

Composing IDocs

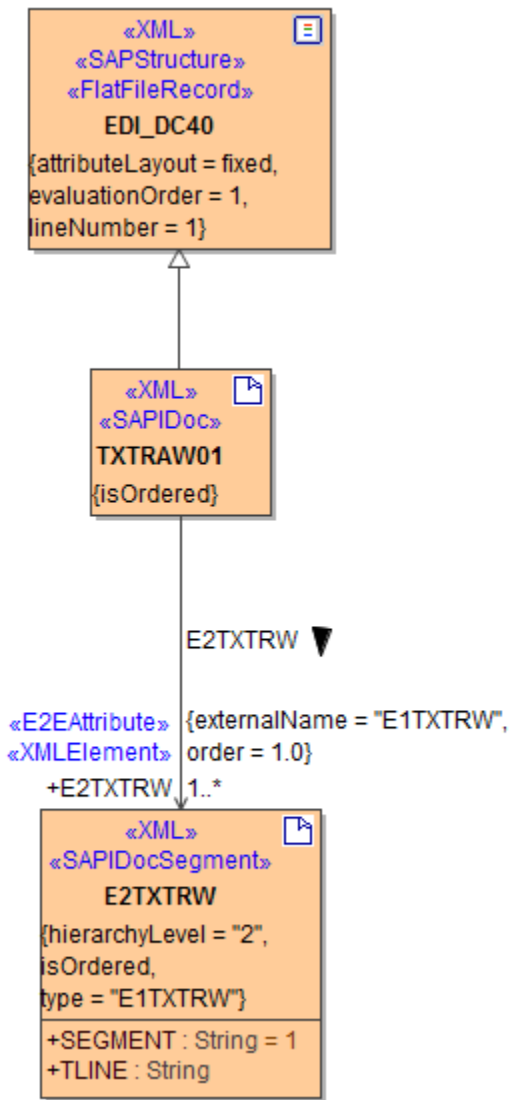
IDocs (Interface **D**ocuments) are modeled as UML classes (cf. **TXTRAW01**). Such classes can be serialized into SAP IDoc tables (arrays) by the `<<SAPIDocRecordComposer>>`.

There are two situations in which you may want to compose an IDoc data buffer:

- You want to map an IDoc object (e.g. **TXTRAW01**, see figure below) to a **String**, keeping the structure of the data (mostly done, if you want to write the IDoc to a file). This is done by an action having the stereotype `<<SAPIDocComposer>>` (see [Composing to String](#)).
- You want to map an IDoc object (e.g. **TXTRAW01**, see figure below) to a **SAP tables** structure (mostly done, if you want to perform an SAP RFC). This is done by an action having the stereotype `<<SAPIDocRecordComposer>>` (see [Composing to SAP Tables](#)).

After having composed an IDoc object, you can send it to an SAP backend using IDOC_INBOUND_ASYNCHRONOUS. The necessary interface is already part of the base components. Refer to [RFC Service](#) for more information on how to implement the call.

Figure: UML Class Model of IDoc TXTRAW01



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Related Pages:

- [Parsing IDocs](#)
- [tRFC Service](#)
- [SAP Adapter Reference](#)

Example File (Builder project Add-ons/SAP):



<your example path>\Add-ons\SAP\uml\sapldoc.xml

Composing to String: <<SAPIDocComposer>>

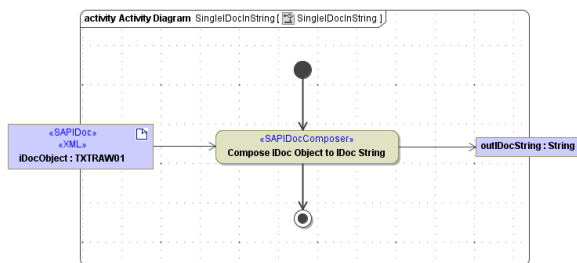
The <<SAPIDocComposer> takes one or more IDoc objects as input and composes a **String** containing the object data. The structure of the data is kept (padding).

| Name | Type | Direction | Description |
|---------------|--------|-----------|--|
| anyObjectFlow | Any | in | Parsed IDoc object(s) The class specifying the type of this parameter must have stereotype <<SAPIDoc>>. |
| idocString | String | out | String containing IDoc data (e.g. the content of an IDoc file) |

The following examples are demonstrating some applications of the <<SAPIDocComposer>>.

