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## **Exhibit A**

SUSE Product	Unit of Measure	Stackable	<b>Detailed Definitions</b>
SUSE Linux Enterprise Server ("SLES")			
SLES for x86, AMD64 & Intel64, physical, x86 & x86-64, pre-May 2015	(x86 & x86-64) per 1-2, 4 or 8 Sockets per Physical Server. Physical Deployment only	No	Appendix A
	(x86 & x86-64) per 1-2, 4 or 8 Sockets per Physical Server. Unlimited Virtual Instances per Physical Server	No	Appendix A
SUSE Linux Enterprise Server, x86 & x86-64, 1-2 Sockets or 1-2 Virtual Machines	(x86 & x86-64) per 1-2 Sockets per Physical Server or 1-2 Virtual Machines	Yes	Appendix A
	(x86 & x86-64) per 1-2 Sockets with Unlimited Virtual Machines per Physical Server	Yes	Appendix A
SUSE Linux Enterprise Server for Education Usage, x86 & x86-64, 1-2 Sockets with Unlimited Virtual Machines	(x86 & x86-64) per 1-2 Sockets with Unlimited Virtual Machines per Physical Server	Yes	Appendix A
SUSE Linux Enterprise Server for Education Usage, x86 & x86-64, 1-2 Sockets or 1-2 Virtual Machines	(x86 & x86-64) per 1-2 Sockets per Physical Server or 1-2 Virtual Machines	Yes	Appendix A
SUSE Linux Enterprise Server for Education Usage with Lifecycle Management, x86 & x86-64, 1-2 Sockets with Unlimited Virtual Machines	(x86 & x86-64) per 1-2 Sockets with Unlimited Virtual Machines per Physical Server	Yes	Appendix E
SUSE Linux Enterprise Server for Education Usage with Lifecycle Management, x86 & x86-64, 1-2 Sockets or 1-2 Virtual Machines	(x86 & x86-64) per 1-2 Sockets per Physical Server or 1-2 Virtual Machines	Yes	Appendix E
SLES for z Systems and LinuxONE, s390x	(s390x) per IFL or CP per IBM z Systems or IBM LinuxONE Physical Server	Yes	Appendix A
SLES for POWER, ppc64, pre-Apr 2016	(ppc64) per Socket per Physical Server	Yes	Appendix A
SLES for POWER, ppc64le, pre-Apr 2016	(ppc64le) per Socket per Physical Server	Yes	Appendix A
SLES for POWER, ppc64, 1-2 Sockets or 1-2 Virtual Machines	(ppc64) per 1-2 Sockets per Physical Server or 1-2 Virtual Machines	Yes	Appendix A
SLES for POWER, ppc64le, 1-2 Sockets or 1-2 Virtual Machines	(ppc64le) 1-2 Sockets per Physical Server or 1-2 Virtual Machines	Yes	Appendix A
SLES for POWER, ppc64, 1-2 Sockets with Unlimited Virtual Machines	(ppc64) per 1-2 Sockets with Unlimited Virtual Machines per Physical Server	Yes	Appendix A
SLES for POWER, ppc64le, 1-2 Sockets with Unlimited Virtual Machines	(ppc64le) 1-2 Sockets with Unlimited Virtual Machines per Physical Server	Yes	Appendix A
SLES for Itanium Processor Family, ia64	(ia64) per Socket per Physical Server	Yes	Appendix A

SUSE Product	Unit of Measure	Stackable	Detailed Definitions
SLES for ARM 1-2 Virtual Machines	(ARM AArch64) per 1-2 Sockets per Physical Server or 1-2 Virtual Machine	Yes	Appendix A
SLES for ARM Unlimited Virtual Machines	(ARM AArch64) per 1-2 Sockets with Unlimited Virtual Machines per Physical Server	Yes	Appendix A
SLES for ARM 1-2 Virtual Machines	(ARM AArch64) per group of 4 Cores	Yes	Appendix A
SLES for ARM Unlimited Virtual Machines	(ARM AArch64) per group of 4 Cores	Yes	Appendix A
SLES for Raspberry Pi	(Raspberry Pi 3 Model B) per Physical System	Yes	Appendix A
SUSE Linux Enterprise Server for SAP Applications ("SLES for SAP Application")			
SUSE Linux Enterprise Server for SAP Applications for AMD64 & Intel64, physical, (x86-64), pre-May 2015	(x86-64) per 1-2 or 4 or 8 Sockets per Physical Server	No	Appendix A
	(x86-64) per 1-2 or 4 or 8 Sockets per Physical Server. Unlimited Virtual Instances per Physical Server	No	Appendix A
SUSE Linux Enterprise Server for SAP Applications, x86-64, 1-2 Sockets or 1-2 Virtual Machines	(x86-64) per 1-2 Sockets per Physical Server or 1-2 Virtual Machines	Yes	Appendix A
SUSE Linux Enterprise Server for SAP Applications, x86-64, 1-2 Sockets with Unlimited Virtual Machines	(x86-64) per 1-2 Sockets with Unlimited Virtual Machines per Physical Server	Yes	Appendix A
SUSE Linux Enterprise Server for SAP Applications, POWER, 1-2 Sockets with Unlimited Virtual Machines		Yes	Appendix A
SUSE Linux Enterprise ("SLE") Extensions			
SUSE Linux Enterprise High Availability Extension for x86, AMD64 & Intel64 (SLE HA), x86 & x86-64, pre-May 2015	(x86 & x86-64) per 1-2 or 4 or 8 Sockets per Physical Server. Inherited Virtualization	No	Appendix B
SUSE Linux Enterprise High Availability Extension (SLE HA), x86 & x86-64	(x86 & x86-64) per 1-2 Sockets per Physical Server or 1-2 Virtual Machines with Inherited Virtualization	Yes	Appendix B
SUSE Linux Enterprise High Availability Extension (SLE HA), ppc64	(ppc64) per Socket per Physical Server	Yes	Appendix B
SUSE Linux Enterprise High Availability Extension (SLE HA), ia64	(ia64) per Socket per Physical Server	No	Appendix B

SUSE Product	Unit of Measure	Stackable	Detailed Definitions
	(s390x) per IFL or CP per IBM z Systems Physical Server	Yes	Appendix B
	(x86 & x86-64) per 1-2 or 4 or 8 Sockets per Physical Server. Inherited Virtualization	No	Appendix B
High Availability Extension (Geo SLE HA), x86 & x86-64	(x86 & x86-64) per 1-2 Sockets per Physical Server; requires SUSE Linux Enterprise High Availability Extension Subscription Offering for (x86 & x86-64)	Yes	Appendix B
High Availability Extension (Geo SLE HA),	(s390x) per IFL or CP on z Systems; requires SUSE Linux Enterprise High Availability Extension Subscription Offering for (s390x)	Yes	Appendix B
· · · · · · · · · · · · · · · · · · ·	(x86-64) per 1-2 Sockets per Physical Server or 1-2 Virtual Machines	Yes	Appendix C
SUSE Linux Enterprise Live Patching, ppc64le	(ppc64le) per 1-2 Sockets per Physical Server or 1-2 Virtual Machines	Yes	Appendix C
	(x86) per 1-100 or 1-500 or Unlimited Instances for the specified Service Pack	No	Appendix B
	(x86-64) per 1-100 or 1-500 or Unlimited Instances for the specified Service Pack	No	Appendix B
SUSE Linux Enterprise Server Long Term Service Pack Support, z Systems, s390x, for:  1-5 IFLs  1-10 IFLs  Unlimited IFLs	(s390x) per 1-5 IFLs or 1-10 IFLs or Unlimited IFLs for the specified Service Pack	No	Appendix B
_ · · · · · · · · · · · · · · · · · · ·	(x86 & x86-64) per 1-2 Sockets with Unlimited Virtual Machines per Physical Server	Yes	Appendix B
_ · · · · · · · · · · · · · · · · · · ·	(ppc64) per 1-2 Sockets with Unlimited Virtual Machines per Physical Server	Yes	Appendix B
SUSE Linux Enterprise for High Performance Computing Long Term Service Pack Support, x86-64, ARM	(x86-64, AArch64) per 1-2 Sockets per Physical Server	Yes	Appendix B

