

DELL EMC UNITS OF MEASURE

(FORMERLY SOFTWARE USE RIGHTS)

Dell EMC¹ software products (“Software”) are licensed by Dell EMC to customers who order directly from Dell EMC (“Direct End-Users”) under a signature-bearing agreement between Dell EMC and the Direct End-User or under the terms of an End-User License Agreement (“EULA”) that is between Dell EMC and the entity making productive use of the Software. The EULA is either in a hard-copy format that is shrink-wrapped to the software media packaging or stated in an electronic “click-wrap” or click-to-accept format that must be electronically accepted prior to downloading and/or installing the Software. Dell EMC also provides Software to its Channel Partners (organizations that resell the license directly to or through additional tiers of resellers to the organization that makes productive use of the Software (“Indirect End-User”). Channel Partners are required to obtain a written, signed license with the Indirect End-User in a format that meets Dell EMC license requirements, but if the Reseller does not obtain a written, signed license with the Indirect End User, then the Software is governed by the EULA. The information in this Units of Measure document is provided to further define the license rights and limitations for Software products.

¹ “Dell EMC” as used in this document, means the applicable EMC sales entity (“EMC”) specified on your EMC Quote or Dell sales entity (“Dell”) specified on your Dell Quote. The use of “Dell EMC” in this document does not indicate a change to the legal name of the Dell or EMC entity with whom you have dealt.

Dell EMC Units of Measure

Software is licensed via a unit of measure (“UOM”) that quantifies the scope of the license rights being granted by Dell EMC for such Software. The UOM are described in this document. The UOM applicable to the Software being offered pursuant to a Dell EMC Quote may be designated in the Software product description in the Dell EMC Quote by the codes described in the following table:

UOM Code	UOM (Unit of Measure)
CA	Registered Capacity of data measured in terabytes
CB	Raw Capacity of data measured in terabytes
CC	Usable Capacity of data measured in terabytes
CF	Raw Capacity of data measured in gigabytes
CG	Usable Capacity of data measured in gigabytes
FA	Foundation
FB	Foundation related Service Connector
FC	Foundation related Application Instance
FD	Foundation related Advanced Logging Instance
FE	Foundation related Service Instance
IA	Instance measured per server
IB	Instance measured per virtual machine
IC	Instance measured per storage array
ID	Instance measured per node
IE	Instance measured per engine
IF	Instance measured per cluster
IG	Instance measured per total number of processors per node
MA	Managed Entity measured per device
MB	Managed Entity measured per inbox or mailbox
MC	Managed Entity measured per user
MD	Managed Entity per consistency group
PA	Process Rate measured in pages per year
PD	Pod (contains one or more containers, depending on application)

UA	Named User
UB	Concurrent User
UC	Single unique user for Video Instructor-Led Training Streaming service (VILTS); (one user, one title or one Valupak)
UD	Multiple unique users for Video Instructor-Led Training Streaming service (VILTS); (multiple users or titles, subscriptions or partner collections).
ZA	Central Processing Unit cores (quantity 1-6 cores)
ZB	Central Processing Unit cores (quantity 7-12 cores)
ZC	Individual Central Processing Unit Core
ZD	Central Processing Unit by MSU (Millions of Service Units)

CA - REGISTERED CAPACITY – Storage Array Software; Data Protection Appliance Software

Description

Licensing and pricing is based upon the Registered Capacity of one or more storage array, data protection appliance, server, or other device(s) on which this Software is licensed for use. The Registered Capacity describes the maximum quantity of data for which the functionality of the Software is authorized for use. The total capacity of the device may exceed the Registered Capacity that the Software is licensed to operate on.

Software that is licensed on the basis of this Registered Capacity unit of measure is typically licensed for use only on a specifically identified storage array, data protection appliance, or other hardware device. Each storage array, data protection appliance, or other hardware device requires the purchase of: (i) an initial base product (independent of Registered Capacity); and (ii) an additional quantity of add-on products that reflect the amount of Registered Capacity on which the applicable Software is authorized for use. Customers may subsequently determine they need to use the Software in connection with an amount of data that exceeds the current Registered Capacity. In such cases, Customers must either purchase an appropriate number of additional licenses to cover the increase in the Registered Capacity, or purchase a new base product plus Software in instances where a capacity limitation has been reached.

Specific Terms and Conditions

- The purchase of a base product license plus add-on product licenses (which are measured by Registered Capacity) are both needed to use the Software product(s).

CA - REGISTERED CAPACITY – Stand-alone Data Protection Software

Description

Licensing and pricing is based upon the Registered Capacity of one or more stand-alone Data Protection Software applications licensed by Registered Capacity. Registered Capacity is measured in Front End Terabytes. Front End Terabyte (“FETB”) is defined as a single instance of any source-based data, including, but not limited to application, database, server, system, and user data that is protected by applicable Software. FETB should be determined through an assessment of the customer’s environment using a combination of native capacity reporting tools and external reporting tools.

