



PBS Information Lifecycle Management Solutions
for SAP NetWeaver Business Intelligence 3.x and 7.x

SAP® Certified
Integration with SAP NetWeaver®

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PBS Information Lifecycle Management Solutions for SAP NetWeaver Business Intelligence

Abstract:

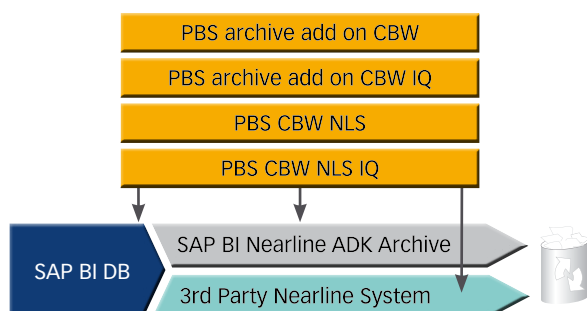
The Information Lifecycle Management concept for SAP NetWeaver Business Intelligence enables SAP BI customers to act effectively against the unrestrained growth of the BI database and the accompanying increase in operating costs.

Core elements are the methods that are provided by SAP for BI data archiving. They can be used to remove specifically data from InfoCubes and DataStore objects from the database and transfer it to an archive or – from release 7.0 – to a so-called external “nearline system”. An archive is created using exclusively SAP standard means, whereas you need a third party product to use a nearline system. This product is connected via the SAP nearline storage interface to the SAP BI system. After successful data archiving has taken place, end users can access the complete data stock from the SAP BI database, nearline system, and SAP archive using SAP standard queries when the necessary support is provided by third parties. The SAP concept also takes into account an updating of data that was removed from stock to new BI database information structures. A third party nearline connection can be certified accordingly by SAP.

PBS, as a third party solution provider with 17 years’ experience in the SAP archiving environment and more than 1000 customers worldwide, currently provides four products with which an ILM concept for SAP BI can be implemented in the releases 3.x and 7.x. The solutions have been certified for both release series by SAP. They support both a purely SAP archive-based procedure without an external system as well as archiving in a nearline system – in this case, using the worldwide leading column-based analytics server Sybase IQ. A big advantage of the PBS solutions is the option to combine both procedures. Thus you can achieve an optimal ILM implementation that is in line with your requirements. The PBS solutions provide a large number of functions that go far beyond the direct requirements of the SAP standard nearline interface.

This white paper gives you an overview of the PBS functionality in relation to the respective SAP BI components. You should be familiar with the SAP BI data model as well as SAP data archiving and the Archive Development Kit (ADK).

PBS ILM Tools for SAP NetWeaver BI 7.x and 3.x



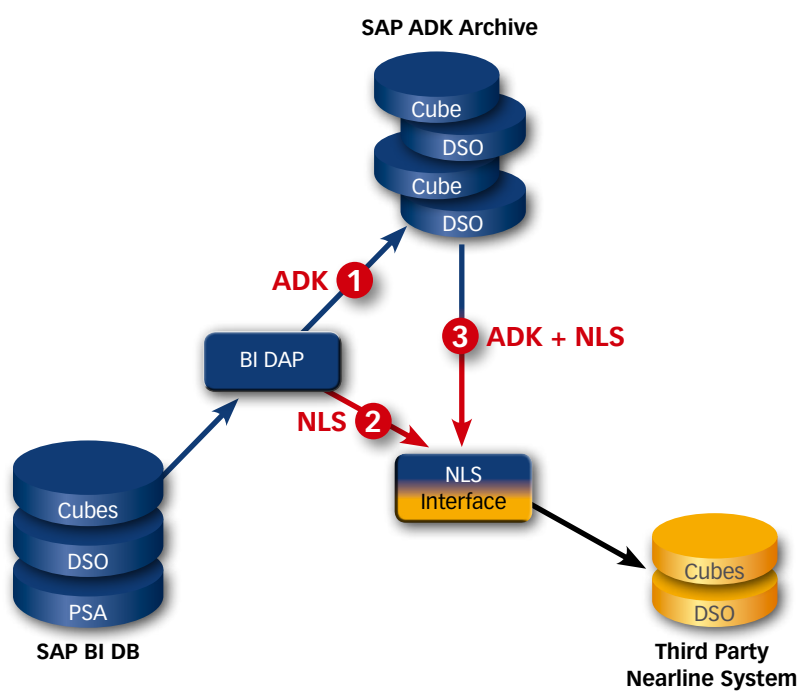


Fig. 2: Archiving methods in SAP BI 7.0 supported by SAP. In SAP BI 3.x, only ADK-based archiving is possible.

SAP Data Archiving Process for NetWeaver Business Intelligence

The basis of the ILM concept for SAP BI is the SAP data archiving process (DAP). It is used to remove InfoCube and DSO data from the SAP BI database to slow down or to prevent continuous database growth. From release 7.0 three methods are available for removing data from the SAP BI database, as illustrated in figure 2.

Method 1 – ADK:

BI database data from InfoCubes or DataStore objects can be transferred directly to compressed SAP standard ADK archive files. This method is available for the releases 3.x and 7.x. The compression rate for the archive files can be over 90 percent, resulting in considerable savings. A direct and fast evaluation of SAP archives via end user queries is not possible using SAP standard means.

PBS has supplemented the ADK-based archiving functionality that is provided by SAP for InfoCubes and DSO data by a respective component for PSA tables. This functionality enables you to also archive PSA tables using method 1. Here, compression rates of more than 90 percent are also achieved. The archived PSA data can be reloaded into the PSA tables again at any time or used directly without reloading for an update in new DSO tables or other InfoCubes.