SUSE Linux Enterprise Real Time Extension (x86-64) per Physical Server  SUSE Linux Enterprise Workstation (x86-64) per Instance; requires SUSE Linux No Enterprise Server Subscription Offering for x86-64 Physical Server Physical Server Subscription Offering for x86-64 Physical Server Physical Server Subscription Offering for x86-64 Physical Server Phy	SUSE Product	Unit of Measure	Stackable	Detailed Definitions
Enterprise Server Subscription Offering for x86-64  Virtual Machine Driver Pack Extension up to (x86 & x86-64) per 1-4 Virtual Instances per No Appendix B 4 Virtual Images (VMDP), x86 & x86-64  Virtual Machine Driver Pack Extension (x86 & x86-64) per 1-4 Virtual Instances per No Appendix B 2 Virtual Machine Driver Pack Extension (x86 & x86-64) per Unlimited Virtual Instances per No Appendix B 2 VIVII Machine Driver Pack Extension (x86 & x86-64) per Unlimited Virtual Instances per No Appendix B 3 VISE Manager Server for Intel64 & AMD64, (x86-64 or s390x) per Instance No Appendix E 2 VISE Manager Server for Intel64 & AMD64, (x86-64) per Instance for up to 50 Managed No Appendix E 2 VISE Manager Proxy for Intel64 & AMD64, (x86-64) per Instance No Appendix E 2 VISE Manager Proxy for Intel64 & AMD64, (x86-64) per Instance No Appendix E 2 VISE Manager for Retail Branch Server, Per 1-2 sockets with Unlimited Virtual Machines No Appendix E 2 VISE Manager Monitoring, physical (x86 or x86-64 or ppc64 or pec64le or ia64) Yes Appendix E 2 VISE Manager Monitoring, physical (x86 or x86-64 or ppc64 or per 1-2 Sockets per Physical Server Appendix E 2 VISE Manager Monitoring (s390x) Class or Enterprise Class Physical Server Appendix E 2 VISE Manager Monitoring, virtualized (x86 or x86-64 or ppc64 or ppc64le or ia64) Yes Appendix E 2 VISE Manager Monitoring, virtualized (x86 or x86-64 or ppc64 or ppc64le or ia64) Yes Appendix E 2 VISE Manager Monitoring, virtualized (x86 or x86-64 or ppc64 or ppc64le or ia64) Yes Appendix E 2 VISE Manager Monitoring, virtualized (x86 or x86-64 or ppc64 or ppc64le or ia64) Yes Appendix E 2 VISE Manager Monitoring, virtualized (x86 or x86-64 or ppc64le or ia64) Yes Appendix E 2 VISE Manager Lifecycle Management, (x86 or x86-64 or ppc64le or ppc64le or ia64) Yes Appendix E 2 VISE Manager Lifecycle Management, (x86 or x86-64 or ppc64le or ppc64le or ia64) Yes Appendix E 2 VISE Manager Lifecycle Management, (x86 or x86-64 or ppc64le or ppc64le or ia64) Yes Appendix E 2		(x86-64) per Physical Server	No	Appendix B
4 Virtual Images (VMDP), x86 & x86-64  Virtual Machine Driver Pack Extension, unlimited Virtual Images (VMDP), x86 & x86-64  SUSE Manager  SUSE Manager Server for Intel64 & AMD64, (x86-64 or s390x) per Instance  No Appendix E  SUSE Manager Server for Intel64 & AMD64, (x86-64 or s390x) per Instance  No Appendix E  SUSE Manager Server for Intel64 & AMD64, (x86-64) per Instance for up to 50 Managed No Appendix E  SUSE Manager Proxy for Intel64 & AMD64, (x86-64) per Instance  SUSE Manager Froxy for Intel64 & AMD64, (x86-64) per Instance  No Appendix E  SUSE Manager Froxy for Intel64 & AMD64, (x86-64) per Instance  SUSE Manager for Retail Branch Server, Intel64 & AMD64, x86-64) per Instance  SUSE Manager for Retail Branch Server, Intel64 & AMD64, x86-64 or ppc64	·	, , ,	No	Appendix A
unlimited Virtual Images (VMDP), x86 & x86- 64  SUSE Manager Server for Intel64 & AMD64, (x86-64 or s390x) per Instance	·	, .	No	Appendix B
SUSE Manager Server for Intel64 & AMD64, x86-64 or s390x) per Instance No Appendix E x86-64 or s390x  SUSE Manager Server for Intel64 & AMD64, instances instances, x86-64 instance, x86-64 instances, x86-64 or ppc64 instances, x86-64 or p	unlimited Virtual Images (VMDP), x86 & x86-	,	No	Appendix B
SUSE Manager Proxy for Intel64 & AMD64, Instances of the properties of the propertie	SUSE Manager			
Up to 50 Manager Instances, x86-64 Instances  SUSE Manager Proxy for Intel64 & AMD64, x86-64) per Instance  SUSE Manager for Retail Branch Server, Intel64 & AMD64, x86-64 or per 1-2 sockets with Unlimited Virtual Machines No Appendix E per Physical Server  SUSE Manager Monitoring, physical (x86 or x86-64 or ppc64 or ppc64le or ia64) Yes Appendix E deployment, x86 or x86-64 or ppc64 or ppc64le or ia64  SUSE Manager Monitoring (s390x) (s390x) per IFL or CP per IBM z Systems Business Yes Appendix E Class or Enterprise Class Physical Server  SUSE Manager Monitoring, virtualized (x86 or x86-64 or ppc64 or ppc64le or ia64) Yes Appendix E per 1-2 Instances per 1-2 Instances per Physical Server. Unlimited Virtualization, x86 or x86-64 or ppc64 or ppc64le or ia64)  SUSE Manager Monitoring, virtualized (x86 or x86-64 or ppc64 or ppc64le or ia64) Yes Appendix E Virtual Instances per Physical Server. Unlimited Virtualization, x86 or x86-64 or ppc64 or ppc64le or ia64  SUSE Manager Lifecycle Management, per 1-2 Sockets per Physical Server. Unlimited Virtualization (x86 or x86-64 or ppc64 or ppc64le or ia64)  SUSE Manager Lifecycle Management, per 1-2 Sockets per Physical Server. Unlimited Virtualization (x86 or x86-64 or ppc64) Per 1-2 Sockets per Physical Server. Unlimited Virtualization (x86 or x86-64 or ppc64) Per 1-2 Sockets per Physical Server. Unlimited Virtualization (x86 or x86-64 or ppc64) Per 1-2 Sockets per Physical Server. Unlimited Virtualization (x86 or x86-64 or ppc64) Per 1-2 Sockets per Physical Server. Unlimited Virtualization (x86 or x86-64 or ppc64) Per 1-2 Sockets per Physical Server. Unlimited Virtualization (x86 or x86-64 or ppc64) Per 1-2 Sockets per Physical Server. Unlimited Virtualization (x86 or x86-64 or ppc64le or ia64) Per 1-2 Sockets per Physical Server. Unlimited Virtualization (x86 or x86-64 or ppc64le or ia64) Per 1-2 Sockets per Physical Server. Physical Server. Per 1-2 Instances or per 1-2 Virtual Instances Per 1-2 Virtual Instances Per 1-2 Virtual Instances Per 1-2 Virtual Instances Per		(x86-64 or s390x) per Instance	No	Appendix E
SUSE Manager for Retail Branch Server, Per 1-2 sockets with Unlimited Virtual Machines No Appendix E Intel64 & AMD64, x86-64  SUSE Manager Monitoring, physical (x86 or x86-64 or ppc64 or ppc64le or ia64) Yes Appendix E deployment, x86 or x86-64 or ppc64 or ppc64le or ia64  SUSE Manager Monitoring (s390x) (s390x) per IFL or CP per IBM z Systems Business Yes Appendix E Class or Enterprise Class Physical Server  SUSE Manager Monitoring, virtualized deployment, x86 or x86-64 or ppc64 or ppc64le or ia64) Yes Appendix E deployment Unlimited Virtualization, x86 or x86-64 or ppc64le or ia64  SUSE Manager Monitoring, virtualized deployment Unlimited Virtualization, x86 or x86-64 or ppc64le or ia64  SUSE Manager Lifecycle Management, physical deployment, x86 or x86-64 or ppc64 or ppc64le or ia64) Yes Appendix E SUSE Manager Lifecycle Management, x86 or x86-64 or ppc64le or ia64  SUSE Manager Lifecycle Management, x86 or x86-64 or ppc64 or ppc64le or ia64) Yes Appendix E SUSE Manager Lifecycle Management, x86 or x86-64 or ppc64le or ia64  SUSE Manager Lifecycle Management, x86 or x86-64 or ppc64 or ppc64le or ia64) Yes Appendix E SUSE Manager Lifecycle Management, x86 or x86-64 or ppc64le or ia64  SUSE Manager Lifecycle Management, x86 or x86-64 or ppc64le or ia64) Yes Appendix E SUSE Manager Lifecycle Management, x86 or x86-64 or ppc64le or ia64  SUSE Manager Lifecycle Management, x86 or x86-64 or ppc64le or ia64) Yes Appendix E SUSE Manager Lifecycle Management, x86 or x86-64 or ppc64le or ia64  SUSE Manager Lifecycle Management, x86 or x86-64 or ppc64le or ia64) Yes Appendix E SUSE Manager Lifecycle Management, x86 or x86-64 or ppc64le or ia64  SUSE Manager Lifecycle Management, x86 or x86-64 or ppc64le or ia64) Yes Appendix E	=		No	Appendix E
Intel64 & AMD64, x86-64  Der Physical Server    SUSE   Manager   Monitoring, physical (x86 or x86-64 or ppc64 or ppc64le or ia64)   Yes   Appendix E		(x86-64) per Instance	No	Appendix E
deployment, x86 or x86-64 or ppc64 or per 1-2 Sockets per Physical Server ppc64le or ia64  SUSE Manager Monitoring (s390x)  (s390x) per IFL or CP per IBM z Systems Business Yes Class or Enterprise Class Physical Server  SUSE Manager Monitoring, virtualized (x86 or x86-64 or ppc64 or ppc64le or ia64) Yes Appendix E deployment, x86 or x86-64 or ppc64 or ppc64le or ia64  SUSE Manager Monitoring, virtualized (x86 or x86-64 or ppc64 or ppc64le or ia64) Yes Appendix E deployment Unlimited Virtualization, x86 or per 1-2 Sockets per Physical Server. Unlimited Virtualization, x86 or per 1-2 Sockets per Physical Server. Unlimited Virtualization, x86 or x86-64 or ppc64 or ppc64le or ia64) Yes Appendix E susset Manager Lifecycle Management, (x86 or x86-64 or ppc64 or ppc64le or ia64) Yes Appendix E physical deployment, x86 or x86-64 or ppc64 or ppc64le or ia64) Yes Appendix E susset Manager Lifecycle Management, (x86 or x86-64 or ppc64 or ppc64le or ia64) Yes Appendix E susset Manager Lifecycle Management, (x86 or x86-64 or ppc64 or ppc64le or ia64) Yes Appendix E Suse Manager Lifecycle Management, (x86 or x86-64 or ppc64 or ppc64le or ia64) Yes Appendix E Suse Manager Lifecycle Management, (ARM AArch64) per group of 4 Cores Yes Appendix E Suse Manager Lifecycle Management, (ARM AArch64) per group of 4 Cores Yes Appendix E	=		No	Appendix E
Class or Enterprise Class Physical Server  SUSE Manager Monitoring, virtualized (x86 or x86-64 or ppc64le or ia64)  SUSE Manager Monitoring, virtualized (x86 or x86-64 or ppc64le or ia64)  SUSE Manager Monitoring, virtualized (x86 or x86-64 or ppc64le or ia64)  SUSE Manager Monitoring, virtualized (x86 or x86-64 or ppc64le or ia64)  SUSE Manager Liflecycle Management, (x86 or x86-64 or ppc64 or ppc64le or ia64)  SUSE Manager Liflecycle Management, (x86 or x86-64 or ppc64 or ppc64le or ia64)  SUSE Manager Liflecycle Management, (x86 or x86-64 or ppc64 or ppc64le or ia64)  SUSE Manager Liflecycle Management, (x86 or x86-64 or ppc64 or ppc64le or ia64)  SUSE Manager Liflecycle Management, (x86 or x86-64 or ppc64 or ppc64le or ia64)  SUSE Manager Liflecycle Management, (x86 or x86-64 or ppc64 or ppc64le or ia64)  SUSE Manager Liflecycle Management, (x86 or x86-64 or ppc64 or ppc64le or ia64)  SUSE Manager Liflecycle Management, (x86 or x86-64 or ppc64 or ppc64le or ia64)  SUSE Manager Liflecycle Management, (ARM AArch64) per group of 4 Cores  Yes Appendix E  Appendix E  Appendix E  Appendix E  Appendix E  SUSE Manager Liflecycle Management, (ARM AArch64) per group of 4 Cores  Yes Appendix E	deployment, x86 or x86-64 or ppc64 or		Yes	Appendix E
deployment, x86 or x86-64 or ppc64 or per 1-2 Instances  SUSE Manager Monitoring, virtualized (x86 or x86-64 or ppc64 or ppc64le or ia64)  deployment Unlimited Virtualization, x86 or per 1-2 Sockets per Physical Server. Unlimited Virtualization, x86 or x86-64 or ppc64le or ia64  SUSE Manager Lifecycle Management, physical deployment, x86 or x86-64 or ppc64le or ia64)  SUSE Manager Lifecycle Management, physical deployment, x86 or x86-64 or ppc64le or ia64  SUSE Manager Lifecycle Management, per 1-2 Sockets per Physical Server  SUSE Manager Lifecycle Management, per 1-2 Sockets per Physical Server  Appendix E  SUSE Manager Lifecycle Management, per 1-2 Instances or per 1-2 Virtual Instances  SUSE Manager Lifecycle Management, per 1-2 Instances or per 1-2 Virtual Instances  Appendix E  SUSE Manager Lifecycle Management, per 1-2 Instances or per 1-2 Virtual Instances  SUSE Manager Lifecycle Management, per 1-2 Instances or per 1-2 Virtual Instances  SUSE Manager Lifecycle Management, physical deployment, ARM AArch64  SUSE Manager Lifecycle Management, physical Manager Lifecycle Ma	SUSE Manager Monitoring (s390x)	, , , , , , , , , , , , , , , , , , ,	Yes	Appendix E
deployment Unlimited Virtualization, x86 or per 1-2 Sockets per Physical Server. Unlimited x86-64 or ppc64 or ppc64le or ia64  SUSE Manager Lifecycle Management, (x86 or x86-64 or ppc64 or ppc64le or ia64) Yes Appendix E physical deployment, x86 or x86-64 or ppc64 or ppc64le or ia64  SUSE Manager Lifecycle Management, (x86 or x86-64 or ppc64 or ppc64le or ia64) Yes Appendix E virtualized deployment, x86 or x86-64 or ppc64 or ppc64le or ia64) Yes Appendix E virtualized deployment, x86 or x86-64 or ppc64 or ppc64le or ia64  SUSE Manager Lifecycle Management, (ARM AArch64) per group of 4 Cores  SUSE Manager Lifecycle Management, (ARM AArch64) per group of 4 Cores  Yes Appendix E  SUSE Manager Lifecycle Management, (ARM AArch64) per 1-2 Sockets per Physical Yes Appendix E	deployment, x86 or x86-64 or ppc64 or		Yes	Appendix E
physical deployment, x86 or x86-64 or ppc64 per 1-2 Sockets per Physical Server  SUSE Manager Lifecycle Management, virtualized deployment, x86 or x86-64 or per 1-2 Instances or per 1-2 Virtual Instances  Physical deployment, x86 or x86-64 or per 1-2 Instances or per 1-2 Virtual Instances  SUSE Manager Lifecycle Management, (ARM AArch64) per group of 4 Cores  Physical deployment, ARM AArch64  SUSE Manager Lifecycle Management, (ARM AArch64) per 1-2 Sockets per Physical  Yes Appendix E  SUSE Manager Lifecycle Management, (ARM AArch64) per 1-2 Sockets per Physical	deployment Unlimited Virtualization, x86 or	per 1-2 Sockets per Physical Server. Unlimited	Yes	Appendix E
virtualized deployment, x86 or x86-64 or per 1-2 Instances or per 1-2 Virtual Instances  ppc64 or ppc64le or ia64  SUSE Manager Lifecycle Management, (ARM AArch64) per group of 4 Cores  physical deployment, ARM AArch64  SUSE Manager Lifecycle Management, (ARM AArch64) per 1-2 Sockets per Physical  Yes Appendix E	physical deployment, x86 or x86-64 or ppc64		Yes	Appendix E
physical deployment, ARM AArch64  SUSE Manager Lifecycle Management, (ARM AArch64) per 1-2 Sockets per Physical Yes Appendix E	virtualized deployment, x86 or x86-64 or	, , , , , , , , , , , , , , , , , , , ,	Yes	Appendix E
		(ARM AArch64) per group of 4 Cores	Yes	Appendix E
			Yes	Appendix E

