



Understanding Kernel Releases for the SAP NetWeaver AS ABAP

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SAP NetWeaver AS ABAP 7.4 comes with many new capabilities leveraging the power of SAP HANA as well as other databases. It is the basis for products like the SAP Business Suite powered by SAP HANA and SAP Business Warehouse 7.4 (on SAP HANA). In order to be able to take full advantage of the new features of SAP HANA, the SAP NetWeaver AS ABAP 7.4 will be delivered with new kernel versions regularly. This document explains which kernel versions can be used in which context and how this compares to the roadmap for kernel versions prior to SAP NetWeaver 7.4.

DEPENDENCY BETWEEN NETWEAVER 7.4 SP AND KERNEL VERSIONS

In order to enable and support SAP HANA capabilities, certain SAP NetWeaver 7.4 support packages will require new kernel versions. This will enable customers to incrementally leverage the full power of SAP HANA with minimal disruption by simply applying SAP NetWeaver support packages. All dependencies between support package and the SAP kernel release are completely taken into account by the installation and update tools so that no manual interactions are required when performing e.g. an SP update. Support packages with new kernel versions in the past or in the near future are:

- SAP NetWeaver 7.4 SP0 (GA May 2013) was delivered with kernel 738
- SAP NetWeaver 7.4 SP2 (GA July 2013) requires kernel 740 as a minimal version
- SAP NetWeaver 7.4 SP5 (GA December 2013) requires kernel 741 as a minimal version
- SAP NetWeaver 7.4 SP8 (GA September 2014) requires kernel 742 as a minimal version

[Update March 2015]: No new kernel versions will be required as minimal version for support packages of SAP NetWeaver 7.4 after SP8. Thus implementing a support packages after SP8 will not install a new kernel version if kernel 742 is already active. However, kernel 742 might be replaced by a future kernel version as downward compatible kernel pretty much the same way as e.g. kernel 720 replaced older kernel versions for NW7.0 in the past. Such a DCK replacement will be communicated with sufficient time ahead for proper planning.

[Update November 2015]: SAP NetWeaver 7.5 requires a new kernel version 745 which will also become the downward compatible kernel for NW 7.4 later on. It will be available as DCK for all NW 7.4 support packages by the end of Q1 2016. New kernel patches for kernel 742 will be provided until end of Q1 2017.

SAPNetWeaver 7.4 SP Stack	Minimal kernel version	Release Date
SP02	740	May 2013
SP03	740	July 2013
SP04	740	September 2013
SP05	741	December 2013
SP06	741	March 2014
SP07	741	June 2014
SP08	742	September 2014
SP09	742	November 2014
SP10	742	March 2015
all further SPs	742	Q2 2015 and later

Table: minimal kernel version per SAP NetWeaver 7.4 support package (SP). For new installations and updates the minimal kernel version is taken into account by the installation and update tools automatically

SAP note [1969546](#) explains this in more detail and will be updated regularly.

MAINTENANCE FOR KERNEL VERSIONS

Older kernel versions 74X will be faded out as newer kernel versions are released. This is achieved by the fact that newer kernel versions are developed to be downward compatible to older kernel versions and will replace these older kernel versions eventually. In more detail:

- Kernel 741 has been declared to be *the* downward compatible kernel (DCK) in July 2014, delivery of patches for kernel 740 will be stopped. All corrections for kernel 740 will be provided by kernel 741 patches as of July 2014.
- Similarly, kernel 742, which was released in Q3 2014 together with SP8 has also been released to be available as downward compatible kernel replacement for kernel version 740 and 741 on April 1st 2015. For now, kernel version 741 is still being maintained and supplied with corrections and patches. However it is planned somewhere in the second half of 2015, that kernel version 741 will be phased out and fully replaced by kernel 742. Once this has taken place, no more patches will be delivered for kernel 741.

[Update November 2015]: the last kernel patch for kernel 741 has been released in July 2015

Although corrections and patches will only be provided for the newer kernel versions once the DCK replacement took place, updating to the newer kernel is not mandatory. Customers may continue to use the old version even after the new kernel version has replaced all older versions. Only in case an error needs to be fixed that requires a kernel correction, an update to a new kernel version is required. Despite this, SAP recommends to update to a recent kernel version and patch level from time to time.

Kernel Version	Date for DCK release	End of Maintenance
740	-	July 2014
741	July 2014	Q3 2015
742	Q2 2015	Q1 2017
745	Q1 2016	tbd

Table: End of maintenance for each Kernel version in NW 7.4.