An ADK-based archive for InfoCubes, DSO or PSA tables is also compliant if the corresponding archive files are stored on a compliant storage medium or Content Management System via the SAP Archive Link interface. Such a storage system is often used in SAP environments. For this, PBS provides the interface solution PBS ContentLink.

Method 2 – NLS

InfoCube and DSO data from an SAP data archiving process is transferred to an external nearline system via the SAP nearline storage interface (from BI 7.0). Afterwards, you can access directly the BI database and data from the nearline system using standard queries. PBS uses the analytics server Sybase IQ as a nearline system, thus enabling extremely fast ad-hoc queries. In SAP, Method 2 is available from BI release 7.0. For BI releases 3.1 and 3.5, PBS developed such a nearline connection to Sybase IQ in analogy to the SAP NLS approach of BI 7.0.

Nearline archiving that is supported by PBS achieves compression rates of more than 90 percent in the column-based Sybase IQ server resulting in an enormous saving of disk space compared to the SAP BI database. In addition, PBS also provides direct nearline archiving of PSA data in Sybase IQ, here also in connection with a reloading and updating functionality.

Method 3 – ADK and NLS

This method allows the combination of "classical", file-based data archiving and – at the same time – archiving in a nearline system. Thus the advantages of a compliant archive complement one another with the benefits of the analytics server for flexible and fast queries in an ideal way. PBS provides special functions that guarantee a sensibly combined use of both methods.

The procedure is illustrated by arrows 1 and 3 in figure 2. First the ADK archive is created during the write phase of the data archiving process (arrow 1). Then the archive data is transferred to the external nearline system in the subsequent verification phase (arrow 3).

Realization in the SAP System

The archiving method is chosen for each InfoProvider (InfoCube, DSO object) when creating a data archiving process (DAP). Figure 3 shows an example for the definition of method 2 (pure nearline archiving) in the SAP transaction RSDAP or RSA1.

When you enter `CBW_IQ` you select the nearline interface `CBW_IQ` that was developed by PBS for the InfoCube `ZCCA_P21N` for subsequent archiving runs. All archive data is then transferred directly to the analytics server Sybase IQ. The individual archiving runs are defined using the SAP transaction `RSA1`. If

a DAP was created, information about the already executed archiving runs is displayed if you select the tab "Archiving", which is described in figure 4. New archiving runs can be started by creating an archiving request. Archiving has to be executed via the transaction `SARA` in the releases 3.x.

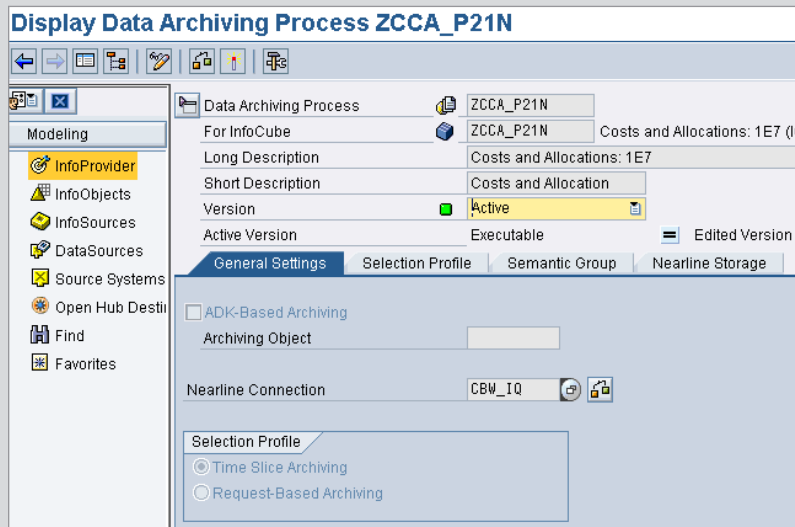


Fig. 3: Selection of the archiving method for the definition of a data archiving process from SAP BI 7.0.

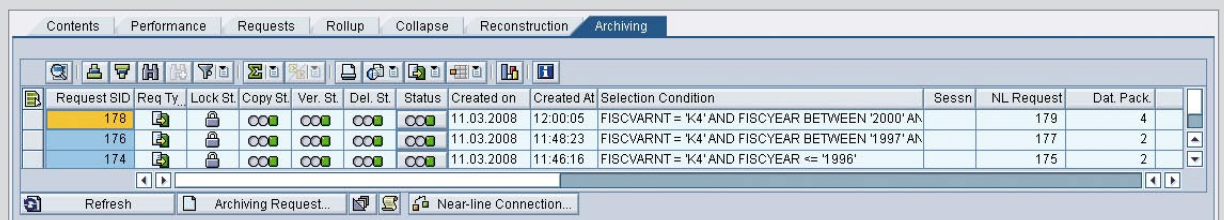


Fig. 4: Monitoring and administration of archiving runs from release 7.0 via transaction `RSA1`.

Access to Archived Data

In addition to the software components that ensure the safe and consistent removal and deletion of data from the productive database, further modules for the end user access to archived data are of great importance for a successful archiving project. If access to the archived data is insufficient, an archiving project often fails in an early phase due to the resistance of the user department. An easy procedure to enable data accesses in an exceptional case is to reload the archive data into the productive database. SAP provides this option both for file-based archiving and nearline archiving. This functionality, however, is not sufficient for a permanent data

access as it is frequently required today, since it can result in far too long reload runtimes for large InfoCubes and DSO tables. Therefore, the requirements for a permanent access to archive data in the SAP nearline concept are also taken into account. In the same way as the transfer of archive data to a nearline system, third parties must also ensure read access to archived data in order to get certified by SAP. If this is the case, BI queries can be activated for the additional access to the nearline system. This is defined in the query attributes. In 3.x releases, the reloading process is only possible with restrictions. From 7.0, it is completely supported.