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SUSE Product	Unit of Measure	Stackable	Detailed Definitions
SUSE Enterprise Storage Base Configuration, AArch64	(AArch64) per 4 OSD Nodes with 1-2 Sockets per Physical Server	No	Appendix F
SUSE Enterprise Storage Expansion Node, AArch64	(AArch64) per 1 OSD Node with 1-2 Sockets per Physical Server and up to 1 Instance of SES Infrastructure Node per 1-2 Socket per Physical Server or per 1 Virtual Machine	No	Appendix F
SUSE Studio			
SUSE Studio License	(x86-64) per 1-2 Instances	No	Appendix G
SUSE Studio Maintenance	(x86-64) per 1-2 Instances. Requires a current SUSE Studio License.	No	Appendix G
SUSE CaaS Platform			
SUSE CaaS Platform, x86-64, 1-2 Sockets or 1 Virtual Machine	(x86-64) per 1-2 Sockets per Physical Server or 1 Virtual Machine	Yes	Appendix H
SUSE CaaS Platform Migration Offering with Special Conditions, x86-64, 1-2 Sockets or 1 Virtual Machine	(x86-64) per 1-2 Sockets per Physical Server or 1 Virtual Machine	Yes	Appendix H
SUSE CaaS Platform, x86-64, 1-2 Sockets with Unlimited Virtual Machines	(x86-64) per 1-2 Sockets with Unlimited Virtual Machines per Physical Server	Yes	Appendix H
SUSE CaaS Platform Migration Offering with Special Conditions, x86-64, 1-2 Sockets with Unlimited Virtual Machines	(x86-64) per 1-2 Sockets with Unlimited Virtual Machines per Physical Server	Yes	Appendix H
SUSE Cloud Application Platform ("CAP")			
SUSE Cloud Application Platform, x86-64, 1 Core or 2 vCPUs	(x86-64) per 1 Core or 2 vCPUs	Yes	Appendix I
SUSE Cloud Application Platform Migration offering with Special Conditions, x86-64, 1 Core or 2 vCPUs	(x86-64) per 1 Core or 2 vCPUs	Yes	Appendix I
Other SUSE Products			
SUSE Linux Enterprise Point of Service Client ("SLE POS Client"), x86	(x86) per Device	No	Appendix C
SUSE Linux Enterprise Point of Service Branch Server ("SLE POS Branch Server"), x86 & x86-64	(x86 & x86-64) per Instance	No	Appendix C
SUSE Linux Enterprise Point of Service Administration Server ("SLE POS Admin		No	Appendix C

SUSE Product	Unit of Measure	Stackable	Detailed Definitions
Server"), x86 & x86-64			
SUSE Linux Enterprise Server for High Performance Computing ("SLES HPC"), x86- 64 & ARM	(x86-64, AArch64) per 1-2 Sockets per Physical Server	Yes	Appendix C
SUSE Linux Enterprise Server for High Performance Computing ESPOS ("SLES HPC ESPOS"), x86-64 & ARM	(x86-64, AArch64) per 1-2 Sockets per Physical Server	Yes	Appendix C
SUSE Linux Enterprise Server for High Performance Computing LTSS ("SLES HPC LTSS"), x86-64 & ARM	(x86-64, AArch64) per 1-2 Sockets per Physical Server	Yes	Appendix C

## Appendix A

SUSE® Linux Enterprise Server Subscription Offerings and Units of Measure

Effective May 1st 2015 for SUSE Linux Enterprise Server for x86 and x86-64, and effective April 1st 2016 for SUSE Linux Enterprise Server for POWER.

**Operating Environments and Unit of Measure.** Each Physical Server, Virtualization Host or Virtualization Environment on which SUSE Linux Enterprise Server is deployed, installed, used or executed must have a Subscription Offering. Except for our ARM AArch64 processor Subscription offerings, Units of Measure do not differentiate between single core, multi-core or simultaneous multi-threading capable Processors.

For Virtualization Environments, if the Unit of Measure chosen is per number of Sockets with Unlimited Virtual Machines per Physical Server, only Physical Servers for which the appropriate Subscription Offering has been acquired may be used to deploy such Virtualization Environment, irrespective of whether such Physical Server is actually used or for how long such Physical Server is used.

A SUSE Linux Enterprise Server Subscription Offering must not be used as Subscription Offering for SUSE Linux Enterprise Server for SAP Applications. However, a Subscription Offering for SUSE Linux Enterprise Server for SAP Applications can alternatively (but not concurrently) be used as a SUSE Linux Enterprise Server Subscription Offering.

To change the deployment type of a Product during the Subscription Offering period, You must choose the highest valued Subscription Offering matching Your different deployment types for this Product.

For example, if You deploy the higher valued SUSE Linux Enterprise Server Subscription Offering for '1-2 Sockets with Unlimited Virtual Machines' during the Subscription Offering period for a deployment scenario matching a lower valued (when compared to the 1-2 Sockets with Unlimited Virtual Machines Subscription Offering) '1-2 Sockets or 1-2 Virtual Machines', You may continue to use the higher valued Subscription Offering for the remaining subscription period. However, You may not deploy the lower valued SUSE Linux Enterprise Server Subscription Offering for '1-2 Sockets or 1-2 Virtual Machines' during the Subscription Offering period for a deployment type matching the higher valued '1-2 Sockets with Unlimited Virtual Machines' Subscription Offering.

## Subscription Offerings for 1-2 Sockets or 1-2 Virtual Machines

These Subscription Offerings are intended for flexible deployments on Physical Servers and low-density or cloud virtualization.

## Deployment on Physical Servers

The number of Subscription Offerings needed for a Physical Server is determined by the number of Sockets in the Physical Server.

Physical Servers with 1 - 2 Sockets need 1 Subscription Offering for "1-2 Sockets or 1-2 Virtual Machines."

For Physical Servers with more than 2 Sockets, Subscription Offerings are Stackable to match or exceed the number of Sockets. For example, a Physical Server with 4 Sockets needs 2 Subscription Offerings for "1-2 Sockets or 1-2 Virtual Machines."

Subscription Offerings can be transferred to new and/or different Physical Servers. For example, when 10 Physical Servers with 2 Sockets each are replaced by 4 Physical Servers with 4 Sockets each, the 10 "1-2 Sockets or 1-2 Virtual Machines" Subscription Offerings can be transferred to the new Physical Servers. In this example, a total of 8 Subscription Offerings (2 per Physical Server with 4 Sockets) are transferred to the new Physical Servers. You can use the remaining 2 Subscription Offerings for later deployments.

## Low-Density or Cloud Deployments

Up to 2 Virtual Machines running on the same Virtualization Host or Virtualization Environment or within the same Private Cloud account or Public Cloud zone can be deployed with one "1-2 Sockets or 1-2 Virtual Machines" Subscription Offering.

Subscription Offerings for "1-2 Sockets or 1-2 Virtual Machines" can also be repurposed as Virtual Machines on any Virtualization Host, Virtualization Environment or with any certified Cloud Services provider (CSP).

At any point in time, a Subscription Offering for "1-2 Sockets or 1-2 Virtual Machines" can only be deployed either on a Physical Server or as Virtual Machines. For clarity, a Subscription Offering for "1-2 Sockets or 1-2 Virtual Machines" cannot be used for 1 Socket on a Physical Server and 1 Virtual Machine.

Subscription Offerings for "1-2 Sockets or 1-2 Virtual Machines" may not be used as a Virtualization Host. Virtualization Host capability is provided pursuant to the Subscriptions for 1-2 Sockets with Unlimited Virtual Machine defined below.

#### Subscription Offerings for 1-2 Sockets with Unlimited Virtual Machines

For high-density Virtualized Deployment a Subscription Offering for "1-2 Sockets with Unlimited Virtual Machines." is available. This Subscription Offering entitles You to deploy an unlimited number of Virtual Machines per 1-2 Sockets on a Virtualization Host. For Virtualization Hosts with more than 2 Sockets, Subscription Offerings are Stackable to match or exceed the number of Sockets. This Subscription Offering can be used on any third-party Virtualization Host and also includes the entitlement to run SUSE Linux Enterprise for x86-64 Xen or KVM as the Virtualization Host.

Subscription Offerings for "1-2 Sockets with Unlimited Virtual Machines" may be deployed alternatively (but not concurrently) as 1 or 2 Virtual Machines on any Virtualization Host or with any cloud services provider which is authorised by SUSE (Bring Your Own Subscription or "BYOS"). Unlike Subscription Offerings for "1-2 Sockets or 1-2 Virtual Machines" ("Low-Density"), Subscription offerings for 1-2 Sockets with Unlimited Virtual Machines must be acquired for each Virtualization Host capable of deploying SUSE Products within a Virtualization Environment.

#### z Systems ("s390x")

For a Physical Server with IBM z Systems Processors (s390x), the number of required Subscription Offerings for Your environment must match or exceed the number of IFLs on which SUSE Linux Enterprise Server is deployed, installed, used or executed. You can use an unlimited number of SUSE Linux Enterprise Server Instances per IFL. All these SUSE Linux Enterprise Server Instances must have a Subscription Offering, either Basic or a mix of Standard or Priority. Subscription Offerings are available for EC (Enterprise Class), BC (Business Class) type IBM z Systems models, and IBM LinuxONE type systems. The Unit of Measure for these Subscription Offerings is per IFL. If a single IFL on a specific Physical Server is used as an IFLe, then only IFLe use is permitted on that specific Physical Server. SUSE Linux Enterprise High Availability Extension (SLE HA) Subscription Offerings are included in SUSE Linux Enterprise Server for z Systems Subscription Offering.

#### Itanium Processor Family ("ia64")

For a Physical Server with Itanium Processors ("ia64"), the number of required Subscription Offerings must match or exceed the number of Sockets on which SUSE Linux Enterprise Server is deployed, installed, used or executed. Customers may use an unlimited number of SUSE Linux Enterprise Server Instances per Socket. All these SUSE Linux Enterprise Server Instances must have a Subscription Offering, either Basic or a mix of Standard or Priority.

## Intel or AMD Processors ("x86" or "x86-64"), Physical Deployment (Pre May 1st, 2015)

For a Physical Server with 32-bit or 64-bit Processors, the number of required Subscription Offerings must match or exceed the number of Sockets per Physical Server. If necessary, the CPU count per Physical Server must be rounded up to the next available Subscription Offering. Subscription Offerings are available for 1-2 CPU Sockets, 4 CPU Sockets or 8 CPU Sockets. One Subscription Offering cannot be used to entitle more than one Physical Server. Each Physical Server on which SUSE Linux Enterprise Server is deployed, installed, used or executed must have a Subscription Offering: either Basic or a mix of Standard or Priority. Virtualized Deployment of SUSE Linux Enterprise Server is not permitted with these Subscription Offerings (see "Virtualized Deployment" below).

## Intel or AMD Processors ("x86" or "x86-64"), Virtualized Deployment (Pre May 1st, 2015)

For a Physical Server with 32-bit or 64-bit Processors, "Unlimited Virtual" Subscription Offerings are available for Virtualized Deployments of SUSE Linux Enterprise Server for use as Virtual Guest and/or Virtualization Host. You can use an unlimited number of SUSE Linux Enterprise Server Instances per Physical Server. The number of required "Unlimited Virtual" Subscription Offerings for Your Physical Server must match or exceed the number of Sockets per Physical Server on which SUSE Linux Enterprise Server is deployed, installed, used or executed. If necessary, the Socket count per Physical Server must be rounded up to the next available Subscription Offering.

"Unlimited Virtual" Subscription Offerings are available for 1-2 CPU Sockets, 4 CPU Sockets, or 8 CPU Sockets. One Subscription Offering cannot be used to entitle more than one Physical Server. Each Physical Server on which SUSE Linux Enterprise Server is deployed, installed, used or executed must have a Subscription Offering: either Basic or a mix of Standard or Priority.

#### POWER ("ppc64 or ppc64le"), (Pre April 1st, 2016)

For a Physical Server with POWER Processors (ppc64 or ppc64le), the number of required Subscription Offerings for Your environment must match or exceed the number of Sockets on which SUSE Linux Enterprise Server is deployed, installed, used or executed. You can use an unlimited number of SUSE Linux Enterprise Server Instances per Socket. All these SUSE Linux Enterprise Server Instances must have a Subscription Offering, either Basic or a mix of Standard or Priority.

