Allevo Business Client (ABC)

ALLEVO

User Manual

Effective from Allevo 3.5

Enter SAP Plan Data easily via Excel

In the "traditional" application of Allevo, a transaction is called in the SAP system and the Allevo Master is opened via the Excel planning interface. The complete integration of Excel in SAP-ERP is called „Inplace" mode (see detailed documentation in the manual "Allevo & SAP").

Alternatively, the Allevo Master may also be called outside SAP, whereby the same planning features are available as for the application within SAP GUI. The required connection to the SAP system is established by an Excel AddIn. This may serve to read necessary reference data or store plan data in SAP. You will find these features under the "SAP" icon in the ribbon "Navigation" on the side of Excel.

All program features required for this way of working are summarized under the term "Allevo Business Client" (short "ABC"). ABC is installed on the planner's windows work center as an independent application.

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1 Starting Allevo Business Client (ABC)

There are two options available to call the Allevo Master in ABC:

(A) Starting ABC via Panel

In this case, an upstream program controls the call of the Master; it is as usually called via the Windows start menu or via the desktop icon on the user work center. A selection window opens (the "Allevo panel") containing all selection possibilities required to work with an Allevo Master (e.g. specifications on layout and object data).
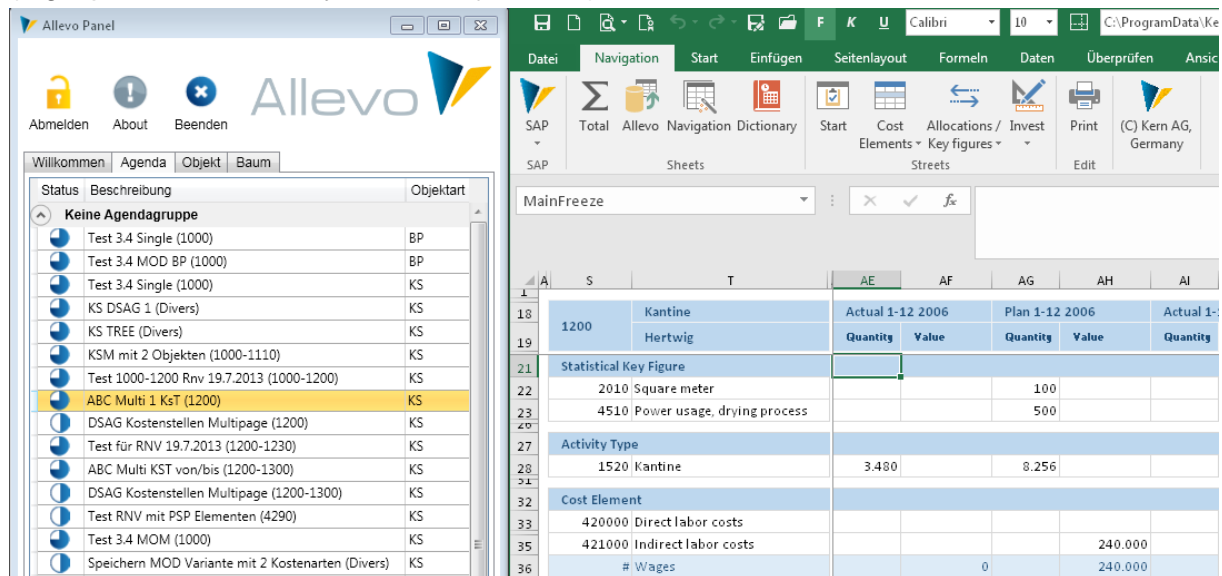

Figure 1.1: ABC with panel to start the Allevo Master

This way, the panel takes over the same functions as the usual Allevo planning transactions in the SAP system and also for example the login at the SAP system. In the panel, the planner finds all layouts created for Allevo and possibly also his entries in the agenda: Excel is started and opens the selected Master. The AddIn stored here undertakes further data exchange with the SAP system.

Advantage of this variant: advanced Allevo features are available, such as access to the agenda. The overview will be maintained also if the planning process requires using multiple different Allevo Masters.

(B) Starting ABC in the Document Mode

Optionally, the Allevo Master may be started directly like any other Excel file; e.g. by double-clicking or via link in a portal. Login at the SAP system is performed via icon "SAP" in the ribbon "Navigation". This ABC variant will further be referred to as "document mode".

Advantage of this variant: Easy access, for example if using only one central Allevo Master. The planner may switch between objects as needed without leaving the called Master (possibly also switch to a different layout or different object type). Using this mode, also plan data that had been entered offline may be uploaded.

Integration

The ABC uses the same Excel Master as in the SAP Inplace mode. In general, even a parallel use is conceivable but may, for organizational reasons, be little useful.

The login at the SAP system is user-specific also in the case of ABC: in that way, all SAP authorizations and consistency checks will be met.

ABC is in the first place intended to serve as alternative mode for the entry of CO plan data; thus for the work center of the planner. The Allevo-related Customizing (definition of layouts, constants…) is still being performed via the usual Allevo transactions on the side of SAP.

1.1   Installation Requirements

ABC supports the current work center installations of MS Excel in the versions 2007 to 2016 as 32 and 64 bit version (Excel 2007, however, only in the ABC document mode).

Data exchange with the SAP system is performed independently from the SAP GUI via an RFC connection. Here, ABC uses features provided by the "SAP .NET Connector 3.0" (included in the ABC installation kit).

The connector in turn uses the „.Net Framework 4.0 Extended Version", which consequently needs to be installed on the user PC: all computers using Windows 7 meet this condition, for older windows systems, the framework may be installed afterwards (related files are provided as free download by the Microsoft support).

The NET Connector 3.0 does not use any SAP GUI functions; their installation or version is therefore irrelevant. The ABC itself uses XLL AddIns based on „Excel DNA"; in that way, neither the installation of VSTO and PIAs is necessary (relevant data are included in the delivery package).

ABC supports common solutions for "Single Sign-On" (SSO) via the features of the SAP .NET Connector. A requirement for SSO is the application of Secure Network Communications (SNC) technologies, such as SAP NetWeaver Single Sign-On based on SECUDE technology (based on Kerberos or NT LAN Manager /NTLM authentication). If needed, please contact our support to set the required configuration parameters.

For access to the SAP ERP system, corresponding RFC authorizations must be stored (see section 3.7).

1.2   Differences when Calling via ABC and SAP Inplace

Both procedures use the same Allevo Master. However, there may be small differences in the sequence of executing VBA macros.

Both versions can display the object hierarchy as tree: here, differences lie mostly in the control and arise from the applied technology. However, the ABC tree also offers additional functions, such as calling MOD via a tree branch.

2 Use of Allevo Business Client

2.1 Overview and Special Features

The ABC may be called via panel or directly via the Allevo Master: depending on that, there are a few additional specifications required in the Customizing (see sections on the Customizing at the end of this documentation).

Differences from the Inplace mode result mainly from technological differences: for example, the journal table entry is displayed completely on the side of Excel. As a result, there is no branching available to SAP source documents, which is, in the Inplace mode, performed by calling the corresponding SAP transactions. However, the same columns are available for selection in the ABC journal table entry as with Inplace: relevant columns may be stored here in an ALV variant; in case of ABC, irrelevant columns may be hidden using corresponding entries in the Customizing.

ABC was developed to serve as planning interface independently from the respective system environment: whereby there is of course a Windows interface required via the incorporated Excel functions.

A few basic operating functions:

- Following equivalent SAP functions, a selection help may be called via function key F4 (e.g. calling a list of objects such as cost centers).
- You may select multiple entries by using the Ctrl or Shift key, as it is common in Windows.
- Selected entries may be adopted to the relevant entry field separated by semicolon.
- The search in entry fields is supported by placeholders '*' and '?'.

The ABC may be called in two ways:

- Start as independent application from the planner's Windows work center (e.g. via desktop icon). First, a selection window offering all control functions to easily access the Allevo planning Masters stored in the SAP system opens (panel).
- Depending on the system environment (e.g. in portal), it may also be beneficial to include the Allevo Master just like other Excel files or templates and start it directly via the file (possibly also simply by double-clicking). This "document mode" considers also the special case of offline planning: if the planning file already contains data for one or more planning objects that shall only later be transferred to SAP.

