

# 2369910 - SAP Software on Linux: General information

<b>Version</b>	17	<b>Type</b>	SAP Note
<b>Language</b>	English	<b>Master Language</b>	English
<b>Priority</b>	Recommendations / Additional Info	<b>Category</b>	Installation information
<b>Release Status</b>	Released for Customer	<b>Released On</b>	26.10.2020
<b>Component</b>	BC-OP-LNX ( Linux )		

Please find the original document at <https://launchpad.support.sap.com/#/notes/2369910>

## Symptom

You want to run SAP software on the Linux platform.

## Other Terms

Linux, Red Hat, RHEL, SUSE, SLES, Oracle Linux, OL, SwapSpace, ServicePack, IA64, x86\_64, AMD, Opteron, EM64T, POWER, IBM Z, 171356

## Reason and Prerequisites

You want to run SAP software on Linux. You require the appropriate Linux distribution and permitted hardware to do this.

In order to successfully run SAP software in a productive environment on the Linux platform, please consider the topics addressed in this SAP Note.

**Please note:** Certain SAP software solutions define their own release strategy for operating systems, so the respective solution's release information applies. For SAP NetWeaver-based solutions please refer to the [SAP Product Availability Matrix](#), for SAP HANA please consult SAP Note [2235581](#).

## Solution

**Remark:** This SAP note was derived from SAP note [171356](#) in September 2016. For historic information please read the history of SAP note [171356](#).

### 1. Released Linux Distributions

One of the following 64-bit Linux distributions is required for installing SAP software on Linux:

- **SUSE Linux Enterprise Server 15**
  - SUSE Linux Enterprise Server 15 for x86\_64 (x86\_64)
  - SUSE Linux Enterprise Server 15 for IBM Power (Little Endian) (ppc64le)
  - Support of SUSE Linux Enterprise Server 15 for IBM z Systems (s390x)
- **SUSE Linux Enterprise Server 12**
  - SUSE Linux Enterprise Server 12 for x86\_64 (x86\_64)
  - SUSE Linux Enterprise Server 12 for IBM Power (Little Endian) (ppc64le)
  - SUSE Linux Enterprise Server 12 for IBM z Systems (s390x)
- **SUSE Linux Enterprise Server 11**
  - SUSE Linux Enterprise Server 11 for x86\_64 (x86\_64)
  - SUSE Linux Enterprise Server 11 for IBM Power (Big Endian) (ppc64)
  - SUSE Linux Enterprise Server 11 for IBM z Systems (s390x)

- SUSE Linux Enterprise Server 11 for Intel Itanium (IA64)
- **Red Hat Enterprise Linux 8**
  - Red Hat Enterprise Linux 8 for x86\_64 (x86\_64)
  - Red Hat Enterprise Linux 8 for IBM Power (Little Endian) (ppc64le)
  - Red Hat Enterprise Linux 8 for IBM z Systems (s390x)
- **Red Hat Enterprise Linux 7**
  - Red Hat Enterprise Linux 7 for x86\_64 (x86\_64)
  - Red Hat Enterprise Linux 7 for IBM Power (Big Endian) (ppc64)
  - Red Hat Enterprise Linux 7 for IBM Power (Little Endian) (ppc64le)
  - Red Hat Enterprise Linux 7 for IBM z Systems (s390x)
- **Red Hat Enterprise Linux 6**
  - Red Hat Enterprise Linux 6 for x86\_64 (x86\_64)
  - Red Hat Enterprise Linux 6 for IBM Power (Big Endian) (ppc64)
  - Red Hat Enterprise Linux 6 for IBM z Systems (s390x)
- **Oracle Linux 8**
  - Oracle Linux 8 for x86\_64 (x86\_64)
- **Oracle Linux 7**
  - Oracle Linux 7 for x86\_64 (x86\_64)
- **Oracle Linux 6**
  - Oracle Linux 6 for x86\_64 (x86\_64)

When intending to run SAP software in productive environments on one of the abovementioned Linux distributions, we strongly recommend that you buy a service contract. You can do this via the manufacturer of the Linux distribution or via your hardware OEM provider, who will offer an equal level of support for one of the distributions released by SAP. Otherwise, support may be denied by the Linux distributors if errors occur in connection with the operating system.

**Note:** SAP Note [936887](#) contains information for all Linux distributions listed above on how long the support by the relevant operating system manufacturer is provided.

## 2. Special notes about installing the operating system

Before the installation of SAP software on Linux, it is essential that you read the note that corresponds to your Linux version from the following list:

- **SUSE Linux:**
  - [2578899](#) SUSE Linux Enterprise Server 15 (SLES 15)
  - [1984787](#) SUSE Linux Enterprise Server 12 (SLES 12)
  - [1310037](#) SUSE Linux Enterprise Server 11 (SLES 11)
- **Red Hat Linux:**
  - [2772999](#) Red Hat Enterprise Linux 8 (RHEL 8)
  - [2002167](#) Red Hat Enterprise Linux 7 (RHEL 7)
  - [1496410](#) Red Hat Enterprise Linux 6 (RHEL 6)
- **Oracle Linux:**
  - [2936683](#) Oracle Linux 8 (OL 8)
  - [2069760](#) Oracle Linux 7 (OL 7)
  - [1635808](#) Oracle Linux 6 (OL 6)

## 3. General notes about installing the operating system

- **System language**

You must select English as the operating system language on all Linux hosts that are running SAP software.