## ARM AArch64 Processors ("AArch64"), Subscription Offerings for 1-2 Sockets or 1-2 Virtual Machines

These Subscription Offerings are intended for flexible deployments on Physical Servers and low-density or cloud virtualization.

The number of Subscription Offerings needed for a Physical Server is determined by the number of Cores or Sockets in the Physical Server.

For Physical Servers with 16 or more Cores, the Subscription Offering is based on 1-2 Sockets. For example, a Physical ARM server with 16 Cores would require a single 1-2 Socket Subscription Offering.

For Physical Servers with more than 2 Sockets, Subscription Offerings are Stackable to match or exceed the number of Sockets. For example, a Physical Server with 4 Sockets needs 2 Subscription Offerings for "1-2 Sockets or 1-2 Virtual Machines." The maximum number of Cores per Socket Pair is limited to 144. One Subscription Offering cannot be used to entitle more than one Physical Server.

Each Physical Server on which SUSE Linux Enterprise Server is deployed, installed, used or executed must have a Subscription. Subscription Offerings can be transferred to new and/or different Physical Servers. For example, when 10 Physical Servers with 2 Sockets each are replaced by 4 Physical Servers with 4 Sockets each, the 10 "1-2 Sockets or 1-2 Virtual Machines" Subscription Offerings can be transferred to the new Physical Servers. In this example, a total of 8 Subscription Offerings (2 per Physical Server with 4 Sockets) are transferred to the new Physical Servers. You can use the remaining 2 Subscription Offerings for later deployments.

Up to 2 Virtual Machines running on the same Virtualization Host or Virtualization Environment or within the same Private Cloud account or Public Cloud zone can be deployed with one "1-2 Sockets or 1-2 Virtual Machines" Subscription Offering.

Subscription Offerings for "1-2 Sockets or 1-2 Virtual Machines" can also be repurposed as Virtual Machines on any Virtualization Host or with any certified Cloud Services provider (CSP).

At any point in time, a Subscription Offering for "1-2 Sockets or 1-2 Virtual Machines" can only be deployed either on a Physical Server or as Virtual Machines. For clarity, a Subscription Offering for "1-2 Sockets or 1-2 Virtual Machines" cannot be used for 1 Socket on a Physical Server and 1 Virtual Machine.

Subscription Offerings for "1-2 Sockets or 1-2 Virtual Machines" may not be used as a Virtualization Host. Virtualization Host capability is provided pursuant to the Subscriptions for 1-2 Sockets with Unlimited Virtual Machine defined below.

## ARM AArch64 Processors ("AArch64), Subscription Offerings for 1-2 Sockets with Unlimited Virtual Machines

For a Physical Server with 64-bit ARM AArch64 Processors, "Unlimited Virtual" Subscription Offerings are available for Virtualized Deployments of SUSE Linux Enterprise Server for use as Virtual Guest and/or Virtualization Host.

For Physical Servers with 16 or more Cores, the Unlimited Virtual Machine Subscription Offering is based on 1-2 Sockets. For example, an ARM Physical Server with 16 Cores would require a single 1-2 Socket Unlimited Virtual Machine Subscription Offering.

This Subscription Offering entitles You to deploy an unlimited number of Virtual Machines per Subscription Offering on a Virtualization Host. For Virtualization Hosts with more than 2 Sockets, Subscription Offerings are Stackable to match or exceed the number of Sockets. This Subscription Offering can be used on any third-party Virtualization Host and also includes the entitlement to run SUSE Linux Enterprise Xen or KVM as the Virtualization Host One Subscription Offering cannot be used to entitle more than one Physical Server.

Each Physical Server on which SUSE Linux Enterprise Server is deployed, installed, used or executed must have a Subscription.

## ARM AArch64 Processors ("AArch64"), 1-2 Virtual Machines per 4 Cores

For Physical Servers with less that 16 physical ARM Cores, the Subscription Offerings are based on groups of 4 Cores. These Subscription Offerings are stackable up to a total of 15 Cores per Physical Server. For example, an ARM Physical Server such

as a Raspberry Pi with a total of 4 Cores would need a single, 4-Core group Subscription Offering. An ARM Physical Server with 12 Cores would require three 4-Core group Subscription Offerings. An ARM Physical Server with 15 Cores would require four 4-Core group Subscription Offerings.

For a Physical Server with 64-bit ARM AArch64 Processors, the number of required Subscription Offerings must match or exceed the number of Cores in the Physical Server divided by four (4) and if necessary rounded to the next integer. Subscription Offerings are available for each group of 4 Cores. One Subscription Offering cannot be used to entitle more than one Physical Server.

Each Physical Server on which SUSE Linux Enterprise Server is deployed, installed, used or executed must have a Subscription. Virtualized Deployment of SUSE Linux Enterprise Server is not permitted with these Subscription Offerings (see "Virtualized Deployment" below).

#### ARM AArch64 Processors ("AArch64"), Unlimited Virtual Machines per 4 Cores

For a Physical Server with 64-bit ARM AArch64 Processors, "Unlimited Virtual Machines" Subscription Offerings are available for Virtualized Deployments of SUSE Linux Enterprise Server for use as Virtual Guest and/or Virtualization Host.

For Arm Physical Servers with less that 16 Cores, the Subscription Offerings are based on groups of 4 Cores. These Subscription Offerings are stackable up to a total of 15 Cores per Physical Server. For example, an ARM Physical Server with a total of 4 Cores would need a single, 4-Core group Unlimited Virtual Machine Subscription Offering. An ARM Physical Server with 12 Cores would require three 4-Core group Unlimited Virtual Machine Subscription Offerings.

This Subscription Offering entitles You to deploy an unlimited number of Virtual Machines per 4 Cores on a Virtualization Host. For Virtualization Hosts with more than 4 Cores, Subscription Offerings are Stackable to match or exceed the number of Cores. This Subscription Offering can be used on any third-party Virtualization Host and also includes the entitlement to run SUSE Linux Enterprise Xen or KVM as the Virtualization Host

The number of required "Unlimited Virtual Machines" Subscription Offerings for Your Physical Server must match or exceed the number of Cores in the Physical Server divided by four (4) and if necessary rounded to the next integer for each Core on which SUSE Linux Enterprise Server is deployed, installed, used or executed.

Each Physical Server on which SUSE Linux Enterprise Server is deployed, installed, used or executed must have a Subscription.

#### SUSE® Linux Enterprise Desktop Subscription Offerings and Units of Measure

#### **Operating Environments and Units of Measure**

Units of Measure do not differentiate between single core or multi-core or simultaneous multi-threading capable Processors.

#### Intel or AMD Processors ("x86" or "x86-64"), Physical Deployment

For a Device with 32-bit or 64-bit Processors, the number of required Subscription Offerings must match or exceed the number of Devices, where SUSE Linux Enterprise Desktop is deployed, installed, used or executed. The Subscription Offering must be either Basic or a mix of Standard or Priority. Virtualized Deployment of SUSE Linux Enterprise Desktop is not permitted with this Subscription Offering. One Subscription Offering cannot be used to entitle more than one Device.

## SUSE® Linux Enterprise Workstation Extension (SLE WE) Subscription Offerings and Units of Measure

## **Operating Environments and Unit of Measure**

Units of Measure do not differentiate between single core or multi-core, or simultaneous multi-threading capable Processors. SLE WE requires one Current SLES Subscription Offering per Physical Server in addition to the respective SLE WE Instances.

#### Intel or AMD Processors ("x86-64"), Physical Deployment

For Physical Servers with 64-bit Processors, the number of Subscription Offerings must match or exceed the number of Physical Servers or Devices, where SLE WE is deployed, installed, used or executed. Subscription Offering benefits for SLE WE are determined by and inherited from the Subscription Offering benefits of the underlying SUSE Linux Enterprise Server Subscription Offering. Virtualized Deployment of SUSE Linux Enterprise Workstation Extension is not permitted with this Subscription Offering. (See Virtualized Deployment below.) One Subscription Offering cannot be used to entitle more than one Physical Server.

## Intel or AMD Processors ("x86-64"), Virtualized Deployment

For Physical Servers with 64-bit Processors, the number of Subscription Offerings must match or exceed the number of Instances of SUSE Linux Enterprise Workstation Extension for use as Virtual Instance. You can use an unlimited number of SUSE Linux Enterprise Workstation Instances per Physical Server. One Subscription Offering cannot be used to entitle more than one Virtual Instance. Each Virtual Instance on a Virtualization Host on which SUSE Linux Enterprise Workstation Extension is deployed, installed, used or executed must have a Subscription Offering. Subscription Offering benefits for SLE WE are determined by and inherited from the Subscription Offering benefits of the underlying SUSE Linux Enterprise Server Subscription Offering.

## Appendix B

## SUSE Linux Enterprise High Availability Extension ("SLE HA") Subscription Offerings and Units of Measure

SLE HA is a SUSE Product based on open source technology to implement highly available Linux clusters. It is supported on all Physical and Virtual Deployments where SUSE Linux Enterprise Server (x86, x86-64, ppc64, ia64, s390x) is supported.

Unit of Measure is the same as the Unit of Measure for SUSE Linux Enterprise Server Subscription Offerings for x86, AMD64 & Intel64, and POWER (see Appendix A).

Organizations with a Current SUSE Linux Enterprise Server Subscription Offering for Itanium (ia64), or z Systems (s390x) are entitled to receive Subscription Offering benefits for SUSE Linux Enterprise High Availability Extension for the respective Hardware Architecture. Organizations with a SUSE Linux Enterprise Server Subscription Offering for POWER (ppc64) purchased before April 1st 2016, are entitled to receive Subscription Offering benefits for SUSE Linux Enterprise High Availability Extension.

SUSE Linux Enterprise High Availability Extension Subscription Offering benefits are determined by and inherited from the underlying SUSE Linux Enterprise Server Subscription Offering benefits.

## Geo Clustering for SUSE Linux Enterprise High Availability Extension ("Geo SLE HA") Subscription Offerings and Units of Measure

To receive Subscription Offering benefits for Geographically Clustered Linux Servers, separate Geo Clustering for SUSE Linux Enterprise High Availability Extension Subscription Offerings are required, in addition to Current SUSE Linux Enterprise Server and SUSE Linux Enterprise High Availability Extension Subscription Offerings.

Unit of Measure for Geo SLE HA is the same as the Unit of Measure for SUSE Linux Enterprise Server for x86, AMD64 & Intel64 (x86 / x86-64), and z Systems (s390x) Subscription Offerings in Appendix A. Subscription Offering benefits for Geo Clustering for SUSE Linux Enterprise High Availability Extension are determined by and inherited from the Subscription Offering benefit of the underlying SUSE Linux Enterprise Server Subscription Offerings.

### SUSE Linux Enterprise Server Real Time Extension ("SLE RT") Subscription Offerings and Units of Measure

To receive Subscription Offering benefits for SLE RT, a separate SLE RT Extension Subscription Offering is required in addition to a Current SUSE Linux Enterprise Server Subscription Offering (see Appendix A) either for Physical Deployment or Unlimited Virtual Machines.

Unit of Measure for SLE RT is per Physical Server. Subscription Offering benefits for SLE RT are determined by and inherited from the underlying SUSE Linux Enterprise Server Subscription Offering.

## SUSE Linux Enterprise Virtual Machine Driver Pack ("SLE VMDP") Extension Subscription Offerings and Units of

To receive Subscription Offering benefits for SLE VMDP, a Current SUSE Linux Enterprise Server Subscription Offering is required (see Appendix A). Purchasing SLE VMDP Subscription Offerings without a Current SUSE Linux Enterprise Server Subscription Offering does not entitle You to receive Subscription Offering benefits for SLE VMDP.

Unit of Measure for SLE VMDP is either per 1 to 4 Virtual Instances per Physical Server or unlimited number of Virtual Instances per Physical Server. Subscription Offering benefits for SLE VMDP are determined by the Subscription Offering benefit of the underlying SUSE Linux Enterprise Server Subscription Offering.

## Long Term Service Pack Support ("LTSS") Subscription Offerings and Units of Measure

LTSS Subscription Offering extends the support period of a SLES (x86, x86-64, s390x, ppc64, ppc64le) Service Pack and/or SLES for SAP Applications (x86-64) Service Pack as defined at <a href="https://www.suse.com/lifecycle/">https://www.suse.com/lifecycle/</a>.