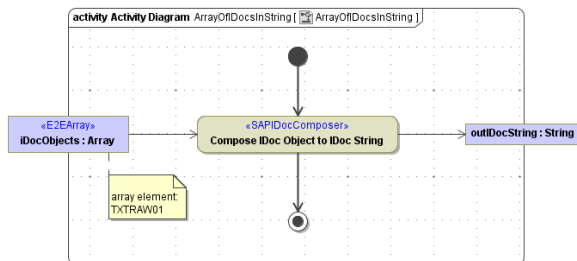
Composing a Single IDoc to an IDoc String

Figure: SAPIDocParser, Single IDoc to a String



Composing Multiple IDocs to an IDoc String

Figure: SAPIDocComposer, Multiple IDocs to a String



Composing to SAP Tables: <<SAPIDocRecordComposer>>

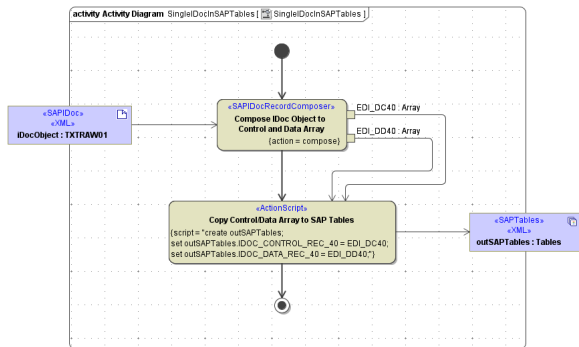
The <<SAPIDocRecordComposer> takes one or more IDoc objects as input and composes an array of structured control records and an array of structured data records (as expected for SAP tables).

| Name | Type | Direction | Description |
|------|------|-----------|-------------|
|------|------|-----------|-------------|

| | | | |
|---------------|-------|-----|--|
| anyObjectFlow | Any | in | Parsed IDoc object(s) The class specifying the type of this parameter must have stereotype <<SAPIDoc>>. |
| EDI_DC40 | Array | out | Array of IDoc structured control records |
| EDI_DD40 | Array | out | Array of IDoc structured data records |

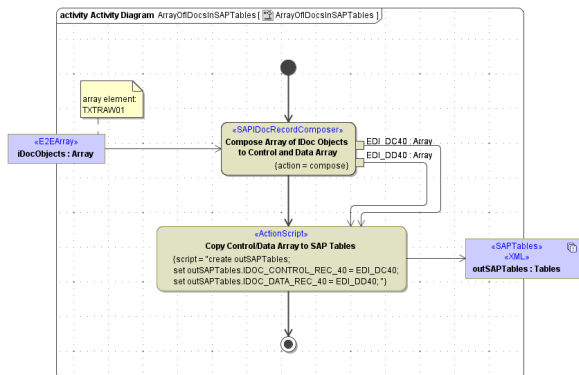
Composing a Single IDoc to SAP Tables

Figure: IDoc Composer with a IDoc-array to Tables



Composing Multiple IDocs to SAP Tables

Figure: IDoc Composer with a IDoc-array to string



Composing to XML: <<SAPXMLIDocComposer>>

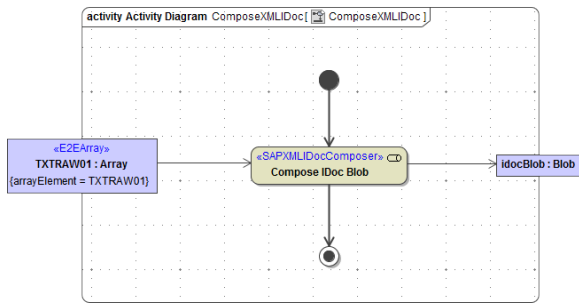
The <<SAPXMLIDocComposer>> takes one or more IDoc objects as input and composes a **Blob** containing the object data. The structure of the data is kept (padding).

| Name | Type | Direction | Description |
|---------------|------|-----------|--|
| anyObjectFlow | Any | in | Parsed IDoc object(s) The class specifying the type of this parameter must have stereotype <<SAPIDoc>> and <<XML>>. |
| idocBlob | Blob | out | Blob containing IDoc data (e.g. the content of an IDoc file) |

The following example is demonstrating an application of the <<SAPXMLIDocComposer>>.

Composing Multiple IDocs to an XML Blob

Figure: SAPIDocParser, Multiple IDocs to XML



IDoc Composition and SAP R/3

The above examples show how to compose IDocs version of 4.x. However, SAP R/3 3.x systems use IDocs, too. These IDocs are handled similar as in version 4.x. The differences between composing version 4 and version 3 IDocs are as follows :

- IDoc3 Composer Stereotype: `<<SAPIDoc3Composer>>`
- IDoc3 Stereotype: `<<SAPIDoc3>>`, this is taken into account if the import was done in version 3 mode (see [Importing SAP IDoc Meta Data](#)).