- **Swap space**

While the Linux distribution is being installed, create partitions of the type "swap" when you organize the hard disk(s). SAP Note [1597355](#) provides detailed information about this. In addition, it contains information about the recommended overall size of the swap space.

The Linux kernel does not usually require much swap space, since other limits have already been reached before the swap space has reached full capacity (late swap allocation).

However, if you discover that more swap space is required when using SAP software, you can use distribution-specific tools to increase your swap space at any time.

- **Host name**

The "hostname" command must only return the host name and not the "Fully Qualified Domain Name" (for example: Fully qualified domain name: ls3001.wdf.sap-ag.de; required output of "hostname": ls3001). Distribution-specific tools are available for changing the host name.

- **Update of RPM packages/implementation of security updates**

The distributors (SUSE, Red Hat, and Oracle) provide regular updates for their software, for example due to security reasons. The distributors test these updates with regard to compatibility with the SAP software before releasing them. From an SAP point of view, these updates can be imported in the productive environment immediately after they are available. This compatibility is guaranteed only if the original packages of the distributors are used, to which a customer is entitled within the framework of a valid support contract with the distributor or an authorized OEM.

The same also applies for the "Collections of updates", that is "Service Packs" (SUSE), "Minor Releases" (Red Hat), and "Updates" (Oracle Linux).

We recommend that you run the latest available "Service Pack" (SUSE), the latest "Minor Release" (Red Hat), or the latest "Update" (Oracle Linux) with the current online updates. You should use the latest available installation media when setting up a new system.

If an update does not work expectedly, return to the last "Service Pack", "Minor Release", or "Update" that worked.

Customer-specific updates that are created by the distributors to solve the problem, such as PTFs (program temporary fixes) from SUSE, can also be used directly. However, after a generally available update appears, they should be replaced by this update.

**Note for all Service Packs and minor releases:** If you are using a non-Unicode version of the SAP software, you must install the "saplocales" again after every update of the "glibc" RPM (see below or Note [516716](#)).

**Also note:** For information about assessing customer modifications to a Linux kernel, see Note [784391](#).

#### 4. Supported hardware

Note that only the host types released by the hardware partners are suitable for using SAP software productively on Linux.

For current information about this, see the following SAP Notes:

- [606107](#) ATOS/Bull
- [1403020](#) Cisco
- [300900](#) Dell
- [171383](#) Fujitsu
- [2065323](#) Hitachi/HDS
- [171371](#) HP / HP Enterprise

- IBM
  - [171380](#) IBM Intel hardware
  - [765424](#) IBM POWER
  - [411970](#) IBM Z
- [2100566](#) Lenovo
- [1379130](#) NEC
- [597470](#) Oracle Sun
- [907727](#) SGI
- [2544685](#) Supermicro

Furthermore, you can find information on the Internet: <http://www.sap.com/linux> (Link: "Supported Platforms")  
 If you are unsure about what to do, you can contact the hardware partners that are represented in SAP LinuxLab, for example by email: [linux@sap.com](mailto:linux@sap.com)

## 5. Supported virtualization technologies for SAP on Linux

For more information which virtualization technologies are supported for SAP on Linux, see Note [1122387](#).

## 6. High availability solutions for SAP on Linux

For more information about high availability solutions for SAP on Linux, please consult Note [1552925](#).

## 7. HANA-specific information

Please note that SAP HANA defines its own release strategy and requirements for Linux distributions. Please see SAP Note [2235581](#) for released operating system versions and OS-specific installation instructions.

## 8. Recommended and supported file systems

For information about recommended file systems in SAP on Linux environments, please see Note [405827](#).

## 9. SAP software: Locales

For non-Unicode versions of the SAP software, you may have to install another RPM package that adjusts the locales of the Linux system to the SAP standard.

- **If you set up Unicode systems only, you can ignore this section of this note.**
- **Note [187864](#) contains further important information about locales on Linux. It is therefore essential that you refer to this note.**
- **SAP blended code pages (for example, SILKROAD) are no longer supported. For more information, see SAP Note [73606](#).**

The following section lists the names of the RPM packages depending on the Linux distribution that provide a functioning language environment on the Linux system:

- Red Hat Enterprise Linux 6 (RHEL 6)  
 Available from: compat-locales-sap-common (Version 1.0.4-2 and later)  
 compat-locales-sap (gconv module) (as of Version 1.0.4-2)  
 For the installation of the compat-locales-sap RPM packages, you require a Red Hat Enterprise Linux for SAP Solutions or Red Hat Enterprise Linux for SAP Business Applications subscription. This is available from your distributor.
- Red Hat Enterprise Linux 7 (RHEL 7)  
 Available from: compat-locales-sap-common (as of Version 1.0.4-2)

compat-locales-sap (gconv module) (as of Version 1.0.4-2)

For the installation of the compat-locales-sap RPM packages, you require a Red Hat Enterprise Linux for SAP Solutions or Red Hat Enterprise Linux for SAP Business Applications subscription. This is available from your distributor.