Depending on the ABC mode (with panel or document mode), operating functions differ slightly, as described in the two following sections.

After login at the SAP system, the PopUp "About" displays the currently installed ABC program version as well as the Allevo modules in the SAP system. Also the ABC log file (execution log) may be reached from here as well as program and server configuration files may be displayed.

2.2 Language and Translations

The ABC is available in English and German. The integrated dictionary functions are available in the Allevo Master.

This dictionary may optionally be used to label ABC-specific icons during navigation. Example for reading reference data:

Index	E	D
4	Reading data	Referenzdaten lesen

The translation will of course only be active upon loading the master.

2.3 Login at the SAP System

ABC offers central features for the login at the SAP system via icon "Login/Logoff". Depending on the starting mode, the icon can either be found in the panel or via an additional icon "SAP" in ribbon "Navigation".

In the second case, the following login dialog opens:

Figure 2.1: Login at the SAP system

You may choose between any SAP system provided by the Customizing:

- Depending on the starting mode, specifications must be stored in the customizing sheet of the Allevo Master (document mode).
- Or optionally in the ABC configuration files (see note on the Customizing below).

Without explicit input, all SAP systems from the SAP Login will be offered for selection (the delivered ABC configuration file is provided for this purpose in the panel version, see notes in chapter 4).

Since only single SAP systems are usually relevant for working with Allevo, it is recommended to provide a limited selection in the Customizing of ABC.

Login at the SAP system is always user-specific, with SAP user name and password. In that way, all SAP authorizations are met.

Also the list containing available languages is provided by the ABC Customizing. The language of the current Windows login will be suggested. The entry covers several functions:

- The selected language is transferred to the SAP system, defining, for example, the language for reading texts.

- This specification also controls the further text display in the ABC user interface (for example within the login dialog itself). Texts for languages English and German are available here, with certain restrictions also for French. For other languages, the ABC user interface automatically switches to English texts.
- In ABC Customizing, the language may be entered along with an information on the region. This may be useful to perform automatic conversions before transferring data to SAP (e.g. if numbers shall be entered into a field defined as a general field in the satellite).

2.4 Calling SAP Interface Features

When working with ABC, the icon „SAP" appears on Excel side in the ribbon „Navigation", providing all features for data exchange with the SAP system.

> **Note:** In previous ABC versions, there was a separate ribbon „Allevo" for calling SAP interface features. These are now sub-items of navigation: switching between two different ribbons is thereby omitted.
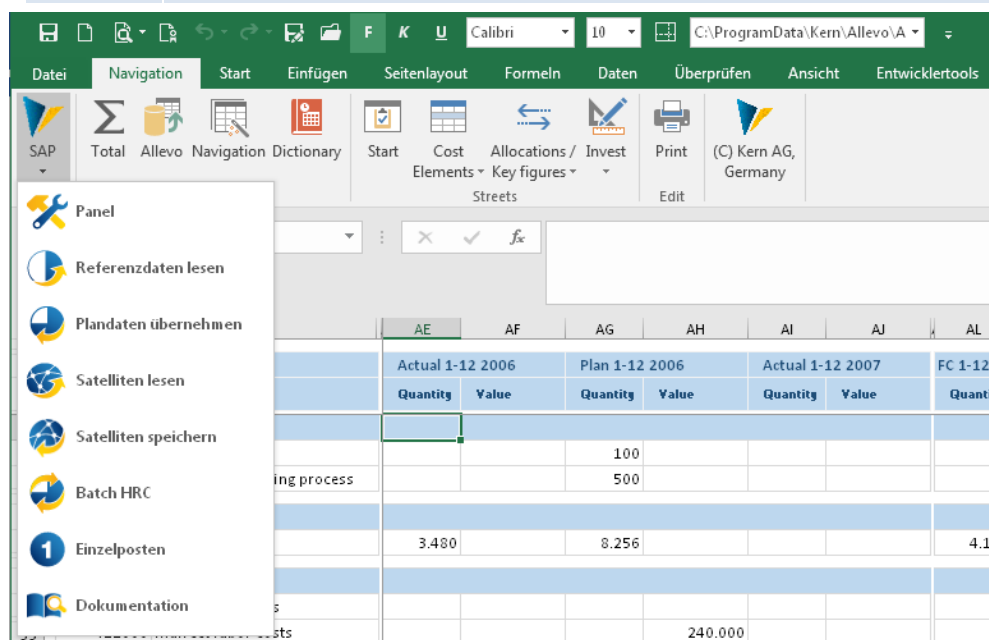

Figure 2.2: Calling SAP interface features via the ribbon „Navigation"

The available features are equivalent to those provided by the SAP user interface in the Inplace mode. These are described in detail in the Allevo SAP manual. Which features are available, depends on the respective application case and is controlled via the corresponding constants on the side of SAP (also button texts are adopted from here).

The following special features are primarily resulting from technological differences:

- The ABC journal entry table is displayed completely on the side of Excel. In that way, there is no branching to SAP source documents available, as is possible in the Inplace mode by calling corresponding SAP transactions. In general, however, the same information/columns are provided as in the Inplace mode: you can show or hide relevant columns using corresponding entries in the Customizing (see corresponding notes in section 4.5 further below).
- Use the icon "Save as" in order to save the current Master with the actual reference data as Allevo-specific offline file. This function is also executed when calling the Excel standard

features for saving: the stored Excel original function is thus being redirected. By selecting different objects, multiple offline files may be created subsequently.

- "Save as" may also serve to create a PDF file in the Inplace mode. This feature is currently not available in the ABC.
- Currently, you may only import offline files in the ABC document mode (double-click on the corresponding file and then repeat login).
- The constants BUTTON_CUST1 and BUTTON_CUST1 may serve to include client-specific ABAP features in the Allevo planning interface. These features may also be used in ABC via an entry in the Customizing of the Allevo Master (see figure below, table "Navigation", you may have to assign suitable icons). However, there are certain restrictions when calling ABAP features. These are described in the documentation on the constant (e.g. no PopUp functions).

Custom Button

SheetName	Caller	Icon	MacroName	Caption
Allevo	Main01		CallCustom1	Label

2.5 Starting ABC via Panel

This mode is used to start an independent application on the planner's Windows work center (e.g. via desktop icon, program "AllevoPanel.exe"). This panel offers various features to easily access planning layouts stored in the SAP system and select the required objects (such as cost centers).
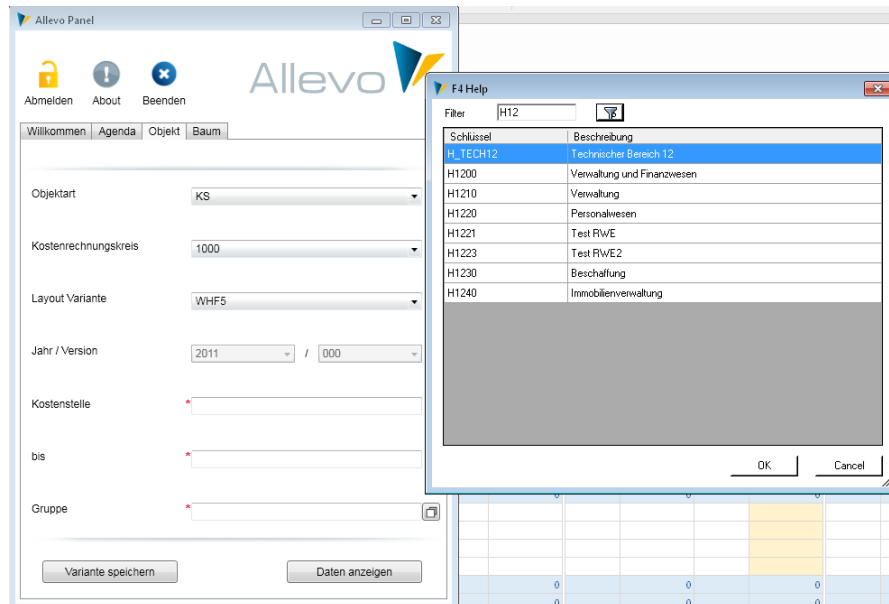
Figure 2.3: ABC panel including object selection and F4 value documentation for group

Log in at the SAP system is performed via icon „Login/Logoff) as described above.