LTSS Subscription Offering is available as an additional offering for SLES (x86, x86-64, s390x, ppc64, ppc64le).

For SLES for SAP Application (x86-64, ppc64le) LTSS Subscription Offering is available to extend the Subscription Offering benefit period after expiration of Extended Service Pack Overlap Support (ESPOS).

SLES for High Performance Computing Long Term Service Pack Support (SLES HPC LTSS) (x86-64, AArch64) Subscription Offering is available to extend the Subscription Offering benefit period after expiration of Extended Service Pack Overlap Support (SLES HPC ESPOS), or to extend the SLES HPC Subscription Offering benefit period.

All LTSS Subscription Offerings require a matching and underlying (i) Current SUSE Linux Enterprise Server Subscription Offering or (ii) Current SLES for SAP Application (x86-64) Subscription Offering or (iii) SLES HPC (x86-64, Aarch64) Subscription Offering. Your LTSS Subscription Offering must be registered at SUSE Customer Center (SCC), and you may be required to install the latest LTSS updates.

## LTSS for x86 & x86-64 for "up to 100 Instances," "up to 500 Instances," and "unlimited Instances"

LTSS for x86 & x86-64 has the following Subscription Offering options:

- up to 100 Instances
- up to 500 Instances
- · unlimited Instances

This LTSS Subscription Offering is offered strictly per Code Stream and is Hardware Architecture specific.

## LTSS for x86 & x86-64, 1-2 Sockets with Inherited Virtualization per Code Stream

This Subscription Offering entitles You to any current LTSS version and is not hardware architecture specific. One LTSS Subscription Offering is required per 1-2 Sockets. For Physical Servers with more than 2 Sockets, Subscription Offerings are Stackable to match or exceed the number of Sockets. Virtualization is inherited from the underlying SLES Subscription Offering.

By way of example, a Physical Server with 4 Sockets needs 2 Subscription Offerings for "1-2 Sockets or 1-2 Virtual Machines." Six Virtual Machines of the same Code Stream of SLES under LTSS on a SLES Virtualization Host with four Sockets require two SLES Subscription Offerings for 1-2 Sockets with Unlimited Virtual Machines (for the host and VMs) and two LTSS Subscription Offerings of 1-2 Sockets (for the host and VMs).

As a second example, running *three* Virtual Machines with different Code Streams on the same four-socket SLES Virtualization Host requires two SLES Subscription Offerings for 1-2 Sockets with Unlimited Virtual Machines (for the host) and <a href="mailto:three-line-stream">three</a> LTSS Subscription Offerings (one for each Code Stream executed as VM guest).

#### LTSS for SLES for z Systems (s390x)

LTSS for SLES for z Systems has the following Subscription Offerings:

- up to 5 IFLs
- up to 10 IFLs
- unlimited IFLs

#### LTSS for SLES for POWER (ppc64) 1-2 Sockets with Inherited Virtualization per Code Stream

This Subscription Offering entitles You to any current LTSS version for ppc64.

One LTSS Subscription Offering is required per 1 - 2 Sockets. For Physical Servers with more than 2 Sockets, Subscription Offerings are Stackable to match or exceed the number of Sockets. Virtualization is inherited from the underlying SLES Subscription Offering.

By way of example, a Physical Server with 4 Sockets needs 2 Subscription Offerings for "1-2 Sockets or 1-2 Virtual Machines". As another example, running two Virtual Machines with <u>different Code Streams</u> on a SLES Virtualization Host with 2 Sockets requires:

- One SUSE Linux Enterprise Server Subscription Offerings for 1-2 Sockets with Unlimited Virtual Machines (for the Virtualization Host) and
- Two LTSS Subscription Offerings (one for each Code Stream)

# SUSE Linux Enterprise Server for High Performance Computing Long Term Service Pack Support ("SLES HPC LTSS") (x86-64, AArch64) 1-2 Sockets with Inherited Virtualization per Code Stream

This Subscription Offering entitles You to any Current LTSS version for SUSE Linux Enterprise Server for High Performance Computing x86-64, AArch64.

One SLES HPC LTSS Subscription Offering is required per 1 - 2 Sockets per Code Stream. For Physical Servers with more than 2 Sockets, Subscription Offerings are Stackable to match or exceed the number of Sockets. Virtualization is inherited from the underlying SLES Subscription Offering.

By way of example, a Physical Server with 4 Sockets needs 2 Subscription Offerings for "1-2 Sockets or 1-2 Virtual Machines". As another example, running two Virtual Machines with <u>different Code Streams</u> on a SLES Virtualization Host with 2 Sockets requires:

- One SUSE Linux Enterprise Server for High Performance Computing Subscription Offerings for 1-2 Sockets and
- Two SLES HPC LTSS Subscription Offerings (one for each Code Stream)

# Extended Service Pack Overlap Support (SLES HPC ESPOS) for SUSE Linux Enterprise Server for High Performance Computing (SLES for HPC)

The SLES HPC ESPOS (x86-64, AArch64) extends the Subscription Offering benefit period for a particular SLES HPC (x86-64, AArch64) Service Pack. SLES HPC ESPOS entitles You to continue receiving SLES HPC ESPOS (x86-64, AArch64) Subscription Offering benefits under the same conditions as SLES HPC LTSS (per Code Stream and per Hardware Architecture) according the SUSE product lifecycle.

## Extended Service Pack Overlap Support (ESPOS) for SLES for SAP Applications

The SLES for SAP Applications (x86-64, ppc64le) Subscription Offering includes ESPOS. ESPOS extends the Subscription Offering benefit period for a particular SLES for SAP Applications (x86-64, ppc64le) Service Pack. ESPOS entitles customers of SLES for SAP Applications (x86-64, ppc64le) to continue receiving Subscription Offering benefits under the same conditions as LTSS (i.e. per Code Stream and Hardware Architecture dependent) according SUSE product lifecycle.

## Appendix C

#### SUSE Linux Enterprise Point of Service ("SLE POS") Subscription Offerings and Units of Measure

Subscription Offerings for SUSE Linux Enterprise Point of Service (SLE POS) include access to SUSE Linux Enterprise Server and maintenance updates. Subscription Offering benefits are limited to the use of those components in a SLE POS solution as outlined below. In order for any individual Device to be eligible for Subscription Offering benefits, all Physical Servers, Instances, and Client Devices used as part of a SLE POS solution must have a Current Subscription Offering.

#### **SLE POS Administration Server**

At least one administration server is needed in a typical SLE POS environment. The administration server manages all point of service Devices and serves as the central repository for configuration information. It also keeps the master operating systems for the point of service Devices.

Point of service operating systems are built from templates, using SUSE Linux Enterprise and its maintenance updates as the base. Point of service operating systems can be built on the same Instance used as the administration server or on a separate Physical or Virtual Server Instance. All administration Physical Servers or operating system build Instances must have a "SUSE Linux Enterprise Point of Service Admin Server" Subscription Offering.

Additional workloads may only be run on an administration server if they are directly related to running the SLE POS solution. All other workloads must have SUSE Linux Enterprise Server Subscription Offerings.

#### **SLE POS Branch Server**

SUSE recommends using at least one branch server per branch. It is possible to run the SLE POS branch server function directly off the administration server for small-scale implementations of SLE POS. In this case, only an administration server Subscription Offering is needed.

The branch server provides the infrastructure for booting the point of service Client Devices from the local network, registering new Client Devices at the site and distributing operating system updates to the Client Devices. SLE POS Branch Server Subscription Offerings can be used for the actual point of service branch server as well as other SUSE Linux Enterprise Server Instances running at a branch, provided that they are used solely to serve data or applications to the point of service Client Devices. Instances in branches that are used in other roles must have a Current SUSE Linux Enterprise Server Subscription Offering.

#### **SLE POS Client**

All point of service Client Devices that are running a SUSE Linux Enterprise operating system, either deployed by the SLE POS solution or otherwise installed or deployed, must have a "SUSE Linux Enterprise Point of Service Client" Subscription Offering.

Client Devices are entitled to be used for running typical point of service applications or for supporting client applications (for example, a web browser). If the point of service application needs certain SUSE Linux Enterprise Server services to run, for example a local database, this is also covered by the SLE POS Client Subscription Offering.

Point of service Devices that are used as a combined point of service terminal and as a branch server, or point of service hardware used in any other server role, must have at least a SLE POS Branch Server Subscription Offering.

SLE POS Client Subscription Offerings must not be employed for any general purpose desktop or server use.

## **SLE POS High Availability Setup**

SLE POS high availability servers can be set up as 2 Node high availability cluster. In that case separate Subscription Offerings of the SUSE Linux Enterprise High Availability Extension are needed for all Physical Servers used as cluster Nodes.

## **Hardware Architectures**

SLE POS administration and branch servers may be deployed on x86 or x86-64 SUSE certified hardware. SLE POS Client operating systems may only be built for the x86 Hardware Architecture.

#### Virtualization

Provided that the restrictions mentioned above are complied with and all Instances belong to the same Point of Service solution, more than one virtual SUSE Linux Enterprise Point of Service Instance may be run on a single Physical Server that has a Current SLE POS Administration Server or SLE POS Branch Server Subscription Offering. For example, an operating system build server may be run as a Virtual Instance on the SLE POS Administration Server, or a SLE POS Branch Server can be run as a Virtual Instance on a combined point of service and SLE POS Branch Server Device. SLE POS Subscription Offerings must not be used as general purpose servers or Client Device virtualization.

## SUSE Linux Enterprise Server for High Performance Computing ("SLES HPC") and SUSE Linux Enterprise Server for High Performance Computing ESPOS ("SLES HPC ESPOS") Subscription Offerings and Units of Measure

The Unit of Measure for a SUSE Linux Enterprise Server for High Performance Computing Subscription Offering is per 1 - 2 Sockets per Physical Server used as part of a SLES HPC Cluster. One Subscription Offering is required for a 1 - 2 Socket Physical Server. For Physical Servers with more than 2 Sockets, the number of Subscription Offerings must match or exceed the total number of pairs of Sockets of the Physical Server.

All SLES HPC Nodes within a SLES HPC Cluster must deploy the same SUSE Linux Enterprise Subscription Offering such as (a) "Standard" with ESPOS or without ESPOS or (b) "Priority" with ESPOS or without ESPOS. When You acquire a LTSS Subscription Offering for one node in a particular SLE HPC Cluster, You must acquire sufficient Subscription Offerings in the applicable Unit to cover all acquired, installed, or deployed SLES HPC Nodes in that particular cluster.

The amount of Subscription Offerings for a particular SLES HPC Cluster must match or exceed the sum of Subscription Offerings of all Socket Pairs present in the SLES HPC Cluster.

A SLES HPC Cluster is defined by the following cumulative characteristics:

- i. One SLES HPC Cluster must consist of a minimum of four (4) Physical Nodes; and
- ii. The SLES HPC Cluster is solely used for compute-intensive or high-performance data analysis distributed tasks sent to individual SLES HPC Compute Nodes within the SLES HPC Cluster (see "Definitions" for more details); and
- iii. External network communication to and from the SLES HPC Cluster must only happen via the SLES HPC Head Nodes. With the exception of (a) communication for purely administrative purposes which in no way interferes with the computation task distributed to any HPC Compute Node and (b) data transfer directly related to computation of a particular computation task between any HPC Compute Node and a storage system or streaming data source. No direct or indirect communication between HPC Compute Nodes and external systems is allowed; and
- IV. The ratio of SLES HPC Head Nodes to SLES HPC Compute Nodes must not exceed a ratio of 1 to 4.

## SUSE Linux Enterprise Live Patching Subscription Offerings and Units of Measure

SUSE Linux Enterprise Live Patching is a SUSE Product based on open source technology to implement code updates during operation of the system. It is supported on all Physical and Virtual Deployments starting with SUSE Linux Enterprise Server 12 on x86-64 and POWER (ppc64le).

Unit of Measure for SUSE Linux Enterprise Live Patching is the same as SUSE Linux Enterprise Server Subscription Offerings for x86-64 and POWER (ppc64le), respectively (see Appendix A).

SUSE Linux Enterprise Live Patching Subscription Offering requires an underlying Current SUSE Linux Enterprise Server Priority Subscription Offering. Subscription Offering benefits are available for the kernel versions listed on <a href="https://www.suse.com/products/live-patching/">https://www.suse.com/products/live-patching/</a>. The list is subject to change at SUSE's discretion and your entitlement to receive Subscription Offering benefits may be conditioned on Your deployment of a current version from this list.