- SUSE Linux Enterprise Server 11 (SLES 11)

Available as of: SLES 11 Service Pack 1

Available from: sap-locale (Version 1.0-24.33.1 and later)

The sap-locale RPM package is available via the distributor. If you use an older Service Pack of SLES 11 than specified here, contact SUSE. To do so, you can open an incident under the component BC-OP-LNX-SUSE.

- SUSE Linux Enterprise Server 12 (SLES 12)

Available as of: SLES 12 (without Service Pack)

Available with: sap-locale (as of Version 1.0-89.9)

The sap-locale RPM package is available via the distributor.

SAP Note [187864](#) contains further information about setting up the SAP system so that it also recognizes and uses the locales correctly.

## 10. Adding Linux application servers to existing SAP systems

As an SAP customer, you can add one or more Linux application servers to your existing SAP system. See also SAP Notes [156548](#) and [531069](#). This measure alone does not involve any additional license costs.

The "Windows central instance with Linux application server" combination is also an option, as long as an "SQL server" is not used as a database. For questions regarding the link between the Windows and the Linux file systems, contact the hardware manufacturer of your SAP server.

To install the application servers, you require both the Linux distribution (see above) and the kernel medium provided for Linux from the set of installation or upgrade media for your SAP release. You can obtain this kernel medium free of charge from your SAP sales partner.

SAP Note [1310720](#) (Collection Note for Unicode Systems with different endianness) provides additional information regarding heterogeneous SAP systems.

We are aware of one (possible) problem in particular: For non-Unicode systems, the **sort sequence** depends on the operating system used. There are no specific requirements defined by SAP in this regard. For this reason, different results are possible when outputting lists on different application servers.

A similar problem may occur if you migrate the existing SAP system from another operating system to Linux. After the migration, the sort sequence may have changed.

For all problems concerning the sort sequence, the Linux distributors offer the option of adjusting the Linux sort sequence to customer-specific requirements as part of the support. For more information, see Note [1069443](#).

## Software Components

Software Component	Release
SAP_APPL	600 - 600
SAP_APPL	602 - 602

SAP_APPL	603 - 603
SAP_APPL	604 - 604
SAP_APPL	605 - 605
SAP_APPL	606 - 606
SAP_APPL	616 - 616
SAP_APPL	617 - 617
SAP_APPL	618 - 618
SAP_APPL	619 - 619
SAP_BASIS	700 - 702
SAP_BASIS	710 - 730
SAP_BASIS	731 - 731
SAP_BASIS	804 - 804
SAP_BASIS	740 - 740
SAP_BASIS	750 - 752
SAP_BASIS	760 - 760
SAP_BASIS	765 - 766
SAP_ABA	700 - 702
SAP_ABA	710 - 730
SAP_ABA	731 - 731
SAP_ABA	800 - 802
SAP_ABA	740 - 740
SAP_ABA	750 - 751
SAP_ABA	75A - 75B

## This document refers to

SAP Note/KBA	Title
2416029	ServiceStop: Stop with Signal SI
2415096	HANA sapstartsrv not started after SLES upgrade from SP2 to SP3

2407750	Microsoft ODBC Driver for SQL Server support on Oracle Linux
2407244	Ensuring OS/HANA compatibility during upgrade of HANA/OS
2391706	Disable Transparent Huge Pages on Linux
2386699	Wrong HANA Client version on Application server
2386609	How to Redirect syslog Auditing for HANA to an alternate location
2383191	SAP HANA requirements to solve Linux OS vulnerabilities
2381556	Error "Could not allocate memory using Huge Pages" during startup - SAP ASE on Linux
2361652	The UUID daemon (uidd) not active (Code: 59999)
2352205	Suse Linux 11 BUG: soft lockup - CPU#8 stuck for 22s
2340759	28: No space left on device
2312909	How to setup SSH for DB13 in standalone Oracle database
2299897	Software Provisioning Manager hangs in dipgntab post processing phase
2290890	Remote SQL Server cannot be connected if UnixODBC 2.3.2 is installed
2253620	Errors FB 899 and FB 002 during Lockbox process
2251685	Can't exec external program (Permission denied) in DB13 after Oracle upgrade
2244393	Deadlock in signal handler
2215355	Complementary analysis for ADS termination
2213763	NWA shows very high Memory Utilization
2213403	PREP_PRE_CHECK/PROFREAD: ERROR: Password for 'SYSTEM' does not work, please reenter.
2187756	SAP Web dispatcher does not work due to the limit of OS open file descriptors
2126333	Ghost vulnerability on SUSE Linux
2125929	SAX error when performing a backup
2124761	Ghost glibc Security Vulnerability
2075306	ShellShock (CVE-2014-6271) Unix GNU Bash Vulnerability - Product related status and recommendations
2072994	"ShellShock" vulnerability (CVE-2014-6271) (CVE-2014-7169)
2061568	MDM logon fails with LDAP error on Linux
2054286	MCE stopped in SAP HANA environment.
2048826	Intermittent error while calling external program by RFC
1999670	How-To: Performing Operating System Load Analysis using "sar"