Several panel features require an ABC-specific Customizing described below. The most important features are included in this overview:

- The "Welcome" tab in the panel displays a HTML text, which may for example serve as introduction for the user. This text is client-specific and may therefore also refer to planning contents and not only to Allevo features.

- Under "Agenda", you will find client-specific entries stored within the equivalent Allevo feature on the side of SAP (see detailed documentation in the Allevo SAP manual). Using the agenda is especially recommended for recurring planning tasks.

Status	Description	Object Type	Organisation	Year	Layout
	Company (Tree) (H1)	KS	1000	2015	TREE
	Services (Tree) (H1010)	KS	1000	2015	TREE
	Turbine 301 (T-20301)	PR	1000	2015	ABC

Figure 2.4: Agenda including ABC panel

An agenda entry usually contains all information to directly edit planning objects. Upon double-clicking on one of the rows, Excel is directly started and the Allevo Master is loaded including the stored objects. The agenda may optionally contain text positions that may serve to, for example, describe tasks outside Allevo: tasks may be completed directly via the context menu (possibly, all stored objects will receive status "04").

- Entries on the tab "Object" correspond to the selection characteristics available also for Allevo inplace planning transactions. For further details, see section 2.7 below.

  Use tab button "Show Data" to start Excel and load the Allevo Master for objects from selection screen. If the horizontal representation is active for objects in the selected layout, the panel will automatically switch to the last tab.

- Tab "Tree" allows to select objects for given hierarchy, which may result from a group that had been entered in tab "Object" before (for details see section 2.9 below).
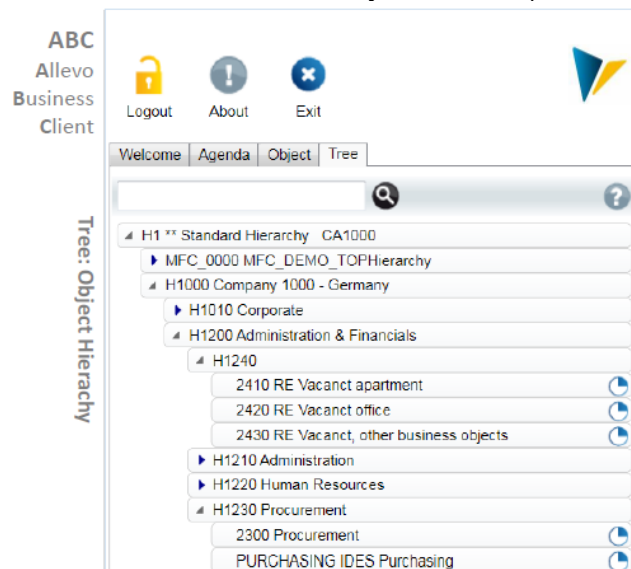
Figure 2.5: Tree with ABC panel

- Upon calling a new object (e.g. planning of a cost center), ABC checks if Excel is already started with the required Allevo Master: possibly, only data in this Master will be reset. This normally leads to the program running faster. Exceptionally, however, it may be useful to reload the Master for each object change (see system parameter).
- Close the panel using the icon "Exit". ABC simultaneously closes the Master that was last open. If this Master is the last open Excel sheet, Excel itself will be closed.

No matter the way that layout and object have been selected in the panel: the ABC will load the corresponding Allevo Master from SAP-BDS or via a file path as stored in the layout on the side of SAP (see corresponding constants BDS_ENABLED and FILE_ENABLED). Therefore, exactly the same Master as in the SAP Inplace application will be used (there are no further settings necessary in the Master, only the version of the stored VBA code must match the ABC version).

On the side of Excel, the icon "SAP" will then be available in the ribbon to call features for data exchange with SAP (see notes above). Using the icon of the same name, the panel may be brought back to the foreground at any time in order to, for example, select a different planning task.

The language used for calling the panel is the same as for Windows login. Currently, only EN English, DE German and FR French are supported. For FR, you need to consider that the Allevo Master and the ABAP component are by default only available in EN and GE; this may result e.g. in messages being displayed in another language.

Note:	Due to technical restrictions in Excel version 2007, the panel may currently not be used in this version. Please check for an update to a newer Excel version or call of ABC in the document mode.

2.6 Starting ABC in the Document Mode

In this case, the Allevo Master is started via the Excel file itself (e.g. simply by double-clicking). Advantage: the Master may be included in the present system environment just as other Excel files or templates. All features for connection to the SAP system may be accessed via icon "SAP" in the ribbon "Navigation".
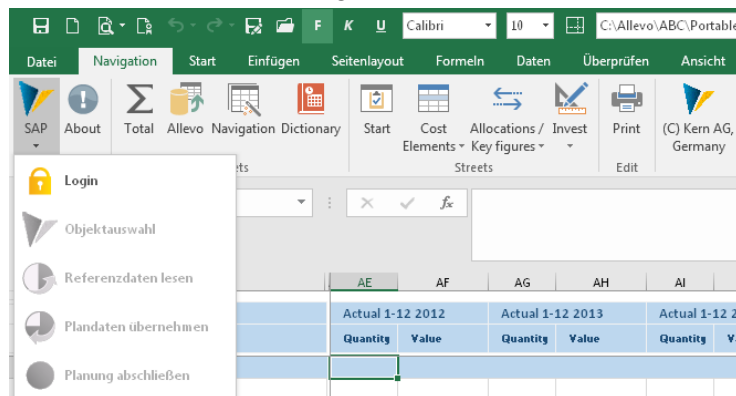
Figure 2.6: Login via icon "SAP" when starting in document mode

Important: an AddIn loaded automatically when starting the Master is responsible for the display of the icon "SAP". Requirements are described in section 3.4 and 4.2.2 (e.g. specifications on ABC parameters in the customizing sheet of the Master).

The list of features additionally contains a comparison of supplementary elements for the call via panel:

- *"Login / Logout":*

  Login at the SAP system is done as described above.

- *Object Selection*

  Only if login was successful, you may select the entry "Object selection": see description on the features in the next section 2.7.

A special feature is the specification on the layout: first, the Customizing of the current Master is searched for entries. If these entries are missing, the ABC will display all layouts stored in the SAP system (therefore, controlling via the Customizing in the Master should normally be preferred).

Note:	In some ways, the usual logic for calling the Allevo user interface has been reversed here: instead of accessing the Allevo Master from the layout direction, the Master itself is the controlling element now.
	Consequently, the Master should provide an information about the layout that it is intended for. These specifications are stored in the Customizing sheet (see section 4.2.3)

- *Icon "Treeview"*

  This icon only appears if constant OBJ_SEL_IN_EXCEL is active in the selected layout. Object selection may then be performed using a hierarchical display in the tree (see section 2.9 below).

- *Icon "Save as"*

  The current Master containing the read reference data is saved as Allevo-specific offline file (see section 2.11)

HRC Specific Features

Two constants are especially relevant for the case that the additional module HRC is included (only applicable in the document mode):

- Via BUTTON_HRC_BATCH, the ABAC may process plan data for multiple objects simultaneously: all selected objects are then being processed one after the other, reference data are read and subsequently saved again (e.g. applicable for the automatic calculation of surcharges).

- Constant BUTTON_HRC_SAVE allows you to save data of the HRC additional module alone (not the plan data of the Allevo main planning)

All other features correspond to usual Allevo navigation.

Note:	Regarding the Allevo Master file format, please observe:
	Also for the start in the document mode, the Allevo Master should be available as normal Excel file (format XLSM) and not as Excel template (format XLTM). This rule mainly offers technical advantages (e.g. to find ABC AddIn) and applies especially when working with offline files that already contain SAP reference data.
	This XLSM file on the Allevo Master should also be provided with a write protection in order to prevent accidental overwriting by another user.

Multiple Parallel Allevo Masters

In general, ABC is intended for working with an Allevo Master (and in that way also login at the SAP system). If a second Master is opened by double-clicking, a message appears: „Working with multiple Allevo Master files in a single Excel instance is not supported".