## Appendix D

### SUSE OpenStack Cloud Subscription Offerings and Units of Measure

SUSE OpenStack Cloud Control Node plus SUSE OpenStack Cloud Administration/Deployer Server (Unit of Measure: Instance) includes the control services needed to run a Private Cloud infrastructure on a single Physical Server. It also includes an installation framework that automates the installation and ongoing maintenance of the physical cloud infrastructure. At least one (1) SUSE OpenStack Cloud Control Node plus SUSE OpenStack Cloud Administration/Deployer Server is required for each SUSE OpenStack Cloud installation. SUSE OpenStack Cloud Control Nodes plus SUSE OpenStack Cloud Administration/Deployer Server include up to two (2) Subscription Offerings for SUSE Linux Enterprise Server for x86, & x86-64, Physical Deployment, and SUSE Linux Enterprise High Availability Extension to be used for the sole purpose of deploying the SUSE OpenStack Cloud Control Node and the SUSE OpenStack Cloud Administration/Deployer Server.

**SUSE OpenStack Cloud Control Node** (Unit of Measure: Instance) is an additional Instance running the control services needed to run a Private Cloud infrastructure on a single Physical Server for reliability or increased performance. SUSE OpenStack Cloud Control Node includes one (1) Subscription Offering for SUSE Linux Enterprise Server for x86, & x86-64, Physical or Virtualized Deployment, and SUSE Linux Enterprise High Availability Extension which may be used for the sole purpose of deploying the SUSE OpenStack Cloud Control Node.

SUSE OpenStack Cloud Control Node for z/VM (Unit of Measure: Instance) is an additional Instance running the control services needed to manage a Private Cloud IBM z/VM infrastructure on a single Physical Server for reliability or increased performance. The prerequisite for the Control Node for z/VM is at least one SUSE OpenStack Cloud Control Node plus a SUSE OpenStack Cloud Administration/Deployer Server Subscription Offering. A SUSE OpenStack Cloud Control Node includes one (1) Subscription Offering for SUSE Linux Enterprise Server for x86, & x86-64, Physical or Virtualized Deployment, and SUSE Linux Enterprise High Availability Extension which may be used for the sole purpose of deploying the SUSE OpenStack Cloud Control Node.

SUSE OpenStack Cloud Control Node for VMware (Unit of Measure: Instance) is an additional Instance running the control services needed to manage a Private Cloud using VMWare infrastructure on a single Physical Server for reliability or increased performance. The prerequisite for the Control Node for VMware is at least one SUSE OpenStack Cloud Control Node plus a SUSE OpenStack Cloud Administration/Deployer Server Subscription Offering. A SUSE OpenStack Cloud Control Node includes one (1) Subscription Offering for SUSE Linux Enterprise Server for x86,& x86-64, Physical or Virtualized Deployment, and SUSE Linux Enterprise High Availability Extension which may be used for the sole purpose of deploying the SUSE OpenStack Cloud Control Node.

SUSE OpenStack Cloud Compute Node (Unit of Measure: 1-2 Sockets per Physical Server, Virtualized Deployment) is the Physical Server or Virtual Instance that is managed by SUSE OpenStack Cloud to either host KVM or Xen Virtual Machines for workloads running in the Private Cloud or to integrate with VMware vCenter. SUSE OpenStack Cloud Compute Nodes require a separate Subscription Offering for SUSE Linux Enterprise Server for x86 & x86-64, Virtualized Deployment. If a SUSE OpenStack Cloud Compute Node is configured to be part of an optional SUSE Linux Enterprise High Availability cluster, the SUSE OpenStack Cloud Compute Node requires a separate Subscription Offering for SUSE Linux Enterprise High Availability.

SUSE OpenStack Cloud Swift Storage Node (Unit of Measure: 1-2 Sockets) is the Physical Server managed by SUSE OpenStack Cloud that hosts the object storage using OpenStack Swift. A Current SUSE OpenStack Cloud Swift Storage Node Subscription Offering is required for each Physical Server that is part of the SUSE OpenStack Cloud Swift Storage Cluster. Each SUSE OpenStack Cloud Swift Storage Node requires a separate Subscription Offering for SUSE Linux Enterprise Server for x86, & x86-64, Physical Deployment.

SUSE OpenStack Cloud Monitoring (Unit of Measure: 1-2 Sockets per Physical Server, Virtualized Deployment) is the Physical Server or Virtual Instance that is monitored by SUSE OpenStack Cloud Monitoring. This can include a SUSE OpenStack Compute or Control Node running in the SUSE OpenStack Cloud. SUSE OpenStack Cloud Monitored Compute Nodes and Control Nodes must provide the necessary SUSE Linux Enterprise Server Subscription Offerings as described in their detailed requirements above. The SUSE Linux Enterprise Server Subscription for the Monitored Control node is included with SUSE OpenStack Control Node.

## Appendix E

### SUSE Manager Subscription Offerings and Units of Measure

A SUSE Manager installation requires at least one SUSE Manager Server and for each Managed Instance a SUSE Manager Lifecycle Management Subscription Offering. Additional functionality can be added for each Managed Instance with a SUSE Manager Monitoring Subscription Offering.

#### **SUSE Manager for Retail Architecture**

A SUSE Manager for Retail installation requires at least one SUSE Manager Server.

Managed Instances connected to the SUSE Manager Server via the SUSE Manager for Retail Branch Server, including the branch server and the point of service related workloads running on the branch server, do not require the SUSE Manager Lifecycle Management Subscription Offerings.

Each Managed Instance connected directly to the SUSE Manager Server requires a SUSE Manager Lifecycle Management Subscription Offering.

You may only deploy POS Client Device Managed Instances running SLEPOS with Current Subscriptions in Your SUSE Manager for Retail environment.

Additional functionality can be added for each Managed Instance with a SUSE Manager Monitoring Subscription Offering.

#### **SUSE Manager Server**

SUSE Manager Server is available for installation on a Physical Server or as a Virtual Instance. At least one SUSE Manager Server Subscription Offering is required for an installation. No additional workloads are permitted to be deployed on the same Instance. SUSE Manager Server Subscription Offerings include access to SUSE Linux Enterprise solely as necessary for running SUSE Manager Server.

## **SUSE Manager Server Subscription Offering Options**

For up to 50 Managed Instances (including Virtualization Hosts), the "SUSE Manager Server for up to 50 Managed Instances" Subscription Offering can be used. This Subscription Offering cannot be used for the SUSE Manager Server Master in a multilevel SUSE Manager Inter Server Sync setup (as described in the official "SUSE Manager Installation and Troubleshooting Guide" documentation, linked from <a href="http://www.suse.com/documentation/">http://www.suse.com/documentation/</a>). "SUSE Manager Server for up to 50 Managed Instances" Subscription Offering must not be used with an external database.

SUSE Manager Server Subscription Offering is not limited to 50 Managed Instances and can be used for the SUSE Manager Master Server in a multilevel SUSE Manager Inter Server Sync setup. The SUSE Manager Server Subscription Offering can either be used with the embedded database or an external Oracle database provided by You.

Both "SUSE Manager Server for up to 50 Managed Instances" and "SUSE Manager Server" Subscription Offerings can be used with an unlimited number of Sockets per Physical Server or per Virtual Machine.

### **SUSE Manager Proxy**

SUSE Manager Proxy is available for installation on a Physical Server or Virtual Instance or as a Container. Regardless of the deployment option chosen, each Instance of SUSE Manager Proxy requires a SUSE Manager Proxy Subscription Offering or SUSE Manager for Retail Branch Server Subscription Offering. The SUSE Manager for Retail Branch Server Subscription Offering can only be used when the SUSE Manager Proxy is deployed as part of the SUSE Manager for Retail architecture, in typical point of service environments. You are only permitted to connect to SUSE Manager for Retail Branch Server with SUSE Linux Enterprise Point of Service clients with current and valid Subscription Offerings. No additional workloads may be deployed on the same Physical Server or Virtual Instance, unless the SUSE Manager Proxy is deployed with the SUSE Manager for Retail Branch Server Subscription Offering, in which case, point of service related workloads may be deployed on the same Physical Server.

SUSE Manager Proxy and SUSE Manager for Retail Branch Server Subscription Offerings include access to SUSE Linux Enterprise solely as necessary for running SUSE Manager Proxy.

## SUSE Manager High Availability Servers

SUSE Manager Server and SUSE Manager Proxy can be set up as a cluster of 2 Instances using the SUSE Linux Enterprise High Availability Extension. Terms and conditions are available on request.

## **Rules for Applying Subscription Offerings to Managed Instances**

#### **Physical Servers**

Except for the ARM AArch64 processor-based servers, SUSE Manager Lifecycle Management and SUSE Manager Monitoring Subscription Offerings need to be applied on Physical Servers based on the number of Sockets per Physical Server. Subscription Offerings for 1 to 2 Sockets can be aggregated to provide Current Subscription Offerings for Physical Servers with more than 2 Sockets. For example, a 6 Socket Physical Server must have 3 "SUSE Manager Lifecycle Management up to 2 Sockets or 2 Virtual Machines" Subscription Offerings.

SUSE Manager Lifecycle Management Subscription Offerings for the Managed Instances in a branch, are not required when the SUSE Manager for Retail Branch Server Subscription Offerings has been rightfully acquired for that branch.

Physical Servers based on ARM AArch64 processors

SUSE Manager Lifecycle Management for ARM need to be applied on Physical Servers based on the number of Cores or the number of Sockets per Physical Server.

For Physical Servers with less that 16 ARM Cores, the Subscription Offerings are based on groups of 4 Cores. These Subscription Offerings are stackable up to a total of 15 Cores per Physical Server. For example, an ARM Physical Server such as a Raspberry Pi with a total of 4 Cores would need a single, 4-Core group Subscription Offering. An ARM Physical Server with 12 Cores would require three 4-Core group Subscription Offerings. An ARM Physical Server with 15 Cores would require four 4-Core group Subscription Offerings.

For Physical Servers with 16 or more Cores, the SUSE Manager Lifecycle Management for ARM Subscription Offering is based on 1-2 Sockets. For example, an ARM Physical Server with 16 Cores would require a single 1-2 Socket Unlimited Virtual Machine Subscription Offering.

#### Virtual Instances

Two Subscription Offerings are available for SUSE Manager Lifecycle Management and SUSE Manager Monitoring for Virtual Instances: You may choose either (1) per 2 Virtual Instances or (2) Unlimited Virtual Machines per Physical Server (as per preceding paragraph).

## Per 2 Virtual Instances

The "SUSE Manager Lifecycle Management up to 2 Sockets or 2 Virtual Instances" Subscription Offerings and "SUSE Manager Monitoring up to 2 Sockets or 2 Virtual Machines" Subscription Offerings can be used to entitle 1 to 2 Virtual Machines to Subscription Offering Benefits.

## **Unlimited Virtual Machine**

SUSE Manager Lifecycle Management includes management of the Virtualization Hosts and all Virtual Machines. SUSE Manager Monitoring includes monitoring of the Virtualization Hosts and all Virtual Machines.

#### Appendix F

#### SUSE Enterprise Storage Subscription Offerings and Units of Measure

**SUSE Enterprise Storage ("SES")** is deployed in a SES Storage Cluster of SES Nodes. Multiple SES Storage Clusters can be deployed in an organization.

#### SUSE Enterprise Storage Base ("SES Base")

To receive Subscription Offering benefits for SES Base, a Current SES Base Subscription Offering is required. A SES Base consists of SES OSD Nodes and SES Infrastructure Nodes.

Unit of Measure for SES OSD Nodes is 1-2 Sockets per Physical Server. Subscription Offerings are Stackable to match or exceed the number of Sockets and if necessary, the Socket count per Physical Server must be rounded up to match the next available SUSE Enterprise Storage Subscription Offering. For example, a Physical Server with 4 Sockets needs 2 Subscription Offerings for 1-2 Sockets.

Unit of Measure for SES Infrastructure Nodes is one (1) Instance of a SES Infrastructure Node running on a Physical Server or Virtual Machine.