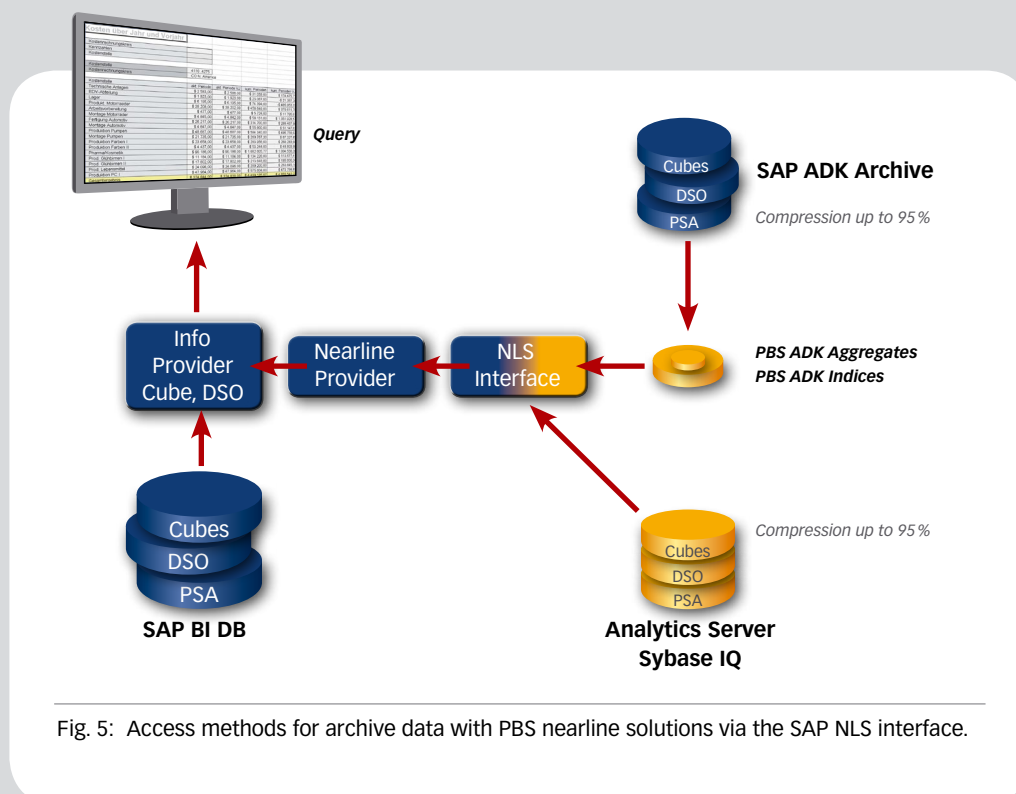


Fig. 5: Access methods for archive data with PBS nearline solutions via the SAP NLS interface.

Access to Archived Data

PBS solutions enable query access for each archiving method that is available via the SAP NLS interface. When archiving the data to the nearline system (method 2 in figure 2), the query access via the PBS CBW NLS IQ solution retrieves data directly from the analytics server Sybase IQ. A prerequisite for reading data from the nearline system is the activation of the nearline provider in the query attributes (see figure 6). The results are then displayed from the SAP BI database as well as from the nearline system. The end user can access the complete data stock, and can

also define and carry out new evaluations for the complete data stock at any time. The technical processes remain hidden during the data access. The column-based technology of the Sybase IQ server enables very fast queries. Even for InfoCubes or DSO objects that have several million data records, the runtimes take only seconds. To achieve this, query requests are passed to the analytics server IQ. Depending on the query it either returns already-aggregated or highly granular results data to the SAP nearline provider.

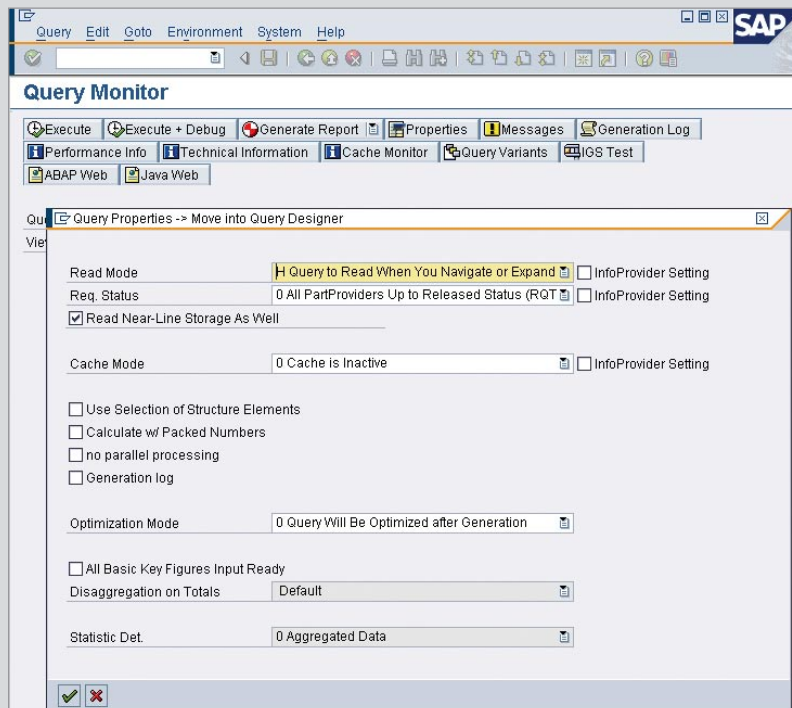


Fig. 6: If "Read Near-Line Storage As Well" is selected in the query attributes, BI database data and archive data from the nearline system is evaluated together.