In special cases, however, a simultaneous call of multiple Masters may appear useful (as multiple modes in SAP). The document mode supports this feature: simply enter additionally the path to the program Excel.exe in the link to the Excel template (for further details please consult the Kern support).

2.7   Object Selection

ABC offers a central feature to select relevant planning objects (cost center, order …). The call may be different depending on the ABC starting mode:

- In the ABC panel, the object selection is realized as tab.
- In the document mode, object selection is called via icon "SAP" in the ribbon "Navigation".

The following figure shows an example of the PopUp for object selection.
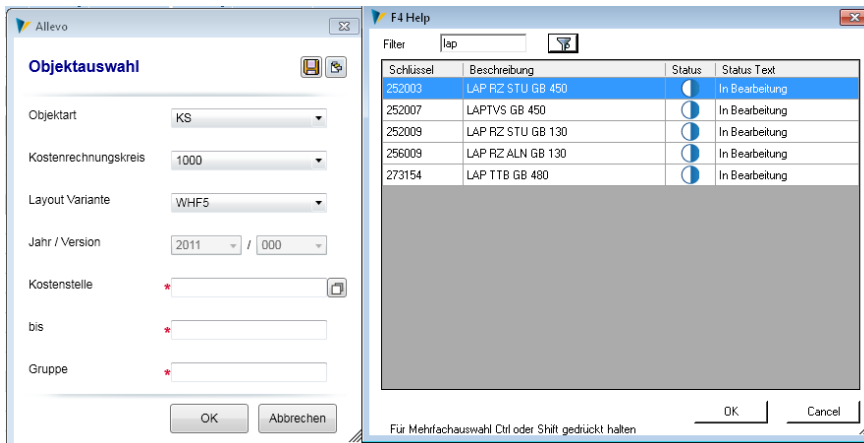

Figure 2.7: ABC object selection and F4 value documentation (document mode)

Selection lists regarding the object type, controlling area and possibly also company codes are directly adopted from the specific ABC Customizing in the Master: these indications therefore define the organizational units that the respective Allevo Master shall be used for.

Specifications on the year/version are usually adopted from the planning layout settings. The fields are only open for input to be entered if constants for the flexible version and year are active in the layout.

The object-specific selection characteristics correspond to those available in usual Allevo Inplace planning transactions. As always, the selected layout determines which entry fields are available.

All fields contain an F4 value help, as known from the SAP system (see figure above with list on cost centers). Characteristics:

- There is a full-text-search stored within the PopUp; execution of this search must be started manually.
- Clicking on the header modifies the sort sequence.
- Multiple selections are possible using the usual Windows features; these are being transferred to the actual entry field separated by semicolon.

The PopUp for object selection shows only such objects that are equipped with a valid Allevo planning status on the side of SAP. Multiple selections are possible here and can be transferred to the actual entry field separated by semicolon.

After confirming your selection with "OK" or by double-clicking on a row, the selected object will be transferred to Excel user interface. Normally, also reference data will subsequently be read from SAP. Exception: if the constant OBJ_SEL_IN_EXCEL_ is active in the layout, the tree will automatically be called for further object selection.

2.8 Call via Agenda

Variants of different Allevo planning transactions may be displayed in a general list per user. In Allevo this list of planning tasks is named "Agenda" and simplifies object selection for the user. Distinctions must be made by the type of call:

- If you start via panel, all agenda entries made so far are available for selection (see Figure 2.4: agenda with ABC panel). Double-clicking on a row starts Excel with the stored Allevo Master.
- In the document version, the Allevo Master represents the controlling element. Layouts to be used for the Master are usually stored here. Correspondingly, only agenda entries stored for these layouts are being offered for selection (see Figure Figure 2.7 with icon for calling the variant in the PopUp for object selection).

ABC additionally allows to save a current object selection for the further call as variant (see icon in Figure 2.7 or button „Save variant" when calling via panel, see Figure 2.3).

Agenda entries may be deleted via the context menu.

2.9 Tree with Object Selection via Hierarchy

ABC offers a central feature for the selection of planning objects (cost center, order …) via the stored hierarchy. This requires the constant OBJ_SEL_IN_EXCEL to be active in the layout: you may only then predefine a group or list of objects in the dialog "Object selection".

The call may be different depending on the ABC starting mode:

- In the ABC panel, the tree is realized as tab.
- In the document mode, the call is performed via icon "SAP" in the ribbon „Navigation" (see icon „Tree").

The following figure shows an example of the corresponding PopUp in the document mode.
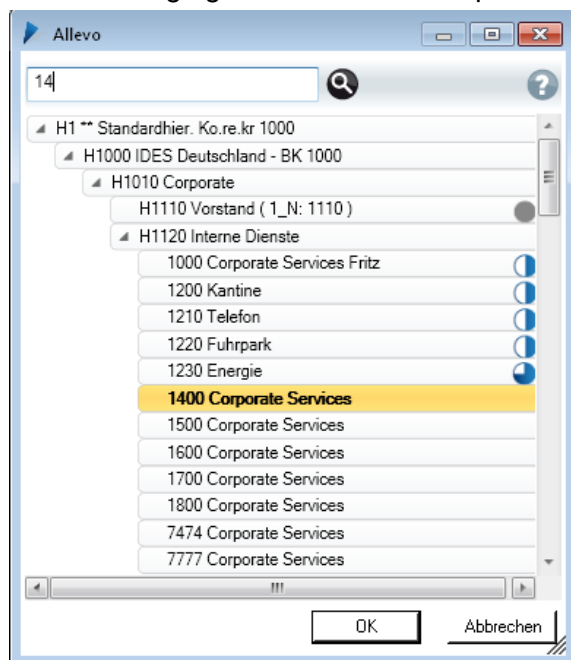

Figure 2.8: ABC Tree for object selection (here: cost centers)

As soon as there is status information available, the „progress" is symbolically displayed by a circle chart. The search function considers both object ID as well as descriptions. Double-clicking on a row opens the respective object or a subordinate group.

After confirming your selection with „OK", the selected object will be adopted in the Excel user interface. Normally, also reference data will subsequently be read from SAP. Upon selection of a group, Allevo automatically switches to the reporting mode (button „Save Plan Data" is not available here).

Note:	In Allevo Inplace, the same type of tree display is available via a macro as PopUp. See the notes in the Allevo SAP manual for further details.

2.10 Distinction Execution as Single, MultiPage and MultiObject

In the application of Allevo Inplace, the starting transaction defines, if the Single, MultiPage or MultiObject mode is used for working. Here, a Master may also be installed simultaneously for the call as Single or MultiPage (see corresponding flags in the Allevo layout settings).

Distinction using transaction codes is no longer possible when calling via an ABC. That is why layout settings must always clearly state the way of call performance. This means, only one button may be active, e.g. for the application of MultiPage: as a consequence, all entry fields appear in the PopUp of ABC object selection (object from/to with multiple selection and group).

From version 3.4, this type of execution is set by an explicit characteristic column „ABC mode" in master data on the Allevo layout. Only if there is no entry available here, ABC will search for an appropriate mode in the standard columns:

Figure 2.9: ABC relevant characteristics for layout master data

ABC also supports the reporting functions of a layout: the button "Save Plan Data" is generally not active then. For the features for "HRC Reporting" see the Allevo HRC manual.

2.11 Offline Data Editing

Also when working with ABC, an Allevo planning transaction may be stored locally (see icon "Save as" under icon "SAP").This allows offline planning on the basis of reference data that have already been read, therefore without connection to the SAP system.

Upon saving, Allevo remembers the object in the respective Excel file that data shall apply for (or multiple objects in the MultiPage mode). Reading reference data and transferring plan data is then possible only for this object; other objects may not be addressed via this offline file anymore (the icon for object selection is therefore no longer available after SAP login).

Note:	In this way, you might basically also generate offline data for each planning object and continue working with these data repeatedly.
	• Advantage: there might be specific auxiliary calculations stored here, which would be available again in the next planning run.
	• Disadvantage: these files always remain at the same level; innovations such as modification in the structure or for macros will not be adopted.