An assessment may show that customers need to use the Software in connection with an amount of data that exceeds the current Registered Capacity. In such cases, customers must purchase an appropriate number of additional Software licenses to cover the increase in the Registered Capacity needed.

Specific Terms and Conditions

- Purchasing Software licensed based on Registered Capacity and measured in FETB allows the customer to protect the source data even if multiple backup and copy management capabilities are used in parallel. For example, if data is backed up multiple times (e.g., via image backups and in-guest backups), only the capacity associated with the source data (FETB) is counted towards the unit of measure. The FETB unit of measure is also not altered by using backend storage capabilities such as deduplication and compression, snapshots, remote replication, or moving copies into the cloud.
- FETB includes the following:

- Capacity associated with the data the customer wants to protect regardless of the content (e.g., database records, table spaces, files, user data, etc.).
- Database capacity where the individual table spaces are aggregated into a full backup.
- FETB excludes the following:
 - Systems and devices that are not protected by the applicable Software licensed by Registered Capacity.
 - Retired client systems, even if the applicable Software retains unexpired backups.
 - Provisioned but unused “white space” within backups. Examples include virtual machine images and snapshot LUNs.
 - Database checkpoints and unutilized space on the underlying disk system.
 - Any number of copies created on the backend data protection storage including snapshots, remote replicas, etc.

CB and CF - RAW CAPACITY MEASURED IN TERABYTES OR GIGABYTES (AS SPECIFIED ON THE QUOTE)

Description

Licensing and pricing is based upon the total capacity of the storage array or other devices on which the Software is licensed for use. Software licensed on the basis of Raw Capacity is typically licensed for use only on a specifically identified storage array. This UOM uses a “base plus capacity” approach as described in the Registered Capacity UOM above, where the customer purchases one base product license and then purchases incremental capacity add-on product licenses to equal the raw capacity of the system on which the Software will operate.

Specific Terms and Conditions

- A base product license plus add-on product licenses (which are measured by Raw Capacity) are both needed to use the Software product(s).

CC and CG - USABLE CAPACITY MEASURED IN TERABYTES OR GIGABYTES (AS SPECIFIED ON THE QUOTE)

Description

Licensing and pricing is based upon the Usable Capacity of one or more storage arrays, servers, or other devices on which the Software is licensed for use. The Usable Capacity describes the maximum quantity of data for which the functionality of the Software is authorized for use. The Usable Capacity of a licensed device is calculated by MC on the basis of the Raw Capacity minus Overhead. Raw Capacity is the total data storage capacity of a licensed device. Overhead is that portion of Raw Capacity that EMC determines is reserved for or allocated to spares, RAID types and applications running on a licensed device and on which the software functionality is not to be used.

Software that is licensed on the basis of Usable Capacity is typically licensed for use only on a specifically identified storage array or other hardware device. The Customer or Dell EMC may subsequently make a change to the Raw Capacity, configuration, RAID level or overall environment of a licensed device that increases the Usable Capacity to an amount in excess of the quantity for which the Software has been licensed. In these cases, Customer must purchase an appropriate additional license to cover the increase in the Usable Capacity.

Specific Term and Conditions

- The purchase of a base product license plus add-on product licenses (which are measured by Usable Capacity) are needed to use the Software product(s).

IA, IB, IC, ID, IE, IF, and IG - INSTANCE

Description

Licensing and pricing is based upon the nature of the hardware platform on which the Software operates. It includes servers that run a single instance, partition, or virtual machine as well as servers that run multiple instances, partitions, or virtual machines (both physical and virtual machines). Each partition running the application constitutes an instance. This UOM is also used with server-based Software and Software that is licensed to a specific storage array or to an engine within a storage array. An engine consists of a CPU, cache and data storage (regardless of the speed, performance or capacity of the engine components), as designated by

Dell EMC. Adding an engine to an existing storage array enclosure is designated as an upgrade to the existing storage array. This UOM is also used with clusters. A cluster is a collection of more than one node.

Specific Terms and Conditions

- Server-based Software licensed in accordance with the Instance UOM is generally priced for a particular OS type, such as Windows, Solaris, etc.
- An Instance license may provide support for only a single application type, such as Exchange or Oracle.
- Isilon clusters have a minimum of three (3) nodes.
- Some stand-alone Data Protection Software is licensed per CPU “Socket” on Virtual Machine Hosts that are being backed up, replicated, or both.