Access without External Nearline System

The use of an external nearline system usually requires corresponding hardware and software resources. For several years, PBS has provided dedicated solutions for SAP customers who want to avoid this. These solutions are based on the purely file-based SAP data archiving using the Archive Development Kit (ADK). PBS provides the PBS archive add on CBW for SAP BI 3.x and the ADK-based nearline solution CBW NLS from release 7.0. Both solutions enable an integrated query access to BI database data and archive data without an additional external system. From SAP NetWeaver 7.0 the SAP NLS interface is used for this. The access is realized via virtual InfoProviders in releases 3.x.

To achieve user-friendly query runtimes, PBS provides an extensive infrastructure that can also be used to create ADK-based archive indices and aggregates.

Both data types are evaluated in queries and stored highly compressed outside the BI database in ADK files (see figure 7).

The setup of indices and aggregates requires a certain modeling effort that is not necessary when using the Sybase IQ server. In contrast to this, archiving without nearline server can be carried out immediately without introducing an external system. You only need the ABAP-based PBS software for the access. The software can be imported quickly into the BI system via a transport. You can also achieve very good access times to archive data with respective aggregate modeling. These ADK-based features are also contained in the CBW NLS IQ solution.

Both procedures can be applied in combination.

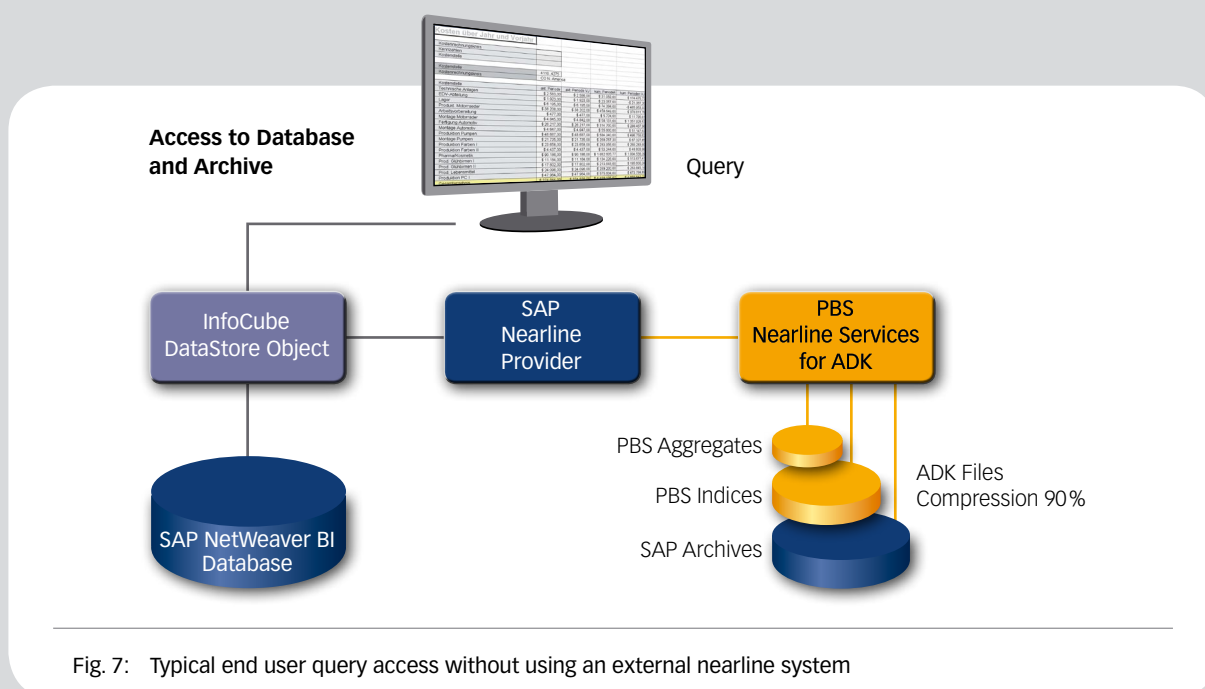


Fig. 7: Typical end user query access without using an external nearline system

PBS Nearline Solutions in Overview

Currently, PBS provides four solutions for SAP NetWeaver BI. The solutions mainly differ by release and the supported SAP data archiving methods. Depending on this, an external nearline system is either required or not. Table 1, on the right, provides an overview.

The PBS CBW NLS IQ solution contains a maximum of functionality, and therefore provides the widest range of possible applications. The diagram on the right displays a typical BI infrastructure in connection with PBS CBW NLS IQ.

During pure nearline archiving, an SAP data archiving process transfers the data directly to the analytics server Sybase IQ via the interface that was developed by PBS. After a successful archiving, the data is immediately available for query evaluations. The archive data can also be reloaded into the BI system or made available for a data transfer for updates. The complete solution is realized by several software components. On the one hand, there

are ABAP modules that are installed directly in the SAP BI system via transports. In addition, there are special JAVA-based components that are used for the communication with the analytics server and the actual Sybase IQ server. In contrast to this, the purely ADK-based solution CBW NLS only contains ABAP components.

The Java interface and the Sybase IQ server are designed for multi-user environments and correspondingly, can also be used for very large BI environments. The software can be installed in one day if all is well prepared and can be tested using an example archiving scenario.

The complete infrastructure can be monitored directly using a special monitor in the SAP BI system. This applies both for the Java interface as well as for the Sybase IQ server. An SAP administrator without profound Sybase IQ skills can also deal with this task.

