed and run, e.g., WINTEL platform (Windows + Intel), UNIX operating system, IBM AIX. In licensing, the platform is important as taken into account to differentiate licenses needed. Example: IBM differentiates WebSphere MQ products as of the platform, for standard (WINTEL) servers (IBM WebSphere MQ PVU), for System Z (IBM WebSphere MQ for zEnterprise BladeCenter Extension and Linux on System Z PVU), for HP OPENVMS (IBM WebSphere MQ for HP Openvms PVU), and for AIX (IBM WebSphere MQ Hypervisor Edition for AIX PVU).

Pooling | Reuse of non-used entitlements in a corporation by transferring entitlements from one giving owner (in surplus, over-licensed) to a receiving entity (in deficit, under-licensed). This pooling process allows for cash-out savings. Pooling may be done by license novation (property of the license transferred) or transfers of use rights, only. License novation is often associated with a permission or information process from the vendor. For example, Microsoft requires an information through the Microsoft License Transfer Form. IBM requires an informal process per email between IBM Passport Advantage site owners (the receiver asks for permission; the giver grants permission). Some vendors do not permit pooling of licenses between continents, countries or even between legal entities.

Portfolio (Software Portfolio) | Required mix or collection of software products, held by a company. OMTCO answers your questions related to the licensing of any vendor/product (IBM, Oracle, Microsoft, Citrix, SAP, Adobe, Attachmate, Infor GS, Informatica, VMware, etc.), for example, when you purchase licenses (for IT projects), renew maintenance, or refresh your infrastructure. We optimize your enterprise contracts, for example, Microsoft EA/Select, IBM ELA/iESSO/CEOption, or Oracle ELA/ULA.

Price Level | The scale of different price discounts offered by a vendor. The methods for determining the price level vary, often being the volume (EUR) purchased over a 12-month period. IBM offers following price levels for corporates: BL (base Line), level D, E, F, G, H, I, J (least expensive).

Price List | Itemization of software products and associated costs by a software vendor

Processor (Processor Core, Central Processing Unit (CPU)) | Core of a computer (client or server) that receives and acts upon all instructions – handling calculations and control operations. Devices (usually servers) are often licensable per-processor or per-processor core.

Product Activation (Activation) | Some products and online services are protected by technological measures and require activation and a Volume License key (product key) to install or access them.

Product Use Rights (PUR) | The Product Use Rights document is published on Microsoft's homepage and is part of the license between Microsoft and Microsoft Volume Licensing customers.

Production License | Grants use rights for software products running real-time - in a production environment - supporting daily business operations of a company.

Proof of License (PoL) (Proof of Entitlement (POE)) | Evidence qualifying to prove legal acquisition of a software license, usually in form of an original documentation by the respective software vendor. This PoE documentation varies per vendor and product, may be an original certificate of authenticity and any other entitlement (refer to your licensing agreements for each specific product/vendor). Some vendors require complete documented inventory, such as license key, stickers with seal, manual, media, etc. Some vendors such as Microsoft for example for OEM licenses, require original stickers, etc. Some vendors such as IBM will require only an electronic copy of the PoE in case of Passport Advantage customers. We recommend customers to file and archive PoEs.

Purchase History (Data) | Report presenting the entitlements (licenses, maintenance and others) purchased or obtained from a software vendor or its reseller, or transferred from other entities. Such a report is typically capturing purchaser entity name, vendor name, product description including the edition, product version, quantity obtained, invoice number as well as date of purchase. Microsoft proposes the purchase history data in the Microsoft Volume Licensing Service Centre (MVLSC).

Purchase Order (PO) | Request for entitlements or software assets from a software vendor and/or software reseller, authorizing shipment of a product to the software buyer - at specified price and terms. The creation of a PO creates a legally binding contract, that can only be revised with the consent of both parties. POs extracted from own purchasing systems are most important to verify purchase history data provided by vendor/reseller - however they are not Proofs of Entitlement (PoE).

Qualified Device (QD) (formerly: Qualified Desktop) | Microsoft Volume Licensing agreements, such as a Microsoft Enterprise Agreement (EA), offers licensing with tiered pricing usually based on the number of Qualified Devices. QD include fat clients (desktop computers, portable computers) and thin clients (VDI). QD do not include devices designated as a server and not used as a PC industry devices. The counting of Qualified Devices is crucial during a true-up.

Qualified User (QU) | Qualified Users are users in the organization that access any of the server software or online services. QU are an alternative licensing – alongside Qualified Devices – for a Microsoft Enterprise Agreement (EA).