1973431	sapstart: process restart functions
1956279	CONFCHK_IMP: Version out of range (too low) Upgrade the operating (database) system
1952454	DATASET_WRITE_ERROR when using NFS
1952443	No more processes
1950465	Request handling without progress
1930395	HANA Server Disk Quota Administration
1925375	UUID library (libuuid) Dangerous
1924672	Java system does not start due to "cannot find jc.sap" error
1922310	Firmware upgrades for SAP HANA Appliance
1921354	RC=28: No space left on device error, Startup of HANA database with IBM GPFS filesystem fails
1918897	Support for Hana on Linux on Virtual Computing Environment (VCE)
1913382	Is there a certified version of TSM for SAP HANA ?
1884648	Cannot configure GPFS
1873392	GFS2 filesystem support on Oracle Linux 6 and Red Hat Enterprise Linux 6 with Oracle database
1863301	Support for Hana on Hitachi hardware
1849206	TP aborts with return code 208 during phase MAIN_SHDINST/TP_ACTION_CP2SINI
1845121	Address already in use - how to find the process listening on port ...
1839658	Is ext3 or ext4 FS required for ECC6.EHP6 on RHEL 6
1827960	Adjusting operating system limits for SAP instances
1770532	HugePages on Linux for Oracle database
1715038	PREP_INPUT/INSTANCLIST_PRE <SID>adm user can not be verified in a distributed environment
1674325	DEV/SHM directory is used by multiple instances preventing startup
1641519	Operating system (in)dependent SAP memory management issues
1623979	SAP start fails on Linux
1563660	sapcontrol, user authorization issues (SUM)
997990	Oracle Linux / Oracle Unbreakable Enterprise Kernel
989963	Linux: VMware timing problem
977515	Linux System paged during SAP MaxDB data backup/add volume
960510	Linux: Cannot execute binary file



959369	User ID displayed in Top40 process list instead of user name
955397	RFC SDK on linux
952625	SORT AS TEXT: What does the collation sequence depend on?
949424	Termination when starting programs with Remote Execute
941735	SAP memory management system for 64-bit Linux systems
939406	System Copy 4.0B - 4.6C to Linux x86_64
936887	End of maintenance for Linux distributions
923796	Problems due to the C stack location on x86_64 (hybrid mode)
922352	Warning: em/initial_size_MB is bigger than em/max_size_MB
916650	System prerequisites for pLinux SAP MaxDB/liveCache 7.5-7.9
916649	System prerequisites for Linux X64 SAP MaxDB/liveCache 7.5-7.9
910707	Linux: Japanese locale (ja_JP.SJIS) on Linux
907727	Linux: Certified SGI Hardware
900929	Linux: STORAGE_PARAMETERS_WRONG_SET and "mmap() failed"
897662	BIOS settings on AMD64 SMP systems
894618	SCM 4.1: Availability/prerequisites of new platforms
876282	Linux x86_64: Availability of R/3 4.7 Ext1.10, BW3.10, 6.x
871985	Linux: Integer Overflow if em/address_space_MB > 4092
865307	Installing ABAP 6.40 application server on Linux x86_64
861215	Recommended Settings for the Linux on AMD64/EM64T JVM
860714	Linux reports "big time diff XXX for stamp YYY"
854073	Core dump in ab_BtreeBlockDelete() on Linux IA64
853972	ORA-27125 while creating the DB instance on Kernel 2.6 above
84855	Windows Server, Linux, and UNIX: Certified hardware
845046	dev_w*: *** ERROR => invalid MM administration
839443	TP error: Cannot execute TP during startup of LC10
836992	Missing long texts for kernel error codes in SYSLOG on Linux
835114	MaxDB Errors with Linux on Power
832402	Linux: Certified Unisys hardware

831325	No SAP Installation CD found for Linux on POWER
825822	Installation 4.6C SR2 on Linux x86_64 with DB2
823941	SAP start service on Unix platforms
81737	DB2-z/OS: APAR List
816145	Installation 4.6C SR2 on Linux x86_64 with Oracle
816097	Availability of SAP on Linux for the x86_64 platform
811918	Installing MaxDB 7.5 for SAP products in Basis 46D
796250	SAP DB/MaxDB on Linux kernel SUSE 2.4.21-241/-251
791747	Linux: Printing from the SAP System (access method U)
788770	Linux: R3SETUP - CALCRAM_IND_IND Phase fails
788272	Compatibility of Linux Kernel 2.6/NPTL with MaxDB
784999	saposcol reporting incorrect swap amount
784391	SAP support terms and 3rd-party Linux kernel drivers
775588	Linux: /tmp directory filled
772025	Linux: incorrect statistics for POWER systems using SMT
768727	Automatic restart functions in sapstart for processes
766222	Linux: Released IBM hardware
765424	Linux: Released IBM Hardware - POWER based servers
757408	Return codes from Runtime.exec() not available in Java
723909	Java VM settings for J2EE 6.40/7.0
706071	Linux: Memory in tmpfs is not released correctly
682083	OSS1 does not support all operating systems
638996	NFS mounted directories and saposcol
618104	"sapsysinfo" - Collecting system information on Linux
606107	SAP on Linux: released ATOS/BULL hardware
597470	Linux: Released Oracle Sun servers
574900	SAPOSCOL reports: *LINUX*: disc statistic not available
539567	Application server monitoring with RFCPING
531069	Heterogeneous Unix - Unix Systems