PBS Solution	SAP BI Release	SAP Data Archiving Method	External Nearline System
PBS CBW NLS	from 7.0	DAP purely ADK DAP ADK with NLS Service	-
PBS CBW NLS IQ	from 7.0	DAP purely ADK DAP with NLS Sybase IQ DAP with ADK and NLS Sybase IQ	✓
PBS archive add on CBW	from 3.0	ADK classic (SARA)	-
PBS archive add on CBW IQ	3.5	ADK classic Nearline downgrade for Sybase IQ ADK/IQ in combination	✓

Table 1: Overview of the PBS solutions for SAP NetWeaver BI. DAP represents the nearline data archiving process that is available from 7.0, ADK stands for "Archive Development Kit".

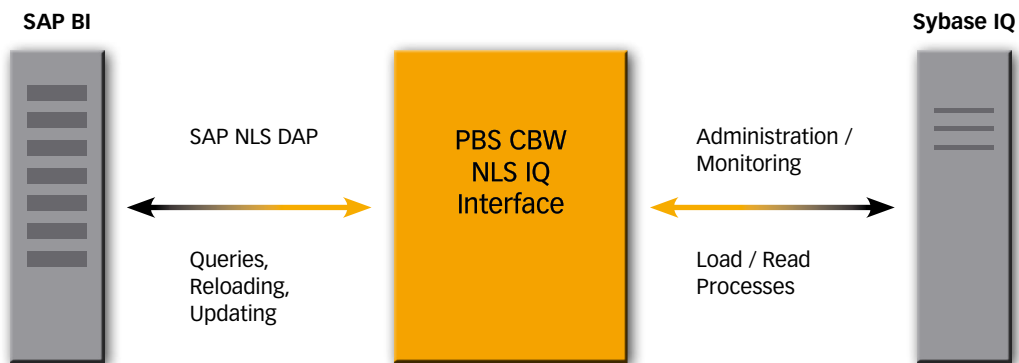


Fig. 8: Example of an implementation in which the nearline server Sybase IQ is operated on separate server hardware. Other configurations are also possible. Components for an ADK-based nearline concept are not included here.

Benefits of the Analytics Server Sybase IQ

PBS has realized an analytic nearline system with CBW NLS IQ. The technological basis is the column-based analytics server Sybase IQ that has a leading position in this technology area (see www.sybase.com/IQ). It was developed about 12 years ago and is currently used by about 1800 customers, primarily from the financial sector. The advantage for SAP BI customers is the column-based concept with features similar to SAP Business Accelerator (BIA). Sybase IQ manages database tables in the form of compressed columns instead of in lines like classical relational databases. Each column builds automatically an index. Thus, tuning with additional index generation to improve the performance is not necessary. By compressing the columns, there are less entry and output operations for query accesses than in comparable table accesses of a relational database. Sybase IQ does not manage the data completely in the main memory such as SAP BIA, but in the form of pages in the storage system. Thus, it does not achieve the same fast access times, but significantly faster ones than classical relational systems. Lower consumption of resources, easy administration, and a complete SQL interface predestine the analytics server Sybase IQ as a nearline system in a BI environment.

Sybase IQ can be used on all SAP platforms in combination with storage systems such as SAN, NAS raw de-

vices, etc., and also has excellent performance values on INTEL-based low-budget servers. Since the nearline data volume is compressed up to 95 percent, the use of an existing SAN system is obvious. But this does not exclude the alternative usage of an inexpensive NAS system.

The Sybase IQ architecture uses multi-core processors, which are meanwhile standard in company servers, in an optimal way so that query runtimes scale nearly reciprocally proportional with the number of cores.

In comparison to classical relational databases, the maintenance requirements are about 80 percent less. Reorganization runs due to fragmentations are not necessary. Due to the high level of data compression, the disk space requirement for nearline data is significantly lower than for relational databases that often store application data in an uncompressed form. There is no additional disk space needed for indices. The Sybase NONSTOP IQ concept can be applied for high availability scenarios. Sybase also provides special services for a complete remote monitoring on request.

For detailed information on the benefits of Sybase IQ technology see www.sybase.com/IQ.

ADK-based PBS Functionality

All PBS solutions allow purely ADK-based access to SAP archives without an external nearline system. This technology was developed for 3.x releases for which no SAP nearline interface exists for a connection of an external nearline system. The PBS ADK functionality was completely integrated in the SAP nearline concept in release 7.0 so that a purely ADK-based retrieval is also possible via an SAP nearline provider.

A prerequisite for an ADK-based query access is always a successful SAP data archiving process with corresponding archives for InfoCubes or DSO. These are used in a subsequent process to generate so-called PBS archive aggregates or indices to enable

queries via VirtualProviders, MultiProviders or Nearline Providers (under SAP NetWeaver 7.x). They are stored highly-compressed in sequential files using ADK technology. Since ADK files can automatically be stored via the SAP ArchiveLink interface, a compliant retention of SAP archives including PBS aggregate and index files is possible with any ArchiveLink-enabled storage system. PBS recommends using its interface solution ContentLink which enables the connection to modern and fast storage systems such as EMC Centera, NetApp FAS, IBM DR550 and Hitachi HCAP.

The archive aggregates and indices are modeled and generated via the central administration tool, the PBS CBW Administration Cockpit.