A SUSE Enterprise Storage Subscription Offering is required for each SES Node deployed on a Physical Server or Virtual Machine as part of the SES Storage Cluster. You can use a combination of Physical Servers or Virtual Machines running SES OSD Nodes and SES Infrastructure Nodes with one SES Base Subscription Offering but shall under no circumstances exceed:

- 1. Up to four (4) Instances of 1-2 Socket Physical Servers for SES OSD Nodes and
- 2. Up to six (6) Instances for SES Infrastructure Nodes running on Physical Servers or Virtual Machines. Of these Instances should one or more SES NFS Gateway Node or SES CIFS/Samba Gateway Node be chosen, such SES NFS Gateway Node or SES CIFS/Samba Gateway Node includes one (1) Subscription Offering for SUSE Linux Enterprise High Availability Extension for the sole purpose of deploying such SES NFS Gateway Node or SES CIFS/Samba Gateway Node within the SES Storage Cluster.

A SES Storage Cluster built with a SES Base Subscription Offering may only be expanded by adding one or more SES Expansion Subscription Offerings. Only one (1) SES Base Subscription Offering can be used in a SES Storage Cluster. A SES Base Subscription Offering includes up to ten (10) Subscription Offerings of SUSE Linux Enterprise Server x86-64 or AArch64 for 1-2 Sockets per Physical Server or Virtual Machine, for which the respective SES Base EULA limits scope of deployment to the sole purpose of deploying a SES Node within a SES Storage Cluster as defined above.

## SUSE Enterprise Storage Expansion ("SES Expansion")

To receive Subscription Offering benefits for SES Expansion, a Current SES Expansion Subscription Offering is required. A SES Expansion consists of one (1) SES OSD Node and one (1) SES Infrastructure Node.

Unit of Measure for a SES Expansion OSD Node is 1-2 Sockets per Physical Server. Subscription Offerings are Stackable to match or exceed the number of Sockets and if necessary, the Socket count per Physical Server must be rounded up to match the next available SES Expansion Subscription Offering. For example, a Physical Server with 4 Sockets needs two (2) Subscription Offerings for 1-2 Sockets.

Unit of Measure for SES Expansion Infrastructure Nodes is one (1) Instance of a SES Infrastructure Node running on a Physical Server or Virtual Machine. If this Instance is deployed as a SES NFS Gateway Node or SES CIFS/Samba Gateway Node, such SES NFS Gateway Node or SES CIFS/Samba Gateway Node includes one (1) Subscription Offering for SUSE Linux Enterprise High Availability Extension for the sole purpose of deploying such SES NFS Gateway Node or SES CIFS/Samba Gateway Node within the SES Storage Cluster.

The SES Expansion Subscription Offering includes up to two (2) Subscription Offerings for SUSE Linux Enterprise Server for x86-64 or AArch64 for 1-2 Sockets or 1-2 Virtual Machines (such Virtual Machines are deployable only for SES Expansion Infrastructure Nodes). The SES Expansion Node EULA limits the scope of deployment of the SUSE Linux Enterprise Server to the sole purpose of deploying a SES Node within a SES Storage Cluster as defined above.

## Appendix G

## SUSE Studio™ Subscription Offerings and Units of Measure

**SUSE Studio** Unit of Measure is per Instance. SUSE Studio is a web application for building and testing software applications in a web browser. It supports the creation of Physical, Virtual or cloud-based applications. It is available as an online or as an onsite version. SUSE Studio enables you to build your own application images or appliances based on SUSE Linux Enterprise Server.

**SUSE Studio Maintenance** entitles You to receive Subscription Offering benefits for SUSE Studio License, and includes a SUSE Linux Enterprise Server Subscription Offering for x86, AMD64 & Intel64.

## Appendix H

### SUSE CaaS Platform Subscription Offerings and Units of Measure

#### **Operating Environments and Units of Measure**

Each Physical Server, Virtualization Host or Virtualization Environment on which SUSE CaaS Platform is deployed, installed, used or executed must have a Subscription Offering.

Units of Measure do not differentiate between single core, multi-core or simultaneous multi-threading capable Processors.

For Virtualization Environments, if the Unit of Measure chosen is per number of Sockets with Unlimited Virtual Machines per Physical Server, only Physical Servers for which the appropriate Subscription Offering has been acquired may be used to deploy such Virtualization Environment, irrespective of whether such Physical Server is actually used or for how long such Physical Server is used.

To change the deployment type of a Product during the Subscription Offering period, You must choose the highest valued Subscription Offering matching Your different deployment types for this Product. For example, if You deploy the higher valued SUSE CaaS Platform Subscription Offering for '1-2 Sockets with Unlimited Virtual Machines' during the Subscription Offering period for a deployment scenario matching a lower valued (when compared to the 1-2 Sockets with Unlimited Virtual Machines Subscription Offering) '1-2 Sockets or 1 Virtual Machine', You may continue to use the higher valued Subscription Offering for the remaining subscription period. However, You may not deploy the lower valued SUSE CaaS Platform Subscription Offering for '1-2 Sockets or 1 Virtual Machines' during the Subscription Offering period for a deployment type matching the higher valued '1-2 Sockets with Unlimited Virtual Machines' Subscription Offering.

#### Subscription Offerings for 1-2 Sockets or 1 Virtual Machines

These Subscription Offerings are intended for flexible deployments on Physical Servers and low-density or cloud virtualization. The Unit of Measure for SUSE CaaS Platform is per 1-2 Sockets per Physical Server or 1 Virtual Machine. SUSE CaaS Platform is provided with Priority Subscription Offerings only.

Each Physical Server or Virtual Environment on which SUSE CaaS Platform is deployed, installed, used or executed must have a Current Subscription Offering. SUSE CaaS Platform Subscription Offerings are Stackable to match or exceed the number of Sockets and if necessary, the Socket count per Physical Server must be rounded up to match the next available SUSE CaaS Platform Subscription Offering. For example, a Physical Server with 4 Sockets needs 2 Subscription Offerings for 1-2 Sockets. A Subscription Offering for SUSE Linux Enterprise Server must not be used as a Subscription Offering for SUSE CaaS Platform. However, a Subscription Offering for SUSE CaaS Platform can alternatively (but not concurrently) be used as a SUSE Linux Enterprise Server Subscription Offering.

The SUSE CaaS Platform Migration Subscription Offering is compatible only with SUSE Linux Enterprise Server x86-64 Unlimited Virtualization Priority Subscription Offerings. Any other SUSE Linux Enterprise Server Subscription Offering must first be upgraded accordingly before SUSE CaaS Platform Migration Subscription Offerings can be acquired.

SUSE CaaS Platform for 1-2 Sockets or 1 Virtual Machines does not include support for any Hypervisor. Deployments of SUSE CaaS Platform in a Virtualization Environment require a SUSE Linux Enterprise Server, x86-64, 1-2 Sockets with Unlimited Virtual Machines Subscription Offering. SUSE CaaS Platform may also be deployed on third party virtualization solutions or as a single Virtual Machine on a public cloud.

#### Subscription Offerings for 1-2 Sockets with Unlimited Virtual Machines

For high-density Virtualized Deployment a Subscription Offering for "1-2 Sockets with Unlimited Virtual Machines." is available. This Subscription Offering entitles You to deploy an unlimited number of Virtual Machines per 1-2 Sockets on a Virtualization Host. These virtual machines can be either SUSE CaaS Platform or SUSE Linux Enterprise Server for x86-64. For Virtualization Hosts with more than 2 Sockets, Subscription Offerings are Stackable to match or exceed the number of Sockets. This Subscription Offering can be used on any third-party Virtualization Host and also includes the entitlement to run SUSE Linux Enterprise for x86-64 Xen or KVM as the Virtualization Host.

Subscription Offerings for "1-2 Sockets with Unlimited Virtual Machines" may be deployed alternatively (but not concurrently) as 1 Virtual Machines on any Virtualization Host or with any cloud services provider which is authorised by SUSE (Bring Your Own Subscription or "BYOS"). Unlike Subscription Offerings for "1-2 Sockets or 1 Virtual Machines" ("Low-Density"), Subscription

offerings for 1-2 Sockets with Unlimited Virtual Machines must be acquired for each Virtualization Host capable of deploying SUSE Products within a Virtualization Environment.

The SUSE CaaS Platform Migration Subscription Offering is compatible only with SUSE Linux Enterprise Server x86-64 Unlimited Virtualization Priority Subscription Offerings. Any other SUSE Linux Enterprise Server Subscription Offering must first be upgraded accordingly before SUSE CaaS Platform Migration Subscription Offerings can be acquired.

## Appendix I

## SUSE Cloud Application Platform ("CAP") Subscription Offerings and Units of Measure

## **Operating Environments and Units of Measure**

The Unit of Measure for SUSE CAP is per 1 Core Physical Server or 2 vCPUs. Each Physical Server or Virtual Machine on which SUSE CAP Container Workloads are deployed, installed, used or executed must have a Current SUSE CAP Subscription Offering.

SUSE CAP Subscription Offerings are Stackable to match or exceed the number of Cores or vCPUs and if necessary, the Core or vCPU count per Physical Server must be rounded up to match the next available SUSE CAP Subscription Offering.

For example, a Physical Server with 16 Cores needs 16 Subscription Offerings for '1 core'. Your SUSE CAP Subscription Offering entitles You to use:

- (i) SUSE CaaS Platform Admin Nodes and SUSE CaaS Platform Kubernetes Master Nodes solely to deploy and execute SUSE CAP Container Workloads. Such SUSE CaaS Nodes are not counted towards the Unit of Measure for SUSE CAP.
- (ii) SUSE CaaS Platform Kubernetes Worker Nodes, which are counted towards the SUSE CAP Units of Measure.
- (iii) SES solely to deploy and execute Your SUSE CAP Container Workloads. However, if You choose to use a SES Storage Cluster as persistent storage infrastructure, the number of such SUSE Enterprise Storage Nodes used solely to deploy and execute such SUSE CAP Container Workloads must not exceed the number of SUSE CAP Subscription Offerings, or if the number of SUSE Enterprise Storage Nodes exceeds the number of SUSE CAP Subscription Offerings, additional SES Expansion Subscription Offerings must be obtained according to the SES Expansion Offering Unit of Measure.

## Subscription Offerings for 1 Core or 2 vCPUs

These Subscription Offerings are intended for flexible deployments on Physical Servers and low-density or cloud virtualization.

For multi-tenant VM based Cloud deployments where the number of Physical Cores cannot be counted, each Subscription Offering provides 2 vCPUs of use. Cloud deployments provide vCPU (vCore) counts and one '1 Core or 2 vCPUs' Subscription Offerings provide 2 vCPUs for these VMs.

By way of example an AWS instance type m4.4xlarge:

Model	vCPU*	Mem (GiB)	Storage	Dedicated EBS Bandwidth (Mbps)	Network Performance
m4.large	2	8	EBS-only	450	Moderate
m4.xlarge	4	16	EBS-only	750	High
m4.2xlarge	8	32	EBS-only	1,000	High
m4.4xlarge	16	64	EBS-only	2,000	High
m4.10xlarge	40	160	EBS-only	4,000	10 Gigabit

The m4.4xlarge has 16 vCPUs. This requires 8 Subscription Offerings of '1 Core or 2 vCPUs'.