516716	Linux: Problems with locales after glibc update
447029	Linux: Sorting problems in Asian character sets
426188	R/3 processes terminate due to signal 9
411970	DB2-z/OS: Application Server on Linux on IBM z Systems
405827	Linux: Recommended file systems
401162	Linux: Avoiding TCP/IP port conflicts and start problems
397521	SAP Software Installation: not enough swap space
396202	Use of the SAP Application Server on Linux kernel 2.4
386605	SAP Memory Management for Linux (32-bit)
359566	Linux: Bus error
308375	64-bit SAP software
304378	Installtn LINUX: Connect terminates - SQL-952
300900	Central Dell EMC SAP Note/Supported Dell EMC hardware for Linux
2419765	Linux connection to SQL Server on Windows 2016 fails
2412726	Correction of the license check for Amazon Web Services China
2406646	SAP Business One: HANA installation fails when using SUSE SLESB1 image
2393917	SAP HANA on VMware vSphere 6.5 and 6.7 in production
2382588	Automated RAID configuration not possible on Lenovo server for SAP HANA
2381942	Virtual Machines Hanging with VMware ESXi 5.5 p08 and p09
2378874	Install SAP Solutions on Linux on IBM Power Systems (little endian)
2360909	High CPU load during access of time zone information
2358420	Oracle Database Support for Amazon Web Services EC2
2339544	NFSv4 bug in SUSE kernel 3.0.101-0.47.79.1 (BUG: Bad page map in process)
2339449	SLES image for SAP Business One on Fujitsu RX2540M2, RX2560M2 and TX2560M2: Additional information
2338763	Linux: Running SAP applications compiled with GCC 5.x
2320524	SAP JVM crash "blocking a safepoint" on Haswell architecture due to Linux Kernel bug
2309342	SUSE Linux Enterprise High Availability Extension on AWS for SAP HANA
2302728	Supported scenarios with NEC Expresscluster on Amazon Web Services
2292988	Filtering monitored processes by long username not working

2292690	SAP HANA DB: Recommended OS settings for RHEL 7
2281578	UDEV rules update necessary after Mellanox driver update or OS-Install/Upgrade
2266266	Key Monitoring Metrics for SAP on VMware vSphere (version 5.5 u3 and higher)
2263929	SAP HANA DB: Hang during out-of-memory situation
2254173	Linux: Rolling Kernel Switch in Pacemaker based NetWeaver HA environments
2251334	"No space left on device" when df shows free space on Lenovo x86_64
2247020	SAP HANA DB: Recommended OS settings for RHEL 6.7
2246163	Indexserver crashes in the onLoad method
2243692	Linux on Microsoft Azure (IaaS) VM: SAP license issues
2240716	SAP HANA DB: Recommended OS settings for SLES 11 / SLES for SAP Applications 11 SP4
2240028	SAP Host Agent Patches specific to Linux
2237937	Virtual Machines hanging with VMware ESXi 5.5 Update 3 and 6.0
2235581	SAP HANA: Supported Operating Systems
2229228	VMware vSphere 6.0: possible data corruption
2228351	Linux: SAP HANA Database SPS 11 revision 110 (or higher) on RHEL 6 or SLES 11
2205917	SAP HANA DB: Recommended OS settings for SLES 12 / SLES for SAP Applications 12
2203059	HANA persistence corruption because of GPFS rapid repair feature
2196941	SAP HANA Software Replication Takeover Hook Changes
2196056	DB2-z/OS: SAP on Linux on KVM for IBM Z
2195019	Linux: Using SAP kernel 748 and higher or SAPinst 749 and higher on RHEL 6, OL6 and SLES 11
2191498	SAP on Linux with Azure: Enhanced Monitoring
2189094	Support of IBM Guardium Database Activity Monitor
2187639	Linux 4.x kernel
2184075	Rolling kernel switch in Fujitsu FlexFrame Orchestrator
2183500	SAP HANA Installation Fails with: Resource temporarily unavailable
2182373	NEC EXPRESSCLUSTER X: Rolling Kernel Switch in HA environments
2171857	Oracle Database 12c - file system support on Linux
2161991	VMware vSphere configuration guidelines
2157587	SAP Business Warehouse, powered by SAP HANA on VMware vSphere in scale-out and production