Registration Number | Usually a combination of letters and digit numbers, used to create an authorization file to enable your software. Every Single Use and Server product, including their extensions or options, has a unique registration number.

Reinstatement | Restoration to active maintenance of a license for which the maintenance part has expired. IBM proposes standard reinstatements at 60% to 70% (depending on specific product) of license costs, i.e. as expensive as 3 to 3.5 years of maintenance.

Release | New, updated or upgraded software version made available for customers, typically in one of three levels: major, minor and emergency.

Release Management | Control over processes for software development, packaging, distribution and other functions related to software product releases.

Remote Site | Location separate from a company's main site for which a software is licensed, e.g., a subsidiary site.

Renewal | Extension of a technical support or service agreement for a specified period. Renewing ensures access to the most current maintenance and support, better equipping business with fully-enabled software products.

Renewal Date | Date when a current maintenance contract expires and a maintenance renewal begins. IBM names this date the end date (one year minus one day after the start date, if a 12-month maintenance term has been chosen).

Renting (Software Renting) | Licenses that permit software buyers to rent, lease, loan, or outsource PCs to third parties.

Repository (Software Repository) | A centralized network location or database for both collecting and storing of data.

Reseller | Company (or person) authorized by a vendor to purchase and resell software. Resellers are important in licensing as they keep records of customers' purchases.

Secure Data Room (SDR) | Infrastructure on customer's premises constituted by a dedicated room containing stand-alone computers with no network connection, used exclusively by auditors in order to protect the confidentiality of customer data. This data never leaves the Secure Data Room and the customer's premises. Usually auditors sign a special confidentiality agreement – with very strong obligations and contractual penalties – before being permitted access to any data in the secure

data room. OMTCO recommends monitoring auditors in the secure data room continuously during work hours. For those not familiar with Secure Data Rooms, OMTCO proposes mobile Secure Data Rooms available for all corporate customers.

Server | Physical computer comprised of processing units, memory, and input/output capabilities that executes requested procedures, commands, or applications for one or more users or client devices. Server is a unit of measure by which the program can be licensed.

Server Farm (Server Cluster) | Collection of computer servers usually maintained by an enterprise to accomplish server needs far beyond the capability of one machine. Server farms often consist of thousands of computers, which require a large amount of power to run and cool.

Server License | A license for software (server-side), that either resides on a server computer and provides services to multiple users and/or client computers in a distributed computing environment, or resides on an individual desktop computer and provides services to that computer in conjunction with server software.

Server Virtualization | Use of a virtualizing software (the hypervisor) to allow for installation of multiple virtual machines (also called: logical servers or LPAR logical partitioning) on one physical server. Each of the virtual machines (VMs) behaves as a server. Virtualization may or may not be accepted as a means to reduce license demand. For instance, Oracle rejects virtualization as a means to reduce license demand (some exceptions apply). IBM accepts only if the requirements to sub-capacity have been fulfilled on the server for the last 24 months.

Service Provider License Agreement (SPLA) | A license program for service providers to provide hosted software to customers.

Single Use License | License restricting use of a software product to one machine. A license must be dedicated for each computer or network access point having rights for the software, data or documentation.

Secondary Use Right | Permission granted by a Software License Agreement (SLA) or End User License Agreement (EULA) to install a copy of a licensed software product on a second (or third or more) device, typically a portable computer (second device) alongside a desktop (primary device) and for the exclusive use of the licensee. Known by Microsoft as Secondary Use Right and is available for Desktop Applications. Known by IBM as Authorization for Use on Home/Portable Computer..

Select | A former Microsoft license program for large license volumes (perpetual). Select has been modified and renamed to Select Plus.

Select Plus | A Microsoft license program for large license volumes (perpetual). This is the successor to the former Select license program.

Service Level | The number, target or minimum requirement of services an internal service provider and/ or external IT is supposed to or must provide to a company, as contractually agreed on in the terms and conditions.

Service Level Agreement (SLA) | A contract describing the scope and measurements of work expected from a service provider to a customer throughout the term of the contract.

Service Provider | Company providing services in software license management, such as software or hosting services.