MA, MB, MC, and MD - MANAGED ENTITY

Description

Licensing and pricing is based upon the total number of entities being managed or inspected by the Software. An entity is defined as any singular item being managed or monitored by the Dell EMC Software and can include third-party hardware, a running instance of a software program, an abstract resource (such as an email inbox), or a user. The Software licensed under this UOM may be used on or with a specific entity or quantity of entities of a specified type.

Examples of physical devices include, but are not limited to, routers, switches, firewalls, load balancers, storage arrays, NAS data movers, NAS systems, blades, and IP phones.

Examples of instances of a software program include, but are not limited to, databases, volume managers, file systems, operating systems, hypervisors, backup software systems, and CMDB systems. An example of an abstract resource is an email inbox being inspected or managed by the Software product. An example of a user as a managed entity is a user that authenticates to a VPN or some other system using the Software product. A managed entity based on a consistency group consists of a named set of identified storage devices, located at the same physical site, that are treated as a single unit to enable the devices to act in unison to maintain the integrity of data that is distributed across those same devices. For example, devices using the Symmetrix® Remote Data Facility that are identified as belonging to the same consistency group act in unison to preserve the dependent write consistency of a database distributed among the devices in the consistency group.

Specific Terms and Conditions

- Managed Entity Metric Considerations: Under this UOM, some Software will be licensed by the total number of entities the Software is interacting with while other Software will be licensed for specifically identified entities.

PA - PROCESS RATE

Description

Licensing and pricing is based upon the cumulative amount of work done by the Software over a specified time.

Specific Terms and Conditions

- Tiered pricing (price per mailbox decreases as the number of email mailboxes purchased increases).
- Licensing for EMC EmailXtender is limited to the sole and exclusive benefit and use of the user. License rights may not be further assigned or sublicensed to any other party for any other purpose.

UA - NAMED USER

Description

Licensing and pricing is based upon the total number of unique named users or seats accessing the Software, whether such users are actively using the Software, or accessing the Software at any given time. If a named user of the Software leaves the employ of the customer, or moves into a role that does not require access to the Software, the seat does not have to be relinquished by the customer, but can be reassigned to a different named user.

UC and UD - UNIQUE USER VIDEO INSTRUCTOR-LED TRAINING STREAMING LICENSING (“VILTS”)

Description

Licensing and pricing is based upon the number of Customer's individual, unique-named employees or agents authorized to view a VILTS course ("Authorized Users") and each instance of an Authorized User clicking on or launching a unique VILTS title is deemed a single use of a VILTS license.

UB - CONCURRENT USER

Description

Licensing and pricing is based on this UOM and specifies the maximum number of concurrent users who are accessing the Software at any instance in time.

ZA and ZB - CENTRAL PROCESSING UNIT ("CPU")

Description

Licensing and pricing is based upon the total number of CPUs present in the computer upon which the Software will operate. A two-tier system is used based on the number of cores present. These two tiers can be combined as needed on CPUs with greater than 12 cores. Neither tier can be split across more than one CPU.

ZC - INDIVIDUAL CENTRAL PROCESSING UNIT ("CPU") CORE

Description

Licensing and pricing is based upon the number of "Cores" on which the Software will operate. A "Core" is defined on the basis of the environment in which the Software operates.

When operating the Software in a "bare metal" environment, which means a physical machine without a hypervisor product capable of creating Virtual Machines, and excludes operation within a cloud service environment, a "Core" equals a single, computational unit of the processor.

When operating the Software in a hypervisor (Virtual Machine) environment, a "Core" equals a single unit of virtual processing power (commonly referred to as a "vCPU") configured to each Virtual Machine. A Virtual Machine is a software container able to run its own operating system and execute applications, just as a physical computer does.

When operating the Software in a public cloud services environment, a "Core" equals a single, basic, most granular unit of computational power as defined by the cloud service provider. This may include but is not limited to such units expressed as the number of "vCPUs," "virtual CPUs," "virtual cores," and "dynos."

When used with respect to Pivotal software titles, please reference the Pivotal Product Guide posted at www.pivotal.io/product-guide for a complete description of this UOM (including the meaning of defined terms) in lieu of the above.

ZD - CENTRAL PROCESSING UNIT ("CPU") MEASURED BY MSU

Description

Licensing and pricing is based upon the maximum combined capacity of the CPUs contained within a mainframe device, as determined by the industry standard measurement of Millions of Service Units (MSU) to reflect the processing power of the mainframe device, irrespective of the type of processor or the workload.

FA, FB, FC, FD, AND FE - FOUNDATION AND FOUNDATION RELATED

Descriptions

A complete description of these UOMs (including the meaning of defined terms) for Pivotal software titles are contained in the Pivotal Product Guide posted at www.pivotal.io/product-guide.

