

Note Language: English

Version: 29 Validity: Valid Since 01.07.2002

Summary**Symptom**

The following information has been summarized to answer various consulting questions:

1. How can I link Microsoft Exchange with R/3?
2. How can I access SAPoffice with the Outlook or Exchange Client?
3. How can I use forms to process data in R/3?
4. How can I operate E-mail or faxes in R/3 applications/users with the available Exchange Infrastructure?
5. Which types of forms can I use in Outlook and in the Exchange Client?
6. What Workflow function is supported?
7. Which options do I have for offline processing?
8. What are the required SAP components, what prerequisites do they have, when are they available and how much do they cost?
9. Where can I find current information on the respective components?

More Terms

MS Exchange Server, Outlook, SAP Business Workflow, MAPI SPI, SAP Exchange Connector, forms, forms feed flows, SAPoffice, SAPForms, SAP MAPI Service Provider, SXC, external send, communication, MS Exchange Client, mail systems.

Cause and Prerequisites

A documentation that groups all of this together is not yet available.

Solution**ad 1.) How can I link Exchange with R/3?**

A link from R/3 to Exchange can be produced with three different components that can be used individually or combined, depending on the functions required:

- o Client based solution with the **SAP MAPI service provider**:
The Outlook or Exchange Client can be enhanced with the SAP MAPI Service Provider so that mails that are stored in SAPoffice can be read and processed in a separate message store. Work items in the SAP Business Workflow, which are found in the SAPoffice inbox, are visible and can be executed. In addition, a SAPoffice address book is available. Mails can be moved back and forth between the exchange message store and the SAPoffice message store.
- o **SAPforms via mail**:
SAPForms is a technology which allows you to control different

interfaces of the R/3 system from different types of forms. A possible application is starting workflows and processing form-based work items in the R/3 system via Internet mail. A specially structured mail is sent to a special receiver (Agent) in the R/3 system from an Outlook or Exchange form to start a workflow. Vice Versa, workitems can be sent from the R/3 system as Internet mail to the external mail address of an SAP user. This workitem mail can be processed with a form on the Outlook or Exchange client. Processing is possible offline (that is without connection to the R/3 system); starting the workflow is also possible offline.

- o Exchange Server link using **SAPconnect SMTP Linking** or **SAP Exchange Connector**:

Using the SAPconnect SMTP Linking or the SAP Exchange Connector, it is possible to use the MS Exchange Infrastructure with R/3 applications or R/3 users without the Exchange Client. The sending and receiving of messages, including status information (received and read) is supported here for Internet, fax and Exchange mailbox recipients.

ad 2.) How can I access SAPoffice with the Outlook or Exchange Client?

Via the SAP MAPI Service Provider, SAPoffice can be linked to a MS Outlook or Exchange client as the mail and storage system of the R/3 system. For the user, this means that he can work in the normal PC environment, and can have access to the SAPoffice functions via the Outlook or the Exchange interface. This naturally includes the options for internal and external communication and the hierarchical SAPoffice "private" and "shared folders".

Editing and sending work items and messages

Users also receive the work items generated by the SAP Business Workflow in their inbox. Work items are activities that are assigned to a user (or to a user group) and which can be displayed and processed via the SAPoffice inbox. The connection via the SAP MAPI Service provider is narrower than the connection via Internet mail. If a user for example selects a work item for processing, all other users who are specified as agents are removed from the in-box. This would not be the case with the Internet mail connection.

In addition, notifications from the applications of the corresponding user are sent directly to his in-box.

Actions are actions in R/3

SAP MAPI Service Provider causes actions or changes to R/3 work items or messages via the Outlook or Exchange Client to have direct actions in R/3. Documents deleted from the inbox, for example, are also deleted at the same time in R/3 or a SAPgui is started to further process the work items in the R/3 System that were generated by SAP Business Workflow.

3.) How can I use forms to process data in R/3?