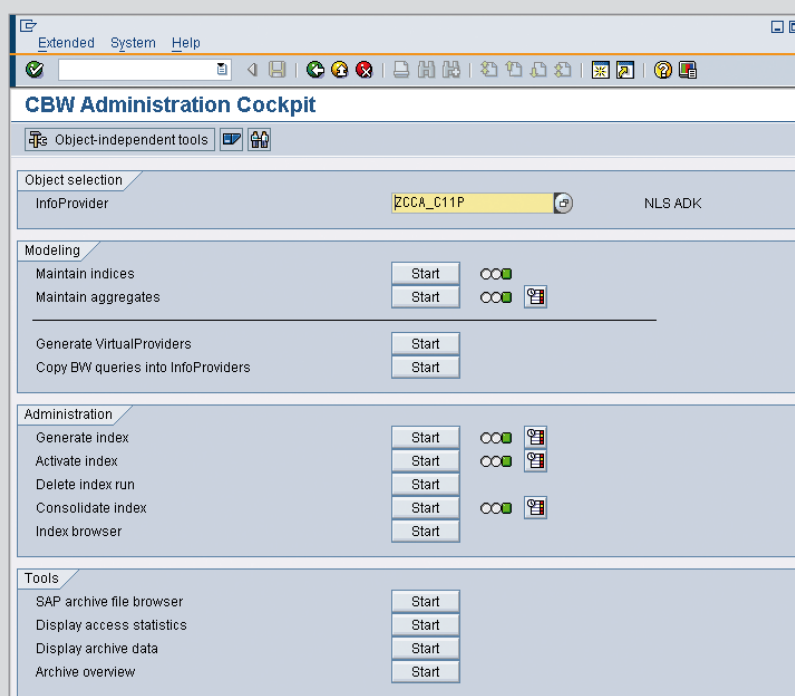


Fig. 9: Initial screen of the PBS CBW Administration Cockpit that is used to carry out all tasks for an ADK-based archive solution. The main components are the modeling and generation of archive aggregates and indices. From release 7.0, functions for the combination of the ADK-based solution with the Sybase IQ server are included.

Nearline System with Sybase IQ with ADK or in Combination

With PBS CBW solutions customers can choose if they want to carry out their BI archiving concept either with the external nearline system Sybase IQ, or purely ADK-based. This section should help you to make this decision. First, the following questions should be answered:

How much disk space do you use for InfoCubes, DSO and PSA data which is to be archived?

How many queries have to be available for user access to archived InfoCubes?

What response times should queries have?

Is a compliant archive necessary?

Figure 10 gives you a hint which PBS solution is most suitable for dedicated requirements.

If mainly large DSO tables are to be archived for which ad-hoc access is of minor importance, and if query accesses to archived InfoCubes do not have a dominant role, the usage of a purely ADK-based solution should be considered.

For a very large data volume, e.g. 100 million or more entries in the fact table, and a need to frequently access this data with many ad-hoc queries, we recommend Sybase IQ as external nearline system. In this way you can access the nearline data immediately after archiving via BI queries without modeling of aggregates or indices and with very short response times. The Sybase IQ server is highly scalable and can also process very large data volumes in an appropriate period of time. A high availability concept is also available.

The PBS solutions that support the analytics server Sybase IQ also contain the complete ADK-based functionality. Thus, both procedures can be combined in an ideal way. Large DSO tables can be archived, for example, using the SAP ADK technique whereas large InfoCubes with many queries can be transferred to the nearline section of Sybase IQ. PBS also provides special services for loading an ADK-archived InfoCube to the analytics server Sybase IQ at any time for fast evaluations. This process is used, for example, to populate the IQ in release 3.5.

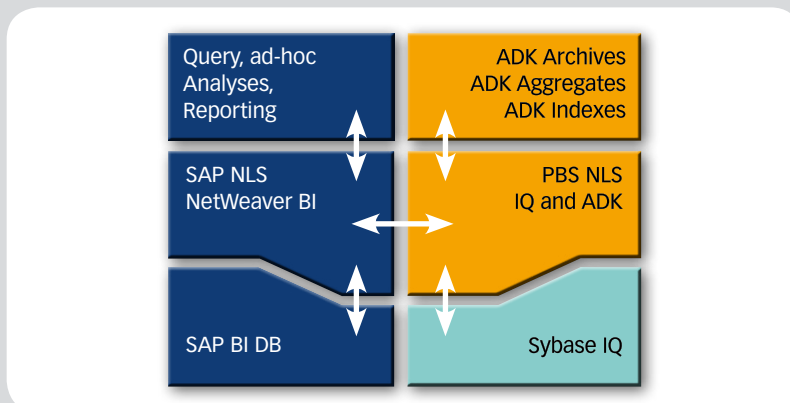
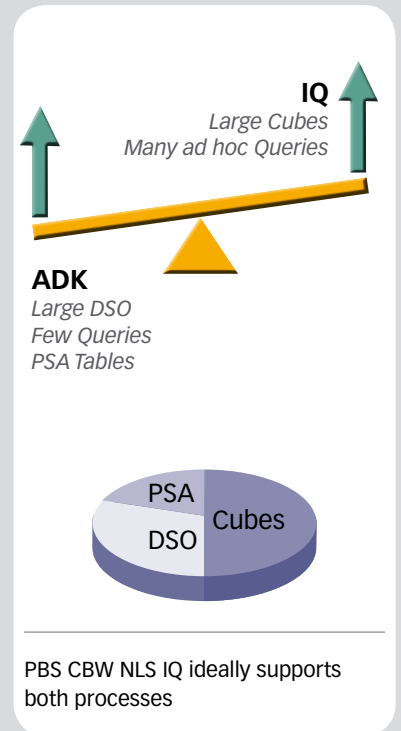


Fig. 10 and 11: The diagrams illustrate the suitable use of a rather ADK or a purely nearline oriented concept. Both methods can be combined when using the PBS solutions. The nearline solutions for Sybase IQ also contain the ADK-based functionality.