> Therefore, all offline data should be regenerated at least at the beginning of each planning run.

In order to finally adopt the values planned offline to SAP, you must re-establish a connection to the SAP system (see last section). Allevo automatically recognizes that data are already available in the Excel work sheet and directly adopts the corresponding object specifications to the object selection after confirmation.

> **Note:** If the Master has been signed for reasons of macro safety, ABC automatically adopts the signature to the saved Excel file. There are no further settings necessary.

2.12 ABC Version and Log File

Information on single Allevo modules may be requested via the Allevo icon "About".
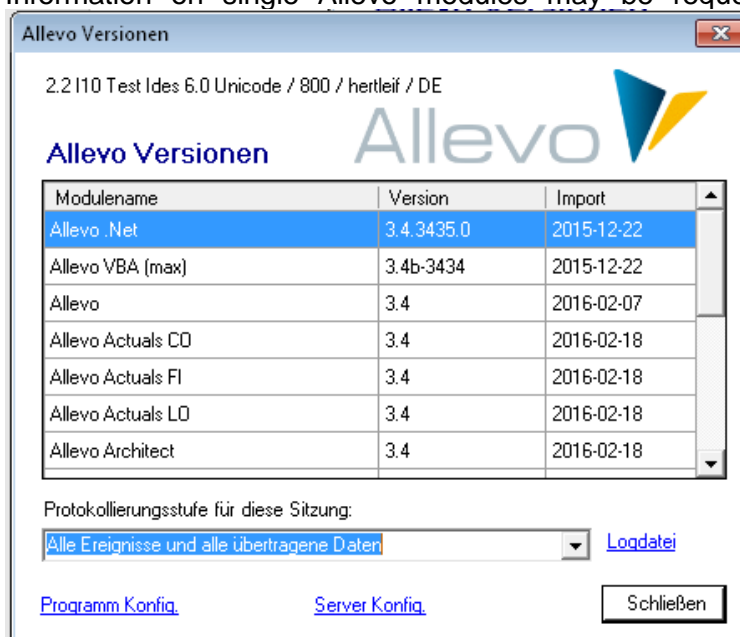
Figure 2.10: Allevo versions and log file

The links "Program Config" and "Server Config" allow to display corresponding configuration files, that are relevant for start of ABC via panel. Contents are described in section 4.3.

The ABC may generate a log documenting the most important program activities, e.g. for error messages or for data exchange with the SAP system (the latter option corresponds to features such as TAB2EXCEL or the constant TEST in the Allevo Inplace variant).

The log file is generated user-specifically in the directory "%PROGRAMDATA%\Kern\Allevo". The easiest way to display the protocol is the call via "Logfile" in the dialog "About".

The protocol is generated automatically if the corresponding control parameter "LogLevel" is active in the configuration file "Allevo.config" (see section 4.4 or reference "Program Config" in the dialog "About"). This LogLevel is read upon ABC call and may be adjusted temporarily in the dialog (e.g. for short-term analysis of error situations):
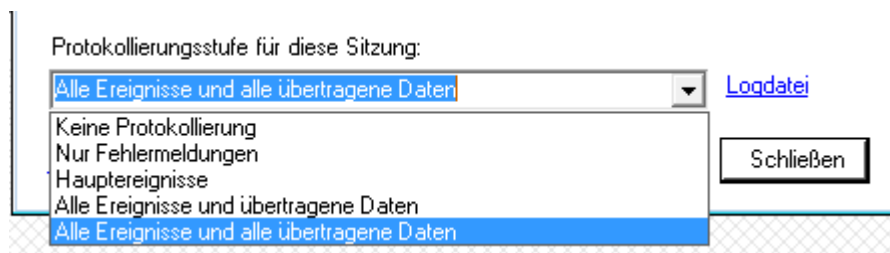
Figure 2.11: Allevo versions and log file

The following levels are available for selection (the indicated number corresponds to the entry in the file „Allevo.config“):

0   No logging (Log. is completely switched off)

1   Only error messages (Record entry of start environment and error situations)

2   Main events

3   All events and transferred data (complete data exchange with SAP)

4   All events and all transferred data (a great number of details for data exchange with SAP).

The standard entry in delivery version of „Allevo.config.“ is „1“, i.e. record entry of procedures at the start and of error situations. Modifications of the logging level are usually only required upon request by our support.

> **Note:**   The log file is continuously being filled, not only when closing Allevo. The higher the log level, the higher also the generated file, i.e. more data are being written. A high log level may therefore lead to performance loss in case of very slow network connections.

3 Installation Allevo Business Client

The Allevo Business Client comprises a main program for calling the panel and an Excel AddIn enabling e.g. data exchange between Excel and SAP.

Note:	The Excel AddIn is loaded only in combination with an Allevo Master: it therefore does not impair other Excel applications.

Belonging data are available in two installation variants:

(1) The MSI setup automatically checks system requirements, copies all required program files and makes all necessary settings. A public certificate is installed for the case that an Allevo with signature shall be used.

(2) A portable version is provided for smaller installations or workshops: it contains all program data in a common subdirectory. Contents are simply copied to the desired target system directory.

In the target directory of installation, the panel is immediately available and may be called via program "AllevoPanel.exe"; for variant (1) in addition via a desktop icon or entry in the Windows start menu. All other program files are also searched in the target directory of installation.

In other application cases (e.g. for offline planning or when starting by double-clicking on the Allevo Master) the path including Allevo program files must be known in order to automatically load the Excel AddIn with ABC features from here. Allevo uses a defined determination logic for this purpose, which will be described further below. Two characteristics are:

- In the simplest case (e.g. copy from Portable Version), the Allevo Master may be located right in the directory of program files: then, also the Excel AddIn will automatically be found there and loaded.

- As an alternative, a registry entry may be generated using program „Kern.Abc.Register.exe": this auxiliary program can also be found among the program files (please call „Register.bat" or „Unregister.bat"; the correct execution options are already stored here). For installation type 2) via the MSI setup, this registry entry is generated automatically.

3.1 MSI Setup

A MSI Installer Package is available for the installation of ABC under the following name: „KernAllevoBusinessClientSetup.msi".

The setup program checks all relevant system requirements and executes the following installation steps:

- Select target directory
- Selection of the following features
  - Installation of program files
  - Installation of components for HRC (optional)
  - Create Shortcut
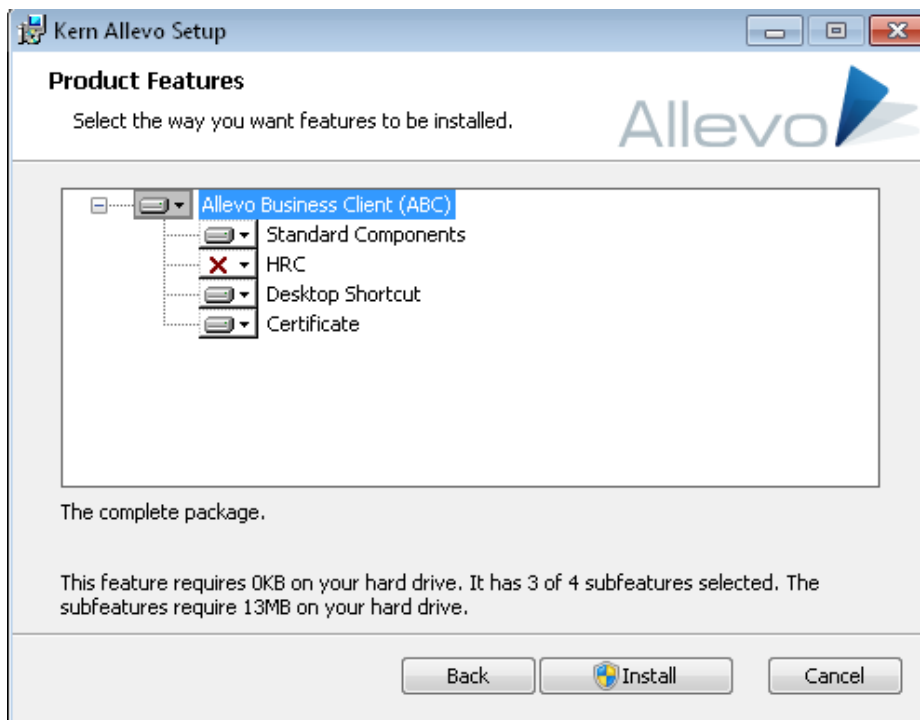 - Installation Kern certificates
- Final dialog

Figure 3.1: Product options in the MSI setup program

Kern certificates are of the type code signature; all program components are signed with this certificate.