SAP note [1969546](#) explains this in more detail and will be updated regularly.

ROLLING KERNEL SWITCH (RKS)

Release Notes (New with SAP NetWeaver 7.4 SP5):

The rolling kernel switch (RKS) enables a new kernel version to be imported in an ABAP system or specific parameter changes to be activated while the system is running. Usually, RKS does not produce any noticeable restrictions for users of the system. As soon as RKS is started, automatic checks are performed to check the system configuration. Timeouts relevant during the RKS procedure can be configured with various parameters. For a new kernel to be imported using the RKS procedure the two affected kernel versions must have the same compatibility level.

Related Information: [Rolling Kernel Switch \(RKS\)](#)

COMPARISON WITH ROADMAP FOR KERNEL 720/721

For SAP NetWeaver versions lower than 7.4, kernel 720 has been introduced as the downward compatible kernel in August 2012. Delivery of kernel patches and corrections for kernel versions 7.00, 7.01, 7.10, 7.11 has been discontinued since then. Besides other advantages this enables customers to standardize their kernel version throughout their SAP NetWeaver system landscape to one kernel version only. In order to be able to deliver innovations and new features, while at the same time eliminating any risk of regressions, a new kernel version 721 has been established. This kernel version is fully compatible to kernel 720 so it can be used as a replacement for kernel 720. There will always be two kernel versions available, which can support any NW 7.X (X < 4) based system: one standard version and one innovation version. As was communicated previously, kernel version 720 is being discontinued starting April 1st 2015. This means that kernel 721 has now taken over the role of the standard kernel. A new innovation kernel (kernel 722) will be released shortly.

With always two active kernel versions being maintained, the kernel roadmap for old NW versions is very similar to the kernel roadmap in SAP NetWeaver 7.4 with two small but important exceptions:

1. Prior to SAP NetWeaver 7.4 new ABAP support packages don't require a new kernel version, meaning that the kernel need not be switched when updating an ABAP SP. This is so because only minor enhancements become available in pre SAP NetWeaver 7.4 versions with a new kernel. Of course if you want to take advantage of any new feature that has a kernel dependency, the new kernel version is required. **[Update March 2015]:** starting with SP8 of NW 7.4 this holds also true for kernel versions 74X.
2. New kernel versions become available at a much lower frequency. This is also due to the fact that only a very limited number of enhancements and new features will go into pre SAP NetWeaver 7.4 releases. Typically the lifetime of a kernel version lies in the range of 3 years and 2 1/2 years after it becomes the downward compatible kernel

The current roadmap for kernel versions 72X is as follows:

- The current standard kernel, 720, has been phased out in Q1 2015
- The current innovation kernel 721 has become the default kernel
- A new innovation kernel, 722, will be established shortly

In this context, phasing out a kernel means that no patches will be provided for this kernel version any longer.

To summarize: Both for kernel 74X and for kernel 72X there will always be two kernel versions that are supported in the sense that patches are provided regularly. Contrary to kernel 74X, all kernel versions 72X are completely interchangeable as long as no new features are required.

SOFTWARE LOGISTICS TOOLSET

Those SAP NetWeaver 7.4 support packages (SPs) that require a new minimal kernel version can't be implemented using the SAP Support Package Manager (SPAM). Instead, these SPs will be updated using the SAP Software Update Manager (SUM). The first SP for which this applies is SAP NetWeaver 7.4 SP05. You can find SUM documentation on SAP Service Marketplace under > Software Logistics Toolset > Software Logistics Toolset 1.0 > Software Update Manager (SUM).

Related Information: <http://service.sap.com/sltoolset>

DEPENDENCY OF NW 7.4 SUPPORT PACKAGES TO DATABASE VERSIONS

SAP NetWeaver 7.4 aims to enable innovations that become available with new versions of the SAP HANA database through new support packages. As a consequence of this strategy, SAP NetWeaver AS ABAP 7.4 SPs require different minimal SAP HANA revisions from time to time. In these cases the HANA update has to

be applied before the update of SAP NetWeaver AS ABAP 7.4 to a newer SP. – See SAP note [1914052](#) for more information on this.

For other databases besides SAP HANA the required minimal version does only change in exceptional cases with AS ABAP 7.4 Support Packages. See SAP note [1951491](#)

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