PD - POD LICENSING MODEL

Description

A complete description of this UOM (including the meaning of defined terms) for Pivotal software titles is contained in the Pivotal Product Guide posted at www.pivotal.io/product-guide.

Additional Information

Software Access and Use Requirements

Except as otherwise agreed in writing, licenses are required for each device/user accessing or using the Software, notwithstanding any non-Dell EMC technology used to: (i) reduce the number of devices or users the Software directly manages; (ii) pool connections; or (iii) reduce the number of devices/users accessing or using the Software.

AppSync Basic or AppSync Starter Pack or AppSync iCDM Starter Bundle

EMC provides this software without additional charge. This software is a limited license that is bundled with:

- XtremIO (X2/E Bundle) - licensed per raw capacity similarly to XtremIO X2 Software
- PowerMax (Essentials) – licensed per usable capacity similarly to PowerMax Software
- VMAX AF (F Suite) - licensed per usable capacity similarly to VMAX AFA Software
- UNITY AF and UNITY Hybrid– licensed per frame similarly to your Unity Software
- Data Protection Suite

Following are the limitations of this license:

- Simultaneous mounted copies are limited to 20: This license allows the creation of an unlimited number of Application Copies via the software, but no more than twenty (20) Application Copies at any point of time can be mounted. This limit only applies to the Application Copies that are created with AppSync software. An Application Copy is defined as the set of storage volumes on a single array that are presented to an application. For example, if the user copies and mounts an application data set that consists of three volumes, those comprise one mounted application copy since all three volumes are used together for the application
- Only local copies (Bronze plans in AppSync): This license can only be used for creating local copies and cannot be used with VPLEX and RecoverPoint
- A single array per AppSync server: With this license a dedicated AppSync Server is required per licensed array. Specifically, this license cannot be installed or used on an AppSync Server that already manages another array. Customers wishing to add multiple arrays to the same AppSync Server are required to purchase the AppSync Advanced license

PowerPath in the VMAX FX and PowerMax Pro package

PowerPath and PowerPath/VE is included as part of the VMAX FX and PowerMax Pro package software package for use only with the hosts physically connected to the storage array for which the VMAX FX and PowerMax Pro software package is licensed. PowerPath licenses for FX and Pro are not transferable and can only be used on the hardware for which it was originally licensed.

Temporary Licenses

Evaluation and Other Non-production Use Licenses

In certain instances, and at Dell EMC's discretion, Dell EMC may grant a short-term license for the purpose of demonstration, evaluation, or some other non-production internal use. Such license may be issued as a 30-day license for standalone Software or a 90-day license for array-based systems Software. At the end of the temporary term, the license to use the Software expires and the Software may cease to operate. The temporary term begins once the licenses are made available (e.g., either by making the Software available for download or by delivering the CD to the customer).

Failover Expiring Licenses

Each license entitlement includes the right to run the Software on a separate computer in a failover environment for up to 30 separate days in any given calendar year for purposes of emergency management. Any use beyond the right granted in the previous sentence must be licensed separately and the same license metric must be used when licensing the Software. License keys for such licenses must be obtained from DELL EMC by making a request through the applicable Dell EMC Online Support website at <https://support.emc.com/>.

Backup Testing Expiring License

For the purpose of testing physical copies of backups, license rights include the capability to run the Software on an unlicensed computer for up to 30 days in any given calendar year. License keys for such licenses must be obtained from Dell EMC by making a request through the applicable Dell EMC Online Support website at <https://support.emc.com/>. Any use beyond the right granted in the previous sentence must be licensed separately and the same license metric must be used when licensing the Software.

Emergency Expiring License

Dell EMC will allow and support the use of emergency licenses for customer critical situations, such as getting back into production in a disaster recovery situation or resolving a situation with an incorrect License Key being delivered. Each license entitlement includes the right to run the Software on an unlicensed separate computer for up to 30 separate days in any given calendar year. License keys for such licenses must be obtained from Dell EMC by making a request through the applicable Dell EMC Online Support website at <https://support.emc.com/>. Any use beyond the right granted in the previous sentence must be licensed separately and the same license metric must be used when licensing the software.

Service License

Dell EMC will allow the use of service-related licenses for customer situations in conjunction with Dell EMC's support organization when initiated and used by Dell EMC support personnel. The license includes the right to run the Software on an unlicensed separate computer for up to 30 separate days in any given calendar year.

Transfer Policy

"Transfer" of a Software license is defined as when the original licensee has stopped using a Software product and wants to sell or otherwise transfer the rights to use the Software to a secondary purchaser. Dell EMC does not allow transfers under any circumstances; in all cases, the secondary purchaser must purchase a new license to run the Software.

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