The MSI setup automatically installs the ABC for all Windows users of the PC and needs administrator rights: these will be requested automatically if a user without administrator rights executes installation.

The setup automatically deletes old ABC installations and associated temporary files (in the ProgramData directory). User-specific configurations are in this way replaced by standard specifications.

Automatic Installation

The following parameters may be transferred for automatic installation on the level of the command line:

- „INSTALLDIR:" Installation directory of program files
- „INSTALLCERT:" Install Kern certificates („1" = yes, „0" = no).
- „INSTALLSHORTCUT:" Create link for the start via panel („1" yes, „0" no)

Note:	The last parameter determines if a link for panel call via the windows start menu or also via desktop icon shall be created. Such a link is indeed rather confusing for the document mode with start via Excel file.

The MSI setup file also contains several configuration files with standard settings: Allevo.config, SapServerCustomizing.xml and AllevoWelcome.html. Especially when using the panel, it is useful to adjust these files to individual requirements prior to installation. Modified configuration files must be stored in the same directory as the MSI file. For file contents see section 4.3.

3.2 Install Portable Version

This installation variant comprises a file folder including all program files, which may be copied into any directory on the user PC. The Allevo panel is directly started via „Kern.Abc.Panel.exe" here.

If you additionally copy an Allevo Master into the target directory and start the file by double-clicking (document mode), the Master will automatically load the ABC program files of this directory, e.g. the AddIn for login at the SAP system.

If the Allevo Master is located in a different directory, you need to make sure yourself it will find the ABC AddIn. To do so, execute the program „Kern.Abc.Register.exe" once: it will create an entry in the Windows Registry referring to the AddIn path. The detailed determination logic will be described in the following section.

Note:	If „Kern.Abc.Register.exe" is executed without administration rights, the program will create the Registry entry only for the current user. In this case, please ignore messages displayed in red concerning the „local machine".
	Upon program call via command line with parameter „/remove", all current ABC Registry entries are deleted (status is then the same as during the first call).
	The command files „Register.bat" and „Unregister.bat" are included in the delivery for the simplified call.

Especially for demonstration in the workshop, portable version may be delivered as component of an Allevo Master: associated program files automatically unpack upon double-click. All further Allevo features correspond to these of Portable Version.

3.3 Additional Feature for Allevo HRC

Features of the additional module HRC are only loaded if associated program files (beginning with HRC*) can be found in the program directory.

Depending on the type of ABC delivery (e.g. dispatch per email), these files may still be locked by Windows safety features. This prevents the HRC mode to be called: locks may be removed via the respective file characteristics or via program „Kern.Ab.UnlockFiles.exe".

3.4 Determination of ABC Addin in the Document Mode

Features provided by SAP in the Inplace Version of Allevo may be accessed in ABC via icon „SAP" in the ribbon „Navigation" (e.g. with all features of data transfer to SAP). The icon is active as soon as the belonging ABC Addin is found upon start of the Allevo Master (realized via file „SapAdapterDna.xll").

The following criteria will be checked when calling the Allevo Master in order to identify this file and corresponding path:

- Entry „AllevoAddinPath" in the extended Master properties
- Entry „AllevoTemplatePath" in the extended Master properties
- Search in the directory that the Master is stored and was started in (only possible with XLSM format, not with XLTM).
- Search for Registry key „AddinPath" under „ AddinPath" unter „HKEY_CURRENT_USER\Software\KernAG\AllevoSapAdapter"
- Search for Registry key „AddinPath" under „HKEY_LOCAL_MACHINE\Software\KernAG\AllevoSapAdapter"

The first valid path will be used. This important assignment may therefore be set up flexibly (depending on the customer requirements).

Searching is executed if there is at least one entry available in the section ABC on the Allevo customizing sheet.

Note:	The ABC Addin is only searched and loaded upon start of an Allevo Master. It stays active during working with Allevo: when leaving the Master, the AddIn will be removed.
	The Addin is therefore not active when working with different Excel applications.

3.5   Macro Safety

If Excel is installed for enhanced macro safety, certificates required for working with the Allevo Master are required, which may be installed manually or via the MSI setup.

In case that certificates are not installed, the user may also permit the execution of macros upon starting the Master (this is in contrast to the Inplace mode, where SAP hides the corresponding request).

3.6   RFC Connection: Technical Requirements

ABC uses SAP .NET Connector 3.0 to access data in the SAP system. For this purpose, an RFC connection is established in the background.

The .NET connector usually uses the Port 33xy (xy as instance number of the SAP system, e.g. „3300" for instance number „00") to establish RFC connections. This port must be activated also when calling ABC (or 48xy for SNC communication).

The ABC may adopt the required configuration parameters of the RFC connection from SAP Gui settings (if installed):

- By default, ABC searches for a file „saplogon.ini"
- From Allevo version 3.4, ABC additionally supports the new XML format introduced with SAP Gui version 7.4 (file SAPUILandscape.xml).

The files will be searched in the standard directory of local SAP Gui installation if no ABC specific parameters are indicated. Only a general server name for activation of the SAP login dialog must be entered (for details on the configuration see section 4.2.2 and 4.3.2).

3.7   RFC Connection: Required Authorizations

The ABC uses the SAP .NET Connector 3.0 to access data in the SAP system. Login at the SAP system is user-specific: this ensures that SAP authorizations and consistency checks are met also in the ABC mode. Corresponding features in the SAP system are implemented as Allevo own function modules that may be called via an RFC connection.

To give access via the RFC connection, there are, compared to the Inplace mode, a few additional authorizations required that need to be maintained for authorization object S_RFC. , Relevant information are described in SAP note 460089 (= Minimum authorization profile for external RFC programs). Information in topic "3. Call a function module using the dynamic repositories" are relevant for the ABC.

The following shows a short summary of function groups required for an authorization (entry in field RFC_NAME for the authorization object S_RFC):

- BAPT   Transaction Control for BAPIs
- RFC1   RFC-Utilities
- SDIFRUNTIME   Interfaces for type run-time objects
- SYST   System interface

- SYSU   RFC resource administration
- RFC_METADATA   RFC read meta data

In addition to the mentioned RFC minimal authorizations, the two following Allevo specific function groups must be authorized and in that way entered in S_RF:

- /KERN/IPPRFC   Allevo ABC RFC functions
- /KERN/IPPHRC_IFFG   Allevo HRC (when using additional module HRC)

The following figures shows an example.
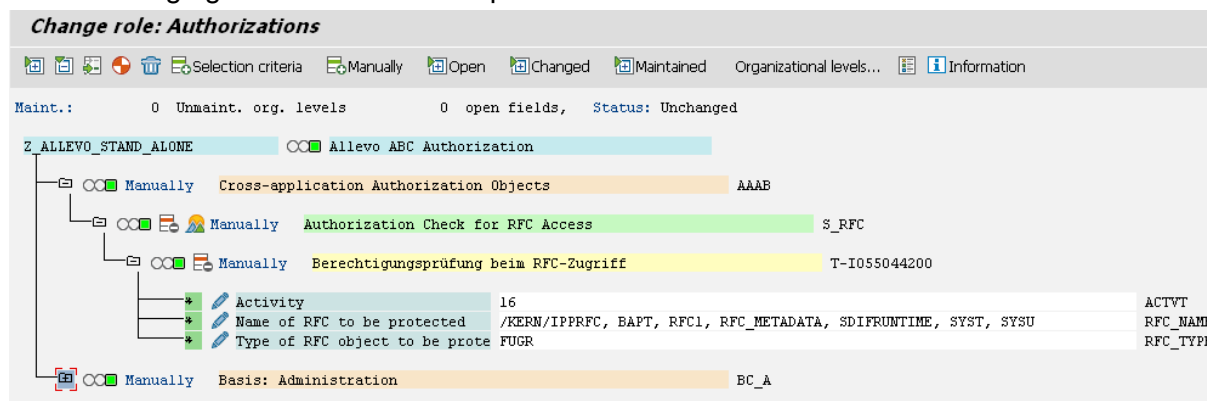
Figure 3.2: Required RFC authorizations for SAP connection

In newer SAP releases, there is an alternative possibility to assign RFC authorizations also to single function modules (not only on the level of function groups). This requires entry „FUNC" in field RFC_TYPE. In this case, all function modules of function group /KERN/IPPRFC must be entered as well as components of function groups mentioned above in the SAP note.