#### **Definitions**

- "Academic Institution" means an educational institute as stated on https://www.suse.com/licensing/academic/qualify/.
- "Academic Use" means the benefiting from a Subscription Offering by an Academic Institution.
- "Client" is the client part of a client-server application.
- "Client Device" is the client device of a solution with client and server device, e.g., SUSE Linux Enterprise Point of Service and SUSE Manager for Retail product family.
- "Client Server Application" is an application whose design requires two or more parts to fulfill the dedicated purpose: one or more clients and one or more servers acting together.
- "Cloud Computing" means a paradigm for enabling network access to a scalable and elastic pool of shareable physical or virtual resources with self-service provisioning and administration on-demand.
- "Cloud Services" means one or more capabilities offered via Cloud Computing invoked using a defined interface.
- "Core" means a subunit within a CPU on a single chip that handles the main computational activities of a computer. A CPU may have one or more Cores and therefore be a "Multi-Core CPU" if it has more than one Core.
- "Code Stream" is a released version of SLES such as GA (initial release) or a particular Service Pack; each is defined to be a different Code Stream.
- "Container" or "Linux Containers" are isolated Linux systems (processes or groups of processes) which share a single Linux kernel.
- "Container Workloads" are processes running in Linux Containers on a scheduler such as Kubernetes, launched from OCI images.
- "CP" means an activated Central Processor and is an IBM mainframe general processor unit for general purpose processing. CPs are also capable of running Linux. Spare CPs are not regarded as "activated CPs." CPs which are exclusively dedicated to another LPAR (Logical Partition) are not regarded as activated CPs. Shared CPs are regarded as activated CPs.
- "CPU" means "Central Processing Unit" and is the functional unit (i.e., the "computing part") of the computer that interprets and executes instructions for a specific instruction set; it is made up of one or multiple Cores, including the control unit and the ALU.
- "Current" means an active, valid Subscription Offering. Once a Subscription Offering passes its expiration date, it is "Expired".
- "Device" means laptop, desktop, workstation, server or other physical entity which can process and transfer data.
- "Education Usage", or "Educational Use" has the same meaning as "Academic Use".
- "Engine" see IFL or CP.
- **"Extension"** is a product which requires another product as a foundation to be operational. Examples are: SLES (as foundation) and SLE HA (as Extension), SLES (as foundation) and SMT (Subscription Management Tool as Extension), SLES (as foundation) and SLE HA and Geo SLE HA (as Extension).
- "Geographically Clustered" means clusters of Physical Servers which are operated with a network signal latency greater than 15 milliseconds
- "Hardware Architecture" or "Hardware Platform" means a family of systems which is able to execute the same executable code or programs.
- "High Performance Computing Cluster (HPC Cluster) is defined as a single entity or Physical System to work on specific tasks by performing compute-intensive or I/O intensive operations on sets of data that are networked and managed to perform compute-intensive workloads or high performance data analysis workloads. The HPC Cluster must split tasks into subtasks which are distributed to one or more HPC Compute Nodes for computation. The HPC Cluster consists of a combination of multiple HPC Compute Nodes and at least one HPC Head Node.
- "HPC Head Node" is a Physical Server used exclusively to perform management functions for the HPC Cluster. Typical functions include workload scheduling, input/output management, login nodes, HPC Cluster authentication, performance management, Spark Master and software deployment and patching. A HPC Head Node may not perform any function for systems that are not part of the cluster.
- "HPC Compute Nodes" is a Physical Server in a HPC System which is connected to the HPC Head Node and is used solely to provide computational processing capacity for HPC workloads.
- "IFL" means an Integrated Facility for Linux ("IFL") on IBM z Systems. An IFL is an IBM mainframe processor capable of running the Linux operating system. An IFL needs to be activated during IML (Initial Microcode Load) and is capable of

performing instruction processing. A deactivated IFL cannot execute any instruction. Spare IFLs or deactivated IFLs are not regarded to be activated IFLs.

- "Inherited Virtualization" means that an Extension inherits the virtualization type of the Product. The virtualization type is either i) deployment on a Physical Server with no virtualization ("Physical Deployment") on 1-2 Sockets, or 1-2 Virtual Machines on a VMM, or ii) Virtualized Deployment per "1-2 Sockets with Unlimited (number of) Virtual Machines".
- "IFLe" means use of an IFL with an elastic pricing Subscription Offering.
- "Instance" is a physical or virtual entity, which can be identified as such.
- "KVM" is the abbreviation for "Kernel Virtual Machine", a VMM available for different hardware architectures.
- "Managed Instance" is either an Instance of a third-party product or of a SUSE Product which is managed by SUSE Manager Server
- "LPAR or DLPAR" means Logical Partition or Dynamic Logical Partition. Different LPAR technologies vary regarding their features. One LPAR context is considered to represent one VM, and any LPAR technology is considered a VMM within the scope of this document.
- "MCM" is a Multi-layer Ceramic Module, typically used to achieve high physical integration of electronic components like Processor and cache components.
- "Node" is a physical entity capable of receiving and sending data and temporary storage and reading, writing or performing logical operations with the data. A Node typically consists of one or more Processors, memory, and input / output devices connecting to other Nodes or other types of devices. It can also have access to directly attached persistent storage, and special purpose Processors.
- "Operating Environment" can be a Physical Server or Virtualization Host or Virtualization Environment.
- "Patch" is a corrective fix for an issue. A patch can contain one or multiple files to replace or enhance existing executables, programs, applications or documents.
- "Physical Deployment" means deployment or use within a physical hardware environment without abstracting software or Virtualization Host or Virtual Machine Monitor (VMM).
- "Physical Node" means Physical Server.
- "Physical Server" means a physical computer system, whether in a network that is shared by multiple users or on its own, regardless of whether the physical computer system has been partitioned by software. A Physical Server may contain one or multiple CPUs, Cores, or Processors, regardless of production capacity.
- "Physical System" means Physical Server.
- "PowerVM" is a virtualization technology to provide DLPARs or LPARs for IBM POWER systems, similar to a VMM.
- "powerKVM or KVM for POWER" is a virtualization technology based on KVM, to provide VMs for POWER systems, similar to a VMM.
- "POWER or IBM Power or OpenPOWER" is the name used for IBM POWER or third party POWER architecture system offerings. Over time, different names have been in place e.g. "POWER8, POWER7, POWER7+", referring to different generations of these systems at different times. POWER processors are also used by third parties which offer systems according to the OpenPOWER specifications.
- "Private Cloud" means a deployment model where Cloud Services are controlled and used exclusively by You.
- "Processor" has the same meaning as CPU.
- "Product" is a SUSE product, which does not require another product as a foundation to be operational. Examples are SLES and SLED.
- "PTF" is a Problem Temporary Fix: it is an issue to correct one or more customer issues for the time being and is supported until a regular patch is released. Some PTFs might require resolution in the next Service Pack for technical and quality reasons.
- "Public Cloud" means a deployment model where Cloud Services are potentially available to any Cloud Service customer and resources thereto are controlled by the Cloud Service provider.
- "Raw Storage Capacity" means the total capacity of all storage devices that are allocated to and managed as part of a single Storage Cluster. This measure applies to all physical storage devices configured as part of the cluster. Each cluster is measured and billed independently.
- "SCC" is the SUSE Customer Center at https://scc.suse.com.
- "SCM" is a single chip module, typically used to achieve high physical integration of electronic components.

- "Security Fix" is a corrective fix for a security issue.
- "Service Pack" is a periodically released, installable collection of updates, fixes, and code enhancements.
- "SES Storage Cluster" is a combination of Physical Servers and Virtual Machines running SUSE Linux Enterprise Server and SUSE Enterprise Storage functionality that is managed as a single entity to deliver storage services.
- "SES Object Storage Daemon or SES OSD Node" is a Physical Server running SUSE Linux Enterprise Server and SUSE Enterprise Storage that provides data storage services by leveraging the SUSE Enterprise Storage Object Storage Daemon (OSD) functionality.
- "SES Object Gateway Node" is one Instance on a Physical Server or Virtual Machine running SUSE Linux Enterprise Server and SUSE Enterprise Storage that is used to provide an object storage interface to a SES Storage Cluster.
- "SES Monitor or SES MON Node" is one Instance on a Physical Server or Virtual Machine running both SUSE Linux Enterprise Server and SUSE Enterprise Storage and that monitors (Ceph Monitor) and manages (Ceph Manager) SES OSD Nodes within a SES Storage Cluster.
- **"SES Management Node"** is one Instance on a Physical Server or Virtual Machine running SUSE Linux Enterprise Server, SUSE openATTIC and SUSE DeepSea that is used to provide storage management services for the SES Storage Cluster.
- "SES Metadata Server Node" is one Instance on a Physical Server or Virtual Machine running SUSE Linux Enterprise Server and SUSE Enterprise Storage that is used to manage the file system namespace and provide a file system interface to a SES Storage Cluster.
- "SES iSCSI Gateway Node" is one Instance on a Physical Server or Virtual Machine running SUSE Linux Enterprise Server and SUSE Enterprise Storage that is used to provide an iSCSI interface to a SES Storage Cluster.
- "SES NFS Gateway Node" is one Instance on a Physical Server or Virtual Machine running SUSE Linux Enterprise Server, an optional instance of SUSE Linux Enterprise High Availability Extension and SUSE Enterprise Storage that is used to provide an NFS interface to a SES Storage Cluster.
- "SES CIFS/Samba Gateway Node" is one Instance on a Physical Server or Virtual Machine running SUSE Linux Enterprise Server, an optional instance of SUSE Linux Enterprise High Availability Extension and SUSE Enterprise Storage that is used to provide a CIFS interface to a SES Storage Cluster.
- "SES Infrastructure Node" is a Physical Server or Virtual Machine running an Instance of SES Management Node, or SES MON Node, or SES Metadata Server Node, or SES Object Gateway Node, or SES iSCSI Gateway Node, or SES NFS Gateway Node or SES CIFS/Samba Gateway Node.
- "SES Node" is either a SES OSD Node or a SES Infrastructure Node.
- "SES Expansion Node" is either a SES OSD Node or a SES Infrastructure Node in the context of a SES Expansion Subscription Offering
- "SMT (Simultaneous Multi-Threading)" specifies the capability of a Processor to execute multiple instruction streams concurrently.
- "Socket" is a location on the motherboard or other similar computer circuitry where a CPU has been physically installed on a System (populated). For the purposes of this document, the term Socket is used for Processor Cards, MCMs, SCMs or DCMs for POWER systems.
- "Socket Pair" is up to two Sockets on a Physical Node.
- "Stackable" means that multiple Subscriptions Offerings may be aggregated or "stacked" to match or exceed the number of Sockets in a Physical Server. For example, a Physical Server with four Sockets needs two Subscription Offerings for "1-2 Sockets or 1-2 Virtual Machines". Odd numbers of Sockets must be rounded up: e.g., three Sockets in a Physical Server scenario must carry two stacked Subscription Offerings for "1-2 Sockets or 1-2 Virtual Machines."
- "Storage Cluster" is a group of servers running SUSE Linux Enterprise Server and SUSE Storage components that are managed as a single entity to deliver storage services.
- "Swift" is the OpenStack Object Store.
- "User" is a user or entity accessing the system and establishing a connection to the system, or an entry in a directory, regardless of which kind, e.g., a person, an object such as a company name.
- "vCPU" virtual central processing unit. One or more vCPUs are assigned to every Virtual Machine (VM) within a cloud environment. Each vCPU is seen as a single physical CPU core by the VM's operating system.
- "Virtualized Deployment" means deployment or use of the product involving a VMM.

- "Virtual Device" is a virtualized resource in a Virtual Machine context, e.g. virtualized processor, virtualized block or network device.
- "Virtualization Environment" means a group of Virtualization Hosts on which You can deploy Virtual Machines as if they were running on a single Virtualization Host.
- "Virtualization Host" is a single Physical Server which executes one or more Virtual Machines by a VMM.
- "Virtual Image" see Virtual Instance.
- "Virtual Instance" is one entity of an operating system, workload or application, which is executed in a virtual context created by a VMM.
- "Virtual Machine" or "VM" or "Virtual Guest" means a virtualized context that can execute e.g. one operating system, workload, application, or multiples of such, like a Physical System. Some VMs can be migrated from one VMM context to another, residing on the same Physical System, or on different Physical Systems, or within logical partitions. Some VMMs allow nesting of VMMs (multiple layers of virtualization with the same or different VMMs).
- "Virtual Machine Monitor (VMM) or Hypervisor" describes a software and/or hardware technology, which allows creation of one or multiple virtualized contexts for sharing and/or isolating resources of the underlying hardware. A VMM can, by way of example manage and expose these resources to an operating system, workload environment or application. VMMs include without limitation. KVM, Xen, Microsoft Hyper-V, VMware vSphere Hypervisor, DLPAR, LPAR, and z/VM.
- "Virtual System" is a virtualized context which is able to abstract a Physical System, like a Virtual Machine. See VM.
- "Virtualization Technology" means software and/or hardware technology used to implement e.g. a Virtual Machine Monitor (VMM) and supporting functions such as to manage the lifecycle of a Virtual Machine.
- **"x86, x86-64, ia64, ppc64, ppc64le, s390, s390x and AArch64"** are the Linux instruction set architecture abbreviations for different type of Physical Systems and Processors instruction sets. By example: x86 for Intel and AMD 32-bit x86 Processors, x86-64 for Intel 64 and AMD64 64-bit Processors, ia64 for Intel Itanium Processor Family, ppc64 for IBM POWER big endian Processor instruction set, ppc64le for POWER little endian Processor instruction set, s390x for IBM z Systems z/Architecture type Processors, and AArch64 for 64-bit ARM architecture Processors.
- "Xen" is Virtual Machine Monitor.
- "z Systems or IBM z Systems" is the name used by IBM for mainframe type systems. Over time, different names have been used e.g. "IBM Z, IBM LinuxONE", "IBM z Systems, "IBM System z", "IBM zEnterprise", "IBM zSeries", "IBM mainframe", "IBM S/390", referring to different generations of these systems at different times.