Benefits of PBS Nearline Solutions in Overview

The PBS nearline solutions for SAP BI 3.x and 7.x provide many functions that clearly exceed features which are certified by SAP. The individual PBS functions are listed below in a table with their scope and release dependencies.

Function	PBS CBW NLS IQ BI 7.0	PBS CBW NLS BI 7.0	PBS archive add on CBW BI 3.x	PBS archive add on CBW IQ BI 3.5
Support of the SAP NetWeaver BI 7.0 NLS interface	■	■		
Support of the classical SAP ADK data archiving (3.x and 7.x)	■	■	■	■
Support of non-unicode and unicode systems	■	■	■	■
Solution is SAP-certified	■	■	■	
PBS nearline interface for external nearline system Sybase IQ	■			■
Highly compressed, column-based data storage in nearline system Sybase IQ	■			■
PBS nearline interface for SAP standard ADK archive without external system	■	■		
Compliant storage of archive data via SAP ArchiveLink	■	■	■	■
Reloading via SAP NearlineProviders from external nearline system Sybase IQ	■			
Reloading via SAP NearlineProviders from SAP ADK archive	■	■		
Updating from external nearline system via SAP NearlineProviders	■	■		
Updating from external nearline system via PBS VirtualProviders	■			■
Updating from external nearline system in aggregated form	■			■
Updating from SAP ADK archive via SAP NearlineProviders	■	■		
Updating from SAP ADK archive via PBS VirtualProviders	■	■	■	■
Queries to archive/nearline data via SAP NearlineProviders	■	■		
Queries to archive/nearline data via PBS VirtualProviders	■	■	■	■
Queries to archive/nearline data via customer-specific MultiProviders	■	■	■	■
Queries integrated from BI database and nearline system/archive	■	■	■	■
Support of navigation attributes in queries	■	■	■	■
ABAP API for access to nearline system Sybase IQ	■	■		■
Conversion of customer-specific ABAP programs for archive/nearline accesses	■	■	■	■
Archiving of PSA tables in highly compressed ADK archive file	■	■	■	■
Updating from PSA ADK archives	■	■	■	■
Archiving of PSA tables in external nearline system Sybase IQ	■			■
Updating from PSA nearline archives Sybase IQ	■			■
Subsequent loading of existing SAP ADK archives in nearline system IQ	■			■
Monitoring of nearline system via BI transaction	■			■
Optional creation of ADK-based indices and aggregates	■	■	■	■
Central administration tool to generate archive indices/aggregates	■	■	■	■
Automatic generation of VirtualProviders	■	■	■	■
Automatic generation of MultiProviders	■	■	■	■
Automatic integration of VirtualProviders in existing MultiProviders	■	■	■	■
Data browser for archive/nearline and database data	■			■
Adaptation of existing EXCEL workbooks to archive/nearline access	■	■	■	■
Support of archive/nearline accesses via Analysis Process Designer (APD)	■	■	■	■
Transport of Customizing settings from test system to production system	■	■	■	■
Generation of data extracts for tax audits (GDPdU)	■	■	■	■
Documentation in German and English	■	■	■	■

Analysis of the BI Database

An important question before starting data archiving is:

How can you determine the savings potential of a BI data archiving before starting it?

Using the PBS BI Database Analyzer you can easily identify the largest InfoProviders with the most disk space consumption. Figure 12 displays a hit list with the disk space usage of indi-

vidual InfoProviders as a result of the BI analysis run. Executing further refined analyses you get more information about the number of InfoProvider data that can be archived.

The PBS BI Database Analyzer is an effective tool for determining the archiving potential in SAP BI systems. The analysis results can be used directly for a calculation to reduce operating costs.

The screenshot shows the SAP Capacity display BW InfoProvider tool. It displays a summary of the analysis results and a detailed hit list of InfoProviders. The summary includes the following information:

- BW ANALYZER: Disk space occupancy of BW InfoProviders
- Capacity run no.: 0031 of 28.01.2009
- Time: 14:46:16
- Date: 12.02.2009
- test1
- Total capacity (DB): 29.060.368 KB
- InfoCube analyse type: Fact and dimension tables
- PSA analysis type: Only current version
- Page: 1
- InfoCubes: analyzed
- Total fact/dimension tables (DB): 6.646.928 KB
- DataStore objects: analyzed
- Total data in DataStore objects (DB): 13.145.384 KB
- PSA tables: analyzed
- Total PSA tables (DB): 9.268.056 KB

The hit list table below shows the following columns: DAP-Name, InfoCube, Name InfoProvider, Size (KB) Fact table, and Size (KB) dim. tables.