In the Exchange environment the form types Outlook form and Exchange form are supported by Microsoft. See question 4 for the differences between these two types. SAPforms support both form types. With these form types, SAPforms allow you to;

- o call up BAPIs and RFC capable function modules,
- o start workflows and
- o process workitems.

The communication with the R/3 system is synchronously carried out via RFC with BAPI and FB call-up. You can choose between synchronous call-up via RFC and communication via (Internet) mail when starting the workflow and processing workitems. Communication via mail can be carried out via the SAP MAPI Service Provider or via a server based connection (SAP Exchange Connector, SAP Internet Gateway).

ad 4.) Which types of forms can I use in the Outlook and Exchange Client?

Only Exchange forms can run in the Exchange client. These can be created either in C++, with the Microsoft Eforms Designer (EFD), or with 3rd party products. Using C++ to create them requires extensive MAPI know how. There are examples for this in the MAPI SDK from Microsoft. There is no support for C++ forms by SAPforms.

The EFD is a graphical form painter which can create forms with simple basic functions. EFD delivers a 16 bit Visual Basic project as output, which can be reprocessed with VB4-16. Since there are no add-ons available in VB4-16, using SAPforms Designer for these projects is more involved. Forms created with EFD are very slow, especially when they communicate with 32 bit ActiveX components. SAPforms consist of such components!

There are 3rd party products (for example SAX mPower for Exchange), which make creating 32 bit forms in VB possible. The above mentioned disadvantages are omitted in these cases.

The above mentioned MAPI forms can also run under Outlook. Additionally, Outlook has its own type of form (Outlook forms) that only run under Outlook. Outlook forms are 32 bit and very efficient. They are preferred in pure Outlook environments over the above mentioned MAPI forms. SAPforms support these types of forms since Release 4.5A.

ad 5.) Use of the available MS Exchange Infrastructure?

MS Exchange allows the enhancement of an Exchange Server with links (Exchange connectors, previously known as gateways), that connect other communications services (Internet mail, X.400, Fax, MS Mail, SNAD ...) to the Exchange Server. The SAP Exchange Connector is also a link of this type, that enables you to make all other Exchange links, such as Internet addresses, X.400 addresses or fax numbers available to R/3 applications or users.

In particular, you can use Internet mail transactions to or from R/3 via the Internet Mail Connector, as well as using certain pre-installed fax software components for fax transfer. Furthermore, it is possible to send mail to or receive mail from exchange mailboxes, by addressing these via the Internet, X.400 or fax address. An address book compare search/display is possible between R/3 and Exchange using LDAP version 3 compatible X.500 access to the Exchange address book information.

Status information is also transferred with a message (such as received or read) assuming the communications service used allows this (for example, X.400 supports received and read, Internet mail does not support either, faxes generally only supports received). Furthermore, several separate R/3 Systems can be linked via one or more Exchange Servers for E-mail transactions, even if no direct RFC link is possible (a so-called

backbone). Backbone). Here too, the R/3 users of the other systems can either be addressed via X.400 or Internet addresses (depending on the backbone).

The **SAP Exchange Connector**, in contrast to the **SAP MAPI Service Provider**, provides a server connection. The available Exchange infrastructure is used for data traffic to/from R/3, regardless of the client.

With the SAP Web Application Server 6.10 (e.g. used in SAP CRM 3.0), the **SAPconnect SMTP Linking** should be used instead of the **SAP Exchange Connector**. It allows an Exchange connection on the server in the same way as described above but has some advantages (e.g. independence of the Exchange and Windows version, lower administration effort, lower installation effort). Exchange Fax connectors can still be used if they support address type SMTP and the fax numbers contained in SMTP (see IETF RFC).

ad 6.) Which functions of the Workflow are supported?