Settlement | Conclusion of the dispute process of the compliance review. The settlement usually comprises an audit relief for the customer's benefit and a settlement penalty for the vendor's benefit (associated with a purchase of entitlements, such as licenses, maintenance, reinstatements or trade-ups). With the audit relief, the customer's non-compliance will not be pursued by the vendor – for the time period before settlement agreement date. Important note to customers: undisclosed non-compliance and future non-compliance are excluded de facto from a settlement: a settlement does not attest compliance. With the supplementary settlement licenses (licenses, reinstatements and maintenance) the compliance of all reported installations and usage should be re-established. In some cases the settlement does not re-establish compliance, for instance if the software vendor has agreed to weaken some of the licensing requirements so that the determination of the compliance is based on a customer specific arrangement or if the vendor agrees, because of a compensation transaction, not to demand a re-establishment of compliance.

Shareware | Category of software products free for download for trial purposes in the first place, allowing potential customers typically purchasing a license after trial.

Site | Location covered by a software license agreement, typically detailed or described in a contract definition and often included in a contract addendum. Not to be mistaken with the IBM term: IBM Site = Passport Advantage site number.

Site License | Contract constraining product-use rights to a physical or logical location(s). Example: IBM uses the term establishment (licensing per establishment) and defines usually an establishment as all installations on physical devices in a circumference of 50km.

Software | Software is an intellectual property. Most often, it is licensed by means of a licensing agreement with third-party vendors. With the license (agreement) come rights – such as the right to use the software under certain licensing

restrictions, and duties – such as license and maintenance costs. These rights and duties are detailed in the licensing documentation of each specific software product, and vary according to product, edition and version, sometimes also by language, geography, etc. In fact, it can be hard to even identify the correct documentation (challenge #1) in the first place. The licensing documentation contains two crucial topics: the license metrics and their associated restrictions (challenge #2), which can often be difficult to interpret and to abide by.

Software as a Service (SaaS) | On-demand services as application service providing. Nearly all vendors provide SaaS, however under different names.

Software Asset Management (SAM) | Organization and processes, data and tools, necessary to manage the life cycle of the software assets transparently, legally and economically. As ISO 19770-1:2012 (Software Asset Management) standard states: “ISO/IEC 19770-1:2012 establishes a baseline for an integrated set of processes for Software Asset Management (SAM), divided into tiers to allow for incremental implementation, assessment and recognition”.

Software Asset Management (SAM) Maturity | Framework within Software Asset Management used to assess and identify areas where improvements are most likely to produce cost-effective results.

Software Asset Management (SAM) Optimization Model (SOM) | Framework developed by Microsoft enabling organizations to assess the efficiency and effectiveness of SAM procedures established. Adopted from the ISO/IEC 19770-1:2012 SAM Processes the analysis is based on ten key competences. By answering related competence questions four maturity levels are assessed. SOM may be used as an assessment framework, but is however criticized as a rather theoretical model, with no implementation how-to, and which does not reduce licensing costs and does not solve compliance issues (compliance risk).

Software Asset Management Tool (SAM Tool) | Tool to manage entitlements and installations, such as SmartTrack (Aspera), Spider LCM (brainwaregroup), SNOW License Manager, FrontRange License Manager or Matrix42/U4U.

Software Assurance (SA) | Software maintenance, updates and further benefits including support, tools and resources (Microsoft offering) and may also enhance your use rights (e.g. by license mobility).

Software Deployment Tools | Automate and regulate the deployment of new software.

Software Inventory Tools | Intelligently “discovery” software installed across a company’s network, collecting software file information (e.g. title, product ID, size, date, path, version).

Software Metering Tools | Monitor the utilization of software applications across your network. They can also provide real-time enforcement of compliance for applications licensed based on usage.

Socket | In licensing, a socket is used as a restriction by major vendors. Oracle imposes restrictions on the number of sockets for Oracle Database Standard Edition (4 sockets) and Standard Edition One (2 sockets). The number of sockets is taken into account for Oracle MySQL commercial editions. IBM Processor Value Unit (PVU) metric makes the customer pay for empty sockets, reasoning that empty sockets provide flexibility, which must be paid for.

Software Leasing (SL) | License type pricing product-use rights based on subscription permitting temporary and potentially renewable use.

Software License Agreement (SLA) | Contract describing a software product's terms and conditions for rights to use.

Software Tag | Set of attributes identifying a software asset or configuration item. At present, software tags are not functioning properly, therefore the software recognition engine in SAM and scan tools is decisive.

Software Usage (Technical Usage) | Measurement of your actual software utilization at any given time. The license demand is derived from the usage by selecting and applying one metric to each installation.

Stock Keeping Unit (SKU) | An identifier unique to a hardware or software asset that facilitates discovery and inventory management processes. SKUs are not always unique - for instance not differentiating product editions - and therefore do not function properly.