DAP-Name	InfoCube	Name InfoProvider	Size (KB) Fact table	Size (KB) dim. tables
InfoCubes				
ZCCA_P21S	ZCCA_P21S	Costs and Allocations: 1E7 (IQ SUN Sparc	580.552	664
	ZCCA_P21Z	Costs and Allocations: 1E7 (IQ SUN Sparc	567.288	664
	ZCCA_P21B	Costs and Allocations: 1E7 (IQ SUN Sparc	545.896	664
ZCCA_P_J4	ZCCA_P_J4	Costs and Allocations: 1E7 (IQ SUN Sparc	545.896	664
ZCCA_P21T	ZCCA_P21T	Costs and Allocations: 1E7 (IQ SUN Sparc	541.816	664
	ZCCA_P21	Costs and Allocations: 1E7	540.768	664
	ZCCA_P21M	Costs and Allocations: 1E7	540.768	664
	ZFIGL_P2R	General Ledger: Transaction Figures	403.880	240
ZCCA_P_J3	ZCCA_P_J3	Costs and Allocations: 1E7 (IQ SUN Sparc	364.408	664
ZCCA_P_J2	ZCCA_P_J2	Costs and Allocations: 1E7 (IQ SUN Sparc	161.640	664
	ZCCA_P11P	Costs and Allocations: 2E6	111.368	664
	ZFIGL_P1R	General Ledger: Transaction Figures	84.096	240
	ZCCA_P11	Costs and Allocations: 2E6	72.616	664
	0CCA_C11	CO-OM-CCA: Costs and Allocations	40.256	664
	ZCCA_C11B	CO-OM-CCA: Costs and Allocations	40.256	664
ZCCA_C11D	ZCCA_C11D	CO-OM-CCA: Costs and Allocations	39.680	664
	ZCCA_C11E	CO-OM-CCA: Costs and Allocations	38.688	664
	ZCCA_C11R	CO-OM-CCA: Costs and Allocations	36.720	664
	ZCCA_P21V	Costs and Allocations: 1E7 (IQ SUN Sparc	30.672	664
ZCCADEMO	ZCCADEMO	CO-OM-CCA: Costs and Allocations (NLS IQ	27.304	664
ZCCA_C11Q	ZCCA_C11Q	CO-OM-CCA: Costs and Allocations (NLS AD	27.304	664
ZCCA_C11T	ZCCA_C11T	CO-OM-CCA: Costs and Allocations	24.984	664
ZCCA_C11N	ZCCA_C11N	CBW (DB+NLS IQ) Costs and Allocations	16.736	664
ZCCA_C11P	ZCCA_C11P	CO-OM-CCA: Costs and Allocations	16.736	664

Fig. 12:

The diagram displays the result of an analysis using the PBS BI Database Analyzer. The hit list displays immediately the InfoProviders that are suitable for data archiving. The utility also allows refined analysis for a dedicated planning of an archiving project.

Supported Platforms

The ADK-based solutions PBS archive add on CBW and CBW NLS can be implemented in all SAP BI environments.

The use of PBS archive add on CBW IQ and PBS CBW NLS IQ is possible on the following operating system platforms for Sybase IQ in combination with any SAP BI infrastructure.

Operating System (Platform)	
IBM AIX 5.3 64 bit	
IBM AIX 6.1 64 bit	
HP-UX 11.23	(PA-RISC 64 bit, IA64)
HP-UX 11.31	(PA-RISC 64 bit, IA64)
RedHat EL4	(X86_64 64 bit, POWER 64 bit)
SUSE SLES 9	(X86_64 64 bit, POWER 64 bit)
SUSE SLES10	(X86_64 64 bit, POWER 64 bit)
Sun Solaris 9	(SPARC)
Sun Solaris 10	(SPARC)
Sun Solaris 10	(X86_64)
Microsoft Windows Server 2003	(X64 64 bit)

Table 3: PBS CBW NLS IQ – supported platforms for the analytics server Sybase IQ

Reduction of Operating Costs

PBS nearline solutions can significantly reduce the operating costs of an SAP BI installation. Factors such as data compression, storage technology, and performance play a major role.

If BI data is removed with the SAP data archiving process, it can be stored in the form of SAP ADK files or in the nearline server Sybase IQ. In both cases, the data is stored in highly compressed form which saves disk space. The compression rate is often taken into account for the quantitative calculation of the savings potential and can easily exceed 90 percent. This applies both for ADK archiving and archiving in Sybase IQ.

Example calculations for cost savings can easily be made for outsourced BI systems. In this case, the operating

costs are generally settled via a price per gigabyte and month. If you have for example a price of 10 Euro per gigabyte and month, the calculation below can be made, see table 4.

This example calculation clearly illustrates the savings via BI data archiving.

The use of the analytics server Sybase IQ has the additional advantage that queries on nearline data are evaluated very fast. You gain disk space and at the same time, you have an improved query performance.

By adapting the parameter "Total size of BI system" and "Costs per month" you can easily carry out a calculation in your own system. The cost savings increase the more data is archived from the BI database.

	Size	Costs	Size	Costs
Initial size of BI system	1.5 TB	180,000 Euro	10 TB	1,200,000 Euro
Disk space of archivable data	- 500 GB	- 60,000 Euro	- 3 TB	- 360,000 Euro
Disk space for nearline data (calculated with 80% compression)	+100 GB	+ 12,000 Euro	+ 600 GB	+ 72,000 Euro
Total size BI after archiving	1.1 TB	132,000 Euro	7.4 TB	888,000 Euro
Cost savings per year		48,000 Euro		312,000 Euro

Table 4:

Assumptions: Pure operating costs for one gigabyte per month: 10 Euro
The BI system is not mirrored

PBS Licensing

The PBS license model depends on the total amount of "named SAP BI users". We offer a hotline support to customers with a maintenance contract.

Customers who purchase licenses of PBS nearline storage solutions with Sybase IQ receive one contact for the complete solution bundle. This means that the PBS hotline support also covers Sybase IQ related topics.

PBS focuses on the software development. We cooperate with many partner companies for implementation and consulting services. Most partner companies also provide PBS software licenses and first level support. You can find a complete partner list on our website at www.pbs-software.com/Buy/Partnerships.



PBS Software GmbH

PBS Software is a leading provider of add-on software for SAP solutions in the areas of data archiving, extraction and storage as well as system retirement. For many years PBS has been considered as an expert for complex, integrated data accesses to archived or nearline data in SAP applications. In addition to classical SAP data archiving the extensive PBS solutions also support the SAP BI-specific nearline storage concept that enables completely

new ILM application scenarios together with the column-based analytics server Sybase IQ.

PBS develops pragmatic ILM tools in close collaboration with SAP and supports the new SAP ILM solution as SAP Software Solution Partner.

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