Note:	In case of accessing RFC without the required authorizations, SAP cancels the call of the respective function and creates an ABAP runtime error. Analysis may be performed as usual with transaction ST22 (here, e.g. reference to function module SYSTEM_RE-SET_RFC_SERVER APPEARS here in case the authorization for function group SYSU is missing).

4 ABC Configuration Parameters (Customizing)

4.1 Difference Document Mode and Call via Panel

Depending on the way that the ABC shall be started (panel or document mode), also the way of entering configuration parameters is different.

- In ABC document mode, parameters are stored directly in the Excel Master (section „ABC settings" on the customizing sheet).
- For the start via panel, parameters must be entered in additional configuration files (e.g. file („SapServerCustomizing.xml").

Primarily, settings are required for the login at the SAP system and configuration of the interface (SAP system parameters up to SSO). Corresponding parameters result directly from the configuration options that SAP offers for the .NET Connector; in single cases, it may therefore be useful to consult also the original SAP interface documentation (Nco_30_ProgrammingGuide2.pdf).

Other settings refer to the user interface and primarily depend on the mode used for the (panel or document mode). These include settings on the language, relevant organizational units (controlling area, layout) or welcome text for the call via panel account for this.

Since the user normally chooses one of the two starting modes alternatively, settings are described separately in the following.

4.2 Customizing for Start in the Document Mode

4.2.1 Functional Overview

ABC may be started directly via the Allevo Master (e.g. by double-clicking on the file or via a portal). Also plan data from offline files are transferred to the SAP system via this document mode.

In this case, the required indications for SAP login as well as other parameters are directly entered in the Allevo Master (sheet |Customizing| under „ABC Settings").

Note:	In the simplest case (e.g. for test in the workshop) ABC may be started completely without specific customizing entries. Possible parameters are then directly adopted from SAP (for example, all Allevo layouts entered in SAP are offered for selection). Parameters of the relevant SAP system are adopted from the SAP Login (if installed on the current work center). Only a general name for activation of the SAP login dialog must be entered (see next section).

4.2.2 SAP Systems for Login

There are to options to identify the parameters for RFC login at the SAP system:

1. Entry of parameters in the Customizing of the Allevo Master
2. List of all SAP systems stored in the SAP Login (transfer from „saplogon.ini" file, see section 3.6).

Important:	The corresponding settings are stored in the Allevo Master.
	The file „SapServerCustomizing.xml" has NO relevance here (only relevant for call via panel see section 4.3.2).

Alternative (1) should normally be preferred, since usually only a few SAP systems are relevant for planning. You may then also define the client here.

Enter relevant RFC parameters of the SAP systems in customizing section „ABC Server" of the Allevo Master: exactly these systems will be available for selection in the SAP login dialog. Specifications may possibly be adopted from the entries on the SAP Logon.

ABC Server

Server Name	Server	Instanznummer	SAP SAProuter	Client	Language	Us SncLib	SncUser	Default
Dev I10	192.168.10.103	00		800	De			X
Dev D70	192.168.10.102	00		100	De			

Figure 4.1: SAP systems for RFC connection

The column „Default" flags the entry that shall be suggested upon login at the SAP system.

Specifications in columns „User", „SncLib" and „SncUser" are only relevant when logging in via „Single Sign on" (SSO): Observe upper and lower case. If all required values are set correctly and default=x, SAP login will be performed automatically (if SSO login is desired, please contact our support in order to set the required configuration parameters).

For variant (2) comprising the adoption of all SAP systems from the SAP Login, only the column „server name" needs to contain a random text/comment; e.g. „SAP Login" in order to show the origin of system information.

Important:	Column „Server name" must always contain at least one entry for the Allevo Master to be able to switch to the ABC mode (with search and activation of the ABC Addin see section 3.4). Without this Addin, the ABC specific icon „SAP" in the ribbon „Navigation" would be missing".

4.2.3   Selection of Language for Login

Enter the language that shall be selectable upon login at the SAP system under „ABC Language" (see also notes in section 2.3).

ABC Language

Language	
Language	Description
DE-CH	German
EN	English
FR	French
IT	Italian

Figure 4.2: Languages for login at the SAP system

Enter the language key as two-digit indicator according to ISO. In accordance with the figure above, also a region may be included (separated by dash): this feature may be useful if automatic conversions are required before transferring data to SAP (if for example numbers shall be written into a satellite field defined as general text field).

The ABC is by default delivered in EN English and DE German (as also the ABAP component); messages therefore appear in these two languages. For working with panel, there is an extension to FR French.

The current Windows Login will adopt the default language of SAP login; if this language is not intended, ABC changes to English. This language setting applies also for button texts for example.

4.2.4 Default Settings for Object Selection

In the ABC document mode, you define directly in the Allevo Master what layouts to use it for (e.g. cost center Masters only for KS layouts, project planning only for object type PR). Enter the object type, organizational unit (controlling area, for PC the company code) and the relevant layout. Individual descriptions may also be stored for the object selection dialog.

Figure 4.3: Specifications for the object selection dialog

Only entered combinations will later in the Popup be available for object selection. Example:

- If only KS and OR are entered for „ABC Selection" as „Object Type", then only these entries will be displayed in object selection.
- Entries for „Organisational Units" reduce the number of selectable controlling areas (or company codes for PC). Here, a further restriction by object type is possible per organizational unit.
- The most important restriction is probably stored at „ABC Layout". If more than one Allevo Master is being used, layouts that the respective Master shall be applied for must be defined here (hence, the assignments as stored in the Allevo constants on the side of SAP do NOT apply anymore).

If the tables are not maintained, ABC will take the corresponding selection lists from SAP source data (however, layouts that the current Master is not even intended for might then also be displayed).

4.3 Customizing for Start via ABC Panel

4.3.1 Functional Overview

To start ABC via panel, the required Customizing settings need to be entered in special configuration files (e.g. with list of relevant SAP systems). Upon the first panel call, these configuration files will be copied into the local work environment of the respective user. The easiest way to access these data is via the PopUp on the Allevo versions in the panel.
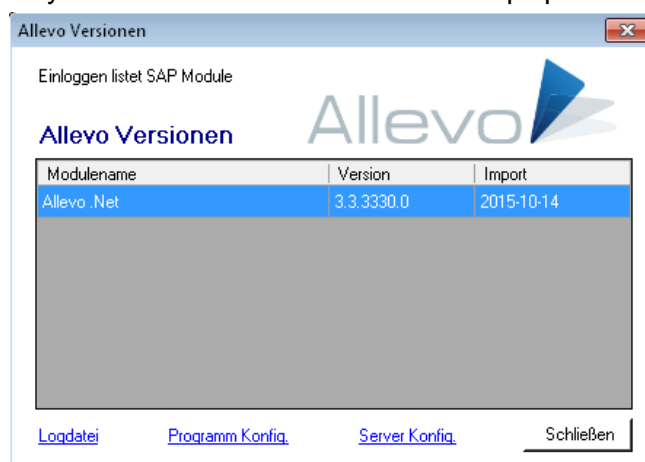

Figure 4.4: Allevo version with access to configuration and log files

When starting via panel, all layouts stored in the general Allevo Customizing on the side of SAP are available for selection. Specifications such as in the document mode are consequently not required.

The appropriate Allevo Master is loaded automatically via a selected layout. This assignment is performed via Allevo constants (same as in the Inplace mode).