The degree of integration with SAP Business Workflw depends on the Inbox technology used. A closer connection is achieved to SAP Business Workflow with SAP MAPI Service Provider than with Integration via mail. In the following a few points are compared:

SAP MAPI

- a) Separate Inbox
- b) Processing any work items
- c) Processing Work items with special forms similar to the Work item display in R/3
- d) Installation on every client is necessary
- e) Accepted Workitems disappear from the in-box of other agents.
- f) Execution via local forms on the desktop is possible
- g) Local forms must be installed on the desktop
- h) Starting the Workflow is possible

SAPforms via Mail

- a) Sharing the Exchange Inbox
- b) Only form based Work items
- c) Standard message form with R3F attachment
- d) Dito
- e) Conflict situations possible
- f) Dito

- g) A form can automatically be installed from the Exchange Server
- h) Dito

ad 7.) What possibilities do I have for offline processing?

The option for offline processing with forms depends largely on the offline abilities of the mail client where the forms are used. If the mail client allows mails to be created in offline operation, it is also possible to fill out and send a form in offline operation. The Outlook client and Exchange client in connection with the Exchange server for example make this possible.

The Outlook client in connection with the **SAP MAPI Service Provider** also supports the offline processing of workitems because Release 4.5A. In earlier releases offline processing of SAPoffice messages was already possible. The operations reserve, replace, transfer, change the priority and explicitly end are supported for workitems. Execution via a local form (Update or Outlook) is possible with form based Work items and also decision tasks. Work items that call up a SAPGUI transaction can only be processed in the online operation.

ad 8.) Components and Prerequisites?

- o **SAP MAPI Service Provider:**
 - Delivery: With R/3 3.1G on the presentation CD
 - R/3 Release: 3.1G upwards. For pilot customers and testers former Release (3.0D/1 and 3.0F) on request since 4.5A: Workflow Offline, Outlook Form
 - Operating system: NT4.0, Win2000, Win XP
 - Mail clients: OL98, OL2000, OL2002
- o **SAPforms:**
 - Delivery: With R/3 3.1G on the Presentation CD
 - R/3 Release: 3.1G upwards
 - Operating systems: All Windows 32 bit/Intel platforms
 - Types of Forms: Visual Basic
since Release 4.5A: Outlook, Word, Excel
 - Mail Clients: MS Outlook, MS Exchange, Internet Mail (IEExplorer), etc.
- o **SAP Exchange Connector (SXC):**
 - Delivery: see Note 122657
 - Mail clients: not dependent
 - R/3,NT and Exchange: For Release dependencies see Note 122657

ad 9.) Where can I find current information on the components?

- o **SAP MAPI Service Provider:**
 - White Paper "Communication Services in the SAP Sytem R/3"
Notes 62431
 - User documentation 3.1G
 - SAPInfo article in SAPInfo 1/1997
 - mapifaq.htm in the installation directory of SAP MAPI

- o **SAPForms:**
 SAPInfo article in SAPInfo 51/1996, user documentation 3.1G
 SAPforms Whitepaper order number 50021701 (English),
 50021663(German)
 Exchange and R/3: Blueprint can be found under
<http://www.microsoft.com/industry/erp/sap/downloads/downloads1.asp>
 - o **SAP Exchange Connector:**
 User documentation on the Presentation CD (see Note 122657 for path
 information) and in the R/3 online help.
 SAPNet R/3 frontend under the BC-SRV-COM-MSX component
-

Header Data

Release Status: Released for Customer
 Released on: 01.07.2002 12:35:57
 Master Language: German
 Priority: Recommendations/additional info
 Category: Consulting

Primary Component: BC Basis Components
 Additional Components:
 BC-BMT-WFM Business Workflow
 BC-SRV-COM Communication Services: Mail, Fax,
 SMS, Telephony
 BC-SRV-COM-MSX SAP Exchange Connection
 BC-SRV-MAP Please refer to note 627397

The Note is release-independent

Related Notes

Number	Short Text
455127	E-mail (SMTP) in different SAP releases
122657	SXC: Version overview and history
100232	SAPforms via Internet mail or MS Exchange Server
77099	Workflow interfaces
17194	Telefax in various SAP Releases

Attributes

Attribute	Value
Transaction codes	BAPI
Transaction codes	HIER