2138865	SAP Applications on vCloud Air: Supported Products and VM configurations
2136965	SAP HANA DB: Recommended OS settings for RHEL 6.6
2135057	Required RPM package for AdobeDocumentServices on RHEL 7 and Oracle Linux 7
2132504	HANA nameserver crashes caused by memory corruption (SLES 11 SP1 only)
2131662	Transparent Huge Pages (THP) on SAP HANA Servers
2130171	Automated installer does not recognize MT 6241 as valid
2127006	SAP HANA database in FlexFrame Orchestrator
2125908	saposc -b shows a different VendorRelease string than expected
2123782	GPFS pagepool size on Lenovo Systems Solution for SAP HANA Platform Edition
2119507	GPFS Filesystem check process update
2109404	Signal 11 in DBCON connections to SQL Server
2103848	SAP HANA on HPE nPartitions in production
2100566	Frequently Asked Questions for Lenovo/IBM saphana support script
2099374	DB2-z/OS: NFSv4 client for Linux on IBM System z or x is not recommended in a High Availability setup with a z/OS NFS Server movable between LPARs
2093334	hwcct hangs on scale out network test
2089331	Insecure SSH Key Environment
2069760	Oracle Linux 7.x SAP Installation and Upgrade
2065323	Linux: Released Hitachi / HDS Hardware
2064738	Linux (x86_64): DHCPREQUEST on usb0 continually tries to access IP Address 169.254.95.118
2063057	SAP HANA on Hitachi LPAR logical partitions in production
2052912	SAP Software and Oracle Private Cloud Appliance (PCA)
2051052	"No space left on device" when df shows free space on Lenovo eX5 with GPFS
2034879	Incorrect print status when printing from Linux
2034799	sosreport - collecting configuration and diagnostic information from a Red Hat Enterprise Linux system
2025249	Linux: SAP on Hitachi HVM LPAR virtualization
2024433	Multiple SAP HANA VMs on VMware vSphere in production on vSphere 5.5
202227	Recommended login shells
2020183	Release Certification Matrix of VCE Vblock
2015392	VMware recommendations for latency-sensitive SAP applications

2013638	SAP HANA DB: Recommended OS settings for RHEL 6.5
2009879	SAP HANA Guidelines for Red Hat Enterprise Linux (RHEL) Operating System
2005955	openssl heartbleed and SAP landscapes using Linux
2002167	Red Hat Enterprise Linux 7.x: Installation and Upgrade
2001838	Maintenance Mode for SIOS Protection Suite for Linux SAP Recovery Kit
2001528	Linux: SAP HANA Database SPS 08, SPS 09 and SPS 10 on RHEL 6 or SLES 11
1995460	SAP HANA VM on VMware vSphere 5.5 in production
1986958	Common issues / Configuration recommendations for Veritas NetBackup for SAP HANA
1984787	SUSE LINUX Enterprise Server 12: Installation notes
1984681	Saposcsl data not updated, saposcsl hanging
1980039	ERP 6.0 EHP7 on MaxDB: Create database instance fails
1976723	BWA 7.00 / BWA 7.20 / TREX 7.10 / TREX 7.25: Recommended OS settings for SLES 11 / SLES for SAP Applications 11 SP2 or SP3 / Red Hat Enterprise Linux 6
1964437	SAP HANA on AWS: Supported AWS EC2 products
1955192	R3trans terminates with error message "Stopping due to an internal error in system function sprintf. Please refer to note 1955192 for details."
1954788	SAP HANA DB: Recommended OS settings for SLES 11 / SLES for SAP Applications 11 SP3
195276	Linux: Starting the program using Remote Shell
1944799	SAP HANA Guidelines for SLES Operating System Installation
1943795	VMC: Authorization error with mmap/mprotect
1933167	No or not enough memory capacity for mount point /hana/exeini on Dell EMC HANA appliances
1928533	SAP Applications on Azure: Supported Products and Azure VM types
1920326	Oracle JDK support agreement terminated
1919673	Error in Unix syslog initialization
1916236	DB4: Can't Load Linux xdnxdaapi.so in 720+
1912845	Possible variation of IO throughput on HP scale out HANA appliances
1908655	Support details for Red Hat Enterprise Linux HA Add-On
1906423	Support details for Veritas
190218	Linux: Print output from R/3 (access method L)
189582	Linux: Code page entries in table TCP0C