4.3.2   SAP systems and language

As in the document mode, two options to determine the parameter for RFC logins are available:

1. Entry of the parameters in the ABC Customizing
2. List of all SAP systems stored also for SAP login (adoption from „saplogon.ni" file, or the landscape files from SAP Gui version 7.4 onward).

The parameters for option (1) with login at the SAP system are to be entered in file „SapServerCustomizing.xml". File adjustment may be performed using text editor (e.g. Windows notepad). Here, server and languages may be entered for the document mode analogously to the Customizing (possibly also SSO, see section 4.2.2).

Simple example:

```
<?xml version="1.0" encoding="utf-8"?>
<Customizing>
  <SapServers>
    <SapServer Name="Test" Server="SAPDEVI12" Instanznummer="00" Client="800" />
  </SapServers>
  <Languages>
    <Language Language="DE" Description="German" />
    <Language Language="EN" Description="English" />
  </Languages>
</Customizing>
```

Figure 4.5: Example for specifications on the SAP system in file SapServerCustomizing.xml

This example contains languages DE and EN. For additional notes on the selection of languages see section 4.2.3.

In call option (2), ABC may offer all SAP systems for selection that are stored for SAP login (see section 3.6 on technical requirements). For this purpose, a (random) text must be stored in parameter „SAP Server name"; e.g.:

```
<SapServer Name="Read from SAP logon"
```

All other configuration parameters on the SAP system remain empty in this case (except for language). This option is usually also included in the ABC delivery.

Note:	Configuration file „SapServerCustomizing.xml" (as is „WelcomPage.html"; see below) is by default searched in the program directory that the ABC Panel is called from. Upon first call, the file is copied to:
	%PROGRAMDATA% with subdirectory \Kern\Allevo
	For Windows 7, it is e.g. the directory „C:\ProgramData\Kern\Allevo" if not set up differently. You may use this copied configuration file to adjust parameters client-specifically (will probably only be required in exceptional cases).

Alternatively, the target path may be freely defined via configuration parameter „Central-CustomizingFolder" in file „Allevo.config" (see following section). This way, also a central access must be set up without copy into user-specific directory.

4.3.3 ABC Welcome Text

Contents of the panel welcome tab are read from file „AllevoWelcome.html" and may be adjusted using any HTML-Editor. A standard text is included in the ABC scope of supply:

Upon first ABC call via panel, this file "AllevoWelcom.html" is copied to the path %PROGRAMDATA% as described already for SapServerCustomizing. Modifications on the welcome text corresponding to client requirements should therefore be made prior to the first ABC panel call (alternatively, set a central access via „CentralCustomizingFolder").

4.4 ABC Configuration File „Allevo.config"

The configuration file "Allevo.config" in the program directory controls certain intern behaviours of the Allevo Business Client. The file may be adjusted per text editor (e.g. Windows Notepad).

| Note: | There are general parameters (e.g. for Log Level), some are however only relevant for execution via panel. |

Upon first program start, the file is copied to program directory to „%PROGRAMDATA%\Kern\Allevo". Here, parameters may be adjusted user-specifically, which may however be necessary only in exceptional cases (e.g. for settings on the log file in error situations). Call may be performed via link „Logfile" in the PopUp on the Allevo icon „About"; this does not require administrator rights.

The following contains an overview of currently used XML configuration parameters in „Allevo.config":

Key	Meaning
SapObartTableName, SapOrgunitTableName SapLayoutTableName SapServerTableName LanguagesTableName	Different parameters for offline processing: ABC refers to these keys if an Excel file shall be saved locally in order to continue working offline. In order to later on upload plan data to the SAP system, ABC needs to remember all parameters relevant for login. The Offline Master may then only log in at the SAP system using these indications. These keys are used for assignment of equivalent table names in the Excel Customizing on current ABC parameters.
LastUserRegKey	Defines the key that is used to store the last SAP user name used in Windows Registry. The name of the last SAP login will hereby be automatically suggested in the next login dialog.
RootRegPath	This parameter defines the path for the Allevo Registry Root: it should not be modified.
WelcomePage SapServerCustomizing	Names of configuration files containing contents of the welcome page or data of SAP systems that a login should be possible for. Both files must be included in the path defined by the parameter „centralCustomizingFolder" If these parameters are not set, standard files form the program directory will be used: they are copied into the user's AppData directory upon first program start and may be modified here without administration rights.

Key	Meaning
MasterCacheDays	The ABC may temporarily store any Allevo Master locally that has been loaded via the layout in the SAP system locally (may have advantages on the performance). Disadvantage: when modifying the Master (e.g. in the test phase), possibly older versions are still being used).
	Key MasterCacheDays indicates, how many days a Master should at most be temporarily saved locally. Value 0 is recommended, i.e. the Master is loaded again each time the ABC is called (Cache is deleted).
CheckForDisabledItems	If this key is set true, the availability of deactivated Excel AddIns will be checked each time the program is started.
CheckForDeadExcel	If this key is set true, the availability of Excel instances without visible window will be checked each time the program is started.
ScreenSplitPercent	This key may be used to determine horizontal partitioning of the screen between panel and Allevo Master in percent: default value is a proportion of 25% of the screen for the panel.
SapConnectorTraceLevel	This key may be used to control an RFC Trace:
	See documentation of „Sap .NET Connector 3.0" or SAP note 1610818 on the trace in .NET Connector 3.0.
TransferBlockRowCount	Defines the factor of XML transfer blocks between SAP and Excel.
	Enter the maximum number of rows in a XML block; this parameter may lead to a better performance in case of very large data volumes.
VbaRevisionPattern	Contains the Regular Expression Pattern for the extraction of version and date from the Allevo VBA modules.

The ABC may create a log documenting the most important program activities (e.g. also complete data exchange with the SAP system). The log function may be configured as follows.

Key	Meaning
LogLevel	Defines ABC features to be logged:
	0 No logging (Log. is completely switched off)
	1 Only error messages (Record entry of start environment and error situations)
	2 Main events
	3 All events and transferred data (complete data exchange with SAP)
	4 All events and all transferred data (many details about the data exchange with SAP)
LogTimestamp	Normally, each event is written into the log containing the date; via key LogTimestamp, the dates may be suppressed.
LogChars	Limits the log file size
	1-n Limits the maximum characters logged
	0 Starts new log for each session

Further parameters in section „Collex Settings" determine the behaviour of the additional module „Collex" and may be looked up in the corresponding documentation.

4.5 Structure of Line Items

The Line Item list is completely provided via Excel function. There In general the same information/columns are available as are in the Inplace mode (except for going to SAP reference receipts). See also notes in section 2.4 about the call of SAP interface features.

The column structure of the journal table entry may be adjusted flexibly (e.g. different sequence or delete columns). The corresponding settings are stored for each object type on the Allevo customizing sheet; section „ABC Settings" with list of activated object types (see Figure 4.3). Under the heading „Line Items", entries appear only if the PopUp for line items was called at least once in the Master: then, a list of all fields available in the respective journal entry table will be entered separated by Actual, Plan and commitment (separated by comma).

To change the design of the journal entry table, the corresponding fields should be deleted or rearranged. By attaching a text (separated by colon), the text in the column header may be adjusted.

Example:	OBART:Object Type,KOSTL:Cost Center,OBJTEXT,LSTAR,MANDT,KOKRS
	This entry would show the headers "Object Type" and "Cost Center" in the column header instead of the original abbreviation from the SAP data base field.

The definition of columns via the Customizing sheet in the Allevo Master applies for the document mode and call via panel.

The meaning of single columns can surely not always be recognized by the given abbreviations. Here, it may be useful to display the corresponding data structures on the side of SAP: see transaction SE11 with structure /KERN/IPP_S_xx_OFFL_ITEM_ACT (with xx to be replaced by the abbreviation of the respective object type).

The structure of the journal entry table always depends on the object type. In the case of MultiObject applications with different object types, also the structure of the journal table entry must be stored for each used object type.

4.6 Special Notes

Excel allows to save generally valid macros in a personal work folder "Personal.xlsb". This may lead to the ABC not being able to completely close the Excel instance.