Sub-Capacity (SubCap, Virtualization Capacity) | SubCap (current IBM term: Virtualization Capacity) is a way of counting processor cores by the calculation of required PVUs in the PVU metric (includes also all other metrics using PVU). SubCap lets IBM customers license a program in an environment virtualized for less than the Full Capacity if the program is eligible, the virtualization technology is eligible, the underlying hardware (processor) is eligible and if the IBM customer has fulfilled the SubCap requirements for each server entitled to SubCap for more than continuous 24 months. Fulfilling SubCap requirements is a challenge - IBM customers should consult an IBM licensing expert for external support.

Suite | Group of related products sold by the same software vendor. A suite offers more than a software bundle, a suite being often a bundle of software bundles.

Suite License | A contract permitting product-use rights across a group of related applications or other software products offered by the same software vendor, typically bundled into a suite.

Support | Technical assistance for a software product according to terms and conditions as well as service level. Support is often included in the software maintenance contract. Example: IBM Subscription & Support (S&S) includes the permission to upgrade (subscription) and technical support.

System Support Agreement (SSA) | A maintenance agreement supplemented with further, enhanced support services. Several vendors propose this type of contract, such as IBM.

Technical Data | Data pertaining to software or hardware operation, essential for inventory management and often contained in a software tag, e.g., an asset attribute.

Technical Usage | Demand generated by the installations and their relevant attributes, such as hardware attributes, user lists, etc. The technical usage is used in the calculation of the License Demand – one side of the Licensing Compliance Balance – by applying the selected metric(s) to the attributes for each installation.

Technical Support | Range of services provided by a software company to assist users of their software products as to service assistance and troubleshooting.

Term of License | Duration of licensed product-use rights, as typically specified in a software license agreement (SLA). The term may be perpetual or limited in time (fixed term license (FTL)).

Terminal Server | A feature within Windows Server that provides application server services. Dedicated product edition only in Windows Server 4.0 Terminal Server Edition. Terminal Services has been renamed to Remote Desktop Services (RDS).

Thin Client | In client/server applications, a client designed to be especially small so that the bulk of the data processing occurs on the server. Although the term thin client usually refers to software, it is increasingly used for computers, such as network computers and Net PCs, designed to serve as the clients for client/server architectures. A thin client is a network computer without a hard disk drive, whereas a fat client includes a disk drive. In licensing, this definition is not respected strictly: usually a fat client is a client computer with local installations of software, whereas a thin client is a computer accessing remote services.

Tracking of Assets | Term describing software capable of monitoring hardware and software assets and associated attributes and licenses, typically for discovery or inventory management purposes. Examples: iQSonar, IBM TAD4D, IBM ILMT. The

outputs may be saved in a repository such as a SAM tool (such as Spider, SmartTrack, Matrix42, etc.) or any other appropriate database (such as the CMDB).

Trial License | License type for trial versions of software, usually limited in time.

Trial Version | A product limited to a certain time period for the purpose of evaluation. Examples: Microsoft offers trial versions usually limited to 90, 120 or 180 days. IBM offers 14 days for selected products, and selected trial versions of selected product under the developerWorks licensing restrictions.

True Up | A yearly report to Microsoft of claimed licenses within a subscription license or Enterprise Agreement. The true up will serve as a base for the quantity of Qualified Devices (formerly Qualified Desktops) to be paid for in the next year.

Underlicensing (Overdeployment) | Situation in which the Effective License Position (ELP) – derived from assembling licenses, maintenances, reinstatements, trade-ups, etc. – is less for specific products (differentiated by all licensing relevant attributes, such as edition, version, metric, geography, entity, etc.) than the License Demand – the number of licenses required to run and use a software product.

Uninstall | Removal of a software program from a computer or computer system. Uninstalling does not extinct the need to provide for a license any past use, especially under-licensed past use. However, proof that an uninstalled installation was existing and how much the technical usage may have been is difficult for a vendor – except if technical support tickets/calls have been opened by the customer.

Unlimited License | A contract permitting product-use rights to the entire organization. Unlimited licensing bears always pitfalls: customers should verify thoroughly what exactly is unlimited, and which restrictions may apply.

Update | Deployment of a patch, additional or substituted data, or enhanced functionality added to a software product.

Upgrade | Migration to a higher version of a software product installed. Upgrades are usually incremental version release (eg. from 2.4 to 3.0). The licensing of the upgrades is often adapted by the vendor. Upgrades should not be mistaken with updates (minor hot fixes and patches).