1889145	Diagnostics Agent HTTP calls timeout on Linux kernel 3.0.x
1888072	SAP HANA DB: Indexserver crash in __strcmp_sse42
1880960	Lenovo Systems Solution for SAP HANA Platform Edition FW/OS/Driver Maintenance
1879168	Desupport of SAP Kernels 46D_EXT and 640
187864	Linux: Locale Support on Linux
1871318	Linux: Disable Transparent HugePages for Oracle Database
1868811	DB4: Multiconnect from Linux X86 Application Servers
1867783	XFS Data Inconsistency Bug with SLES 11 SP2
1848432	NEC SAP HANA Appliance Operations Guide
1847127	NEC EXPRESSCLUSTER : Way to suspend / resume HA cluster
1843698	Locale check tool nls_check
1824819	SAP HANA DB: Recommended OS settings for SLES 11 / SLES for SAP Applications 11 SP2
1817065	SAP on Oracle VM - Monitoring SAP for Oracle VM
1808268	SAP on Oracle VM - Oracle VM Support
1807851	Linux: SAP on Huawei FusionSphere virtualization
1807387	HANA: Possible kernel panic or hanging HANA backup with MPFS
1806414	B1A or B1H server CSS-LED is on
1805750	SYB: Usage of HugePages on Linux Systems with SAP Sybase ASE
1798556	SAP Landscape Virtualization Management 2.0 standard edition
1790812	Problems with the SAP Host Agent rpm package
1788665	SAP HANA Support for virtualized / partitioned (multi-tenant) environments
1787005	HANA installation on GPFS with timestamps in the future
1785617	ORA-15085: ASM disk "" has inconsistent sector size
1783702	SAP Landscape Virtualization Management 2.0 - Enterprise Edition
1779681	Central note on HPE Serviceguard HA/DR clustering solutions
1775101	Wrong checksum and page load errors on HP IBRIX file system
1771258	Linux: User and system resource limits
1771226	Installations on Linux with IPv6
1769251	Incorrect CPU metrics on RHEL 6.3 on IBM POWER

1768213	Support details for NEC EXPRESSCLUSTER
1763512	Support details for SUSE Linux Enterprise for SAP Applications - HA Solution for SAP NetWeaver and SAP S/4HANA
1747813	Unusual system behavior with Westmere-EX or Nehalem-EX CPUs
1739625	Linux: SAP NetWeaver on Red Hat Xen
1738172	Linux: High Machine Load due to Leap Second
1733289	Linux SUSE SLES 11 IBM Power installation of Oracle DB 10.2
1728283	SAP Kernel 721: General Information
1716826	Usage of the downward compatible kernel 721 (EXT)
171383	Linux: Approved Fujitsu Technology Solutions hardware
171380	Released IBM hardware (Intel processors) and IBM cloud services offers
171371	Linux: Released Hewlett-Packard hardware
171356	SAP Software on Linux: General information
1708967	REMINDER: Switch to SAP JVM 4
1706801	SYB: SAP ASE released for virtual systems
1697030	DB2-z/OS: The SAP J2EE ConfigTool crashes on SUSE SLES 11
1693245	SAP HA Script Connector Library
1687587	BWA 7.00/7.20: SLES Security Patches
1681360	Support for SAP software in Linux / Fusion-IO Environments
1678024	Linux: NetWeaver 7.0 EhP 3 with SAP kernel 720
1673776	Support for SAP software in Linux / CA Environments
1672954	Oracle 11g and 12c: Usage of hugepages on Linux
1671843	Installing the SMD agent using 720_EXT kernel
1662610	Support details for SIOS Protection Suite for Linux
1661146	Lenovo/IBM Check Tool for SAP HANA appliances
1656250	SAP on AWS: Support prerequisites
1656099	SAP Applications on AWS: Supported DB/OS and AWS EC2 products
1650046	Lenovo Solution for SAP HANA - Operations Guide
1646120	Support for SAP software in Linux / EMC environments
1644499	Database connectivity from Linux to SQL Server



1642936	Support for SAP software in RHEL with MC support of NEC
1642802	supportconfig - collecting a system overview on OS level
1642058	Adapt SAPInst Oracle Client 11.2.0.x
1641148	HANA server hang caused by GPFS issue
1635808	Oracle Linux 6.x SAP Installation and Upgrade
1634767	Support for SAP software in Linux / Oracle ASM/ACFS Cluster
1633459	Required RPM package for ADS on RHEL 6 and Oracle Linux 6
1631106	Red Hat Enterprise Linux for SAP Applications
1630050	SAP NetWeaver Landscape Virtualization Management 1.0, standard edition
1629598	SAP Kernel 720 will replace older kernel versions
1629558	Linux 3.x kernel
1620527	Veritas Filesystem: Block corruption with large LUNs
1618572	Linux: Support Statement for RHEL on Amazon Web Services
1617188	SAP Software and Oracle Exalogic
1597355	Swap-space recommendation for Linux
159280	RZ10: Check of the start profile
1591607	SAP Kernel for SAP_BASIS releases 7.03 and 7.31
1588896	Linux: Support Statement for SLES on Amazon Web Services
1574751	Linux: libc.so.6: version `GLIBC_2.7' not found
1567511	Oracle Linux 5.x SAP Installation and Upgrade
1565179	SAP software and Oracle Linux
1563102	Linux Requirements for 7.20 EXT and higher kernel
1559462	IBM JDK hangs when converting "2.2250738585072012e-308"
1557506	Linux paging improvements
1553301	7.20 EXT Kernel - Usage
1553300	7.20 EXT Kernel - Extended Kernel Maintenance
1552925	Linux: High Availability Cluster Solutions
153641	Swap space requirement for R/3 64-bit kernel
1532458	Monitoring of SAP on Citrix XenServer

1522993	Linux: SAP on SUSE KVM - Kernel-based Virtual Machine
1519590	Virtualization with Citrix XenServer
1510259	Syslog message F3V 'Error XXX for write/read access to a file. File = <filename>'
1500607	Support requirements for SAP in Veritas Environments
1496410	Red Hat Enterprise Linux 6.x: Installation and Upgrade
1495160	SAP JVM as replacement for Partner JDKs 1.4.2
1492000	General Support Statement for Virtual Environments
1482272	Key Monitoring Metrics for SAP on VMware vSphere (up to version 5.5 u2)
1465174	DB2-z/OS:Overview of zLinux JVM for NetWeaver 6.40 and 7.0
146289	Parameter Recommendations for 64-Bit SAP Kernel
1462332	ACC 7.3 - Adaptive Computing Controller Collect. Note
1452070	DB2-z/OS: SAP on Linux on IBM Z and z/VM
1437105	Operating system limits for SAP instances
1437021	Signal 11 with Oracle Instant Client on Fujitsu FlexFrame
1434397	Week 53 missing in Web-Dynpro for Java for certain locales
1426182	Support of Oracle Database for XEN and KVM
1422869	JSPM startup fails with "Fatal error: No usable fonts found"
1414994	sapinit permissions
1403020	Linux: Certified Cisco Hardware
1400911	Linux: SAP NetWeaver on Red Hat KVM - Kernel-based Virtual Machine
1392638	Long work process wait time on semaphore 12
1391070	Linux UUID solutions
1382721	Linux: Interpreting the output of the command 'free'
1380654	SAP support in IaaS environments
1380245	Linux: libldap.so not found
1379130	Linux: Released NEC hardware
1375863	ACC 7.2 - Adaptive Computing Controller Collect. Note
1375648	Linux: High performance SAP kernel
132536	Improved semaphore mechanism in tp

1322297	BWA 7.00: Use of SUSE Linux Enterprise Server/SLES 11
1319038	DB2-z/OS:Recommended Settings for IBM 142 J9 JVM on zLinux
1310720	Collection Note for Unicode Systems w. different endianness
1310037	SUSE LINUX Enterprise Server 11: Installation notes
1293359	Linux: Oracle Archiver errors in alert log
1278782	Support for SAP software in Linux / Egenera environments
1275776	Linux: Preparing SLES for SAP environments
1271224	Linux: Minimum versions for distribution w/ SAP EX2_Kernel
1239558	Linux: libc.so.6 version `GLIBC_2.3.4' not found
1232248	Unreasonable CPU times
1178686	Linux: Alternative method to generate a SAP hardware key
1173954	Support of Oracle Database for VMware
1172419	Linux: Supported Java versions on the x86_64 platform
1163337	Linux: Generating core dumps
1158363	VMware Performance Snapshot
1149214	Wily Introscope Agent with IBM Java VM 1.4.2 (SR1x) x86_64
1130801	DB6: Virtualization of IBM DB2 for Linux, UNIX, and Windows
1122387	Linux: SAP Support in virtualized environments
1114181	Oracle Database 11g - file system support on Linux
1113184	OCFS2 useful tips
1102760	PowerVM Live Partition Mobility
1102124	SAPOSCOL on Linux: Enhanced function
1084263	Cluster File System: Use of GPFS on Linux
1069443	Linux: Different sort sequence
1067221	Composite SAP Note for heterogeneous installation
1058988	640_EX2 Kernels
1056161	SUSE Priority Support for SAP applications

## This document is referenced by

SAP Note/KBA	Title
2535340	ABAP processes of instance [ABAP: UNKNOWN] did not start after 10:10 minutes.
606107	SAP on Linux: released ATOS/BULL hardware
2730308	Linux: SAP on Huawei FusionSphere KVM virtualization
2820692	Db2-z/OS: SAP on IBM Z - Technical Updates & Enhancements
2772999	Red Hat Enterprise Linux 8.x: Installation and Configuration
2414820	SAP on IBM Cloud: Support prerequisites
1400911	Linux: SAP NetWeaver on Red Hat KVM - Kernel-based Virtual Machine
2398248	Support statement for Thales eSecurity Vormetric Transparent Encryption
1522993	Linux: SAP on SUSE KVM - Kernel-based Virtual Machine
2570214	Linux on Huawei Cloud: Adaption of your SAP License
1704753	Inst.Systems Based on NetWeaver on UNIX - Using Software Provisioning Manager 1.0
2532313	Linux on Open Telekom Cloud (IaaS): Adaption of your SAP License
2533233	Linux on Alibaba Cloud (IaaS): Adaption of Your SAP License
2446441	Linux on Google Cloud Platform (IaaS): Adaption of your SAP License
2460297	SAP on Linux on Google Cloud Platform: Enhanced Monitoring
2381942	Virtual Machines Hanging with VMware ESXi 5.5 p08 and p09
171356	SAP Software on Linux: General information

[Terms of use](#) | [Copyright](#) | [Trademark](#) | [Legal Disclosure](#) | [Privacy](#)