User | Person, software or device accessing a software. User licenses may be differentiated by user types, as authorized users, external user, internal user, qualified user, etc. User types to be taken into account are determined by the licensing requirements. Example: Oracle Technology products (incl. Oracle Databases, WebLogic/IAS servers, etc.) define users as all accessing the Oracle product: persons, devices (if automatic, non-human operated) and users of devices

(if human-operated devices). Access to be taken into consideration is direct access, indirect access (daisy-chained applications) and multiplexing access.

User Client Access License (User CAL) | License for one user who may use any device to access services of a server software. Microsoft offers User CALs and device CALs.

Vendor (Software Vendor) | Organization creating and producing software. The largest vendors in the world are: Microsoft, Oracle, IBM. Licensing requirements are determined by each vendor for their products, hence specific for each vendor/product.

Vendor Management | Active and ongoing evaluation of the business relationship between you as a software customer and the respective software vendors, resellers, and distributors as detailed in a contract management repository.

Version | Number or date applied by a manufacturer to a product to identify a change, substitution or improvement. Version numbers are crucial in licensing as higher (newer) versions are only accessible if licenses are under active maintenance at date of version release. Example: IBM does not sell licenses for a specific version (the license name does not include any version number).

Virtual Core | Unit of processing power in a virtual (or otherwise emulated) hardware system. A virtual core is the virtual representation of one or more hardware threads. Virtual OSEs use one or more virtual cores.

Virtual Processor | Processor in a virtual (or emulated) hardware system. Virtual OSEs use virtual processors. In licensing, a virtual processor is considered to have the same number of threads and cores as each physical processor on the underlying physical hardware system.

Virtualization | Umbrella term for the simultaneous execution of several and/or different operating systems, the virtual machines (VM), isolated from other programs on a single hardware platform. A technology used for infrastructure flexibility and scalability, with which the physical device is abstracted. If several devices are collated in a virtual cluster, the resources of all physical devices are collated into a common resource available to the virtualized environments.

Virtual Desktop Infrastructure (VDI) | Virtual Desktop Infrastructure (VDI) is a service that hosts users' desktop environments on remote servers. Example: Microsoft VDI.

Virtual Machine (VM, Virtual Server, LPAR Logical Partitioning) | A non-physical machine providing an OSE. Virtual Machines (VM) are typically the result of server virtualization, such as with VMware. Virtual Machines are crucial to know in

licensing as vendors may differentiate virtual machines from hardware machines in their licensing. Examples: IBM in Full Capacity does not accept virtualization as a means to reduce the license demand. So does Oracle for databases and processor metrics (even for the calculation of the minimum number of users in the user metric, as this minimum number is exclusively based on the hardware configuration).

Virtual Operating System Environment (Virtual OSE) | An OSE that is configured to run on a virtual (or otherwise emulated) hardware system.

Volume License | Customer agreement pricing multiple licenses at a price discount. The discount is determined by the volume and products purchased. For instance, Microsoft offers various Volume License Programs adapted to the size (Select with price levels A, B, C, and D) and purchasing strategy (perpetual/non-perpetual) of the licensee. Vendors may differentiate Volume License Programs to render them more attractive, as including Software Assurance. IBM offers Volume Licenses in Passport Advantage with advantageous pricing (Corporate from D to J; Gov/Edu for Government and Education).

Workstation (Client Device, Client Computer, Client) | Device (computer) intended for use as a client. Workstations are important in licensing as they are attached to specific licensing requirements, for instance in user metrics (the user of the device) or device metrics. Example: Microsoft User CAL takes into account the user of the device. Microsoft Device CAL takes into account the devices.

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Top 200 SAM Terms – A Glossary Of Software Asset Management Terms

THIS GLOSSARY EXPLAINS OVER 200 TERMS AND ABBREVIATIONS USED BY LICENSING PROFESSIONALS IN SOFTWARE ASSET MANAGEMENT (SAM). IT WILL HELP YOU TO UNDERSTAND THE MEANINGS BEHIND CURRENT, AND FORMER, SOFTWARE ASSET MANAGEMENT (SAM) TERMS AND LICENSING VOCABULARY. IT MAY ALSO HELP SOFTWARE ASSET MANAGERS AND LICENSING EXPERTS CONVEY INFORMATION TO THEIR MANAGEMENT.

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Should you wish for advice tailored to your specific needs, raise comments or ask questions, please contact OMTCO at info@omtco.de or call your OMTCO representative directly.

For Software Asset Management, visit:
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For counter-audit experience, visit:
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