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<td>Example</td>
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<tr>
<td><img src="image" alt="Note" /></td>
<td>Note</td>
</tr>
<tr>
<td><img src="image" alt="Recommendation" /></td>
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Pension Fund CH: Technical User Handbook

Erste Schritte [Page 8]
Aktivitäten einer PK-Einführung [Page 9]
First Steps

Before you can run tests in the standard system, you must create some bases:

- **Adjust Customizing Tables**
  Tables with delivery class C according to the Reference Handbook (not automatically distributed to customer clients during the Put); Check the authorizations for the user comparisons for the RFC destination in the source client.

- **Account Maintenance**
  - Create number ranges for PF accounts
  - Check authorization groups for PF accounts
  - Maintain authorizations for PF accounts
  - Activate features CHPKN, CHPKB (if necessary, also in client 000)

- **Master Data**
  - Generate infotype headers (prior to Release 4.5A)
  - Activate feature CHPKP (if necessary, also in client 000)
Activities for Implementing PF

The most important goal when implementing a PF is solving the following problems:

- Determining the correct **contributions** and their deduction in the payroll run
- Calculating **benefits** and, if necessary, recalculating the "BP base" (see below) for events such as Entry, Leaving, Change in Pay, Change in capacity utilization level, Equity contributions
- Transferring Legacy Data

To accomplish this goal, do the following:

1. Read the handbooks
2. Check the basic settings (see above)
3. Select the appropriate model fund
4. Check the technical settings (authorizations, number ranges, features)
5. Modify the authorizations to the customer regulations
6. Modify reports to fit customer requirements
7. Configure the user-interface
8. Check the legacy data transfer concept and process
9. Modify workflows
   - The use of workflows is not usually required for the PF module. It is best to address this in a second project.

The SAP PF strategy is to supply certain **model funds** that you must modify for each individual case. These modifications are done largely by copying in the customer name space. Exception: Tables with delivery class C or G, in line with the Reference Handbook.

Initially, it is best to first copy the supplied model (most closely matching the customer regulation) to the customer name space, and implement these settings (for example, create variants for the user-interface). These objects can be used as a work base.
Analyzing Processes

When comparing customer rules with the supplied models, you should concentrate on central terms such as:

- Insured wage
- Contributions
- Retirement pension
- Termination benefit

and use these to check which calculations take place for the following processes:

- Entry
- Change in Pay, Change in capacity utilization level
- Equity contributions, Advances
- Leaving

In doing this, you may come across other, secondary terms (for example, BP: Entry Benefit → Pension Rate/Supplemental Pension/Technical Entry Date → Retirement Pension), that are important for implementing the respective customer PF. It may be necessary to implement new value types and PC methods for these terms.

Note that the rules are often not exactly defined in the regulations. Therefore, it is important to have a contact person in the PF department to answer these questions. Otherwise, you have the chance to simplify the previous, unnecessarily-complicated regulations.

As a rule, it is best not to automate all PF work processes, as certain special cases occur only rarely. Also, you may need to take individual special cases into account. Therefore, you must be able to manually correct errors.
Determining Benefits in the Benefit Plan

Determining benefits in the benefit plan (BP) is more complicated than in the contribution plan (CP). Modeling these calculations is the central problem when implementing the PF module for a benefit plan.

Use the following quantities to determine benefits in the benefit plan:

1. **Pension rate** $s_p$:
   
   Here $R_{Age} = L_Y \cdot s_p$, where the pension rate is modified for the above events.

2. **Pension reduction** $R_{Red}$:
   
   Here $R_{Age} = L_Y \cdot s_0 - R_{Red}$, where the pension reduction is modified for the above events. The fixed pension rate $s_0$ is between 60% – 70%.

3. **Technical Entry Date** $D_T$:
   
   Here $R_{Age} = L_Y \cdot s_0 \cdot Years(D_T, D_{Retirement})$, where the technical entry date is modified for the above events. The fixed pension rate $s_0$ is normally around 1.5%.

4. Others (user-defined)

(Here, $R_{Age}$ is the retirement pension at the regular retirement age, $L_Y$ is the current insured wage, and $D_{Retirement}$ is the retirement date.)

The typical scale calculation for these affected events are summarized in the following table:

<table>
<thead>
<tr>
<th>Type of BP Base</th>
<th>Event</th>
<th>Recalculation of BP Base</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pension rate</td>
<td>Entry</td>
<td>$s_{p,Entry}$ is taken — regardless of age upon entry — from a regulation table.</td>
</tr>
</tbody>
</table>
| Cap. Util. Level     | Increase $\rightarrow$ Reduction of $s_p$  
Cap. Util. Level     | Change Increase $\rightarrow$ Reduction of $s_p$  
Change Reduction $\rightarrow$ Increase of $s_p$  
Deposit $E$          | Increases $s_p$ by $\frac{E \cdot 100}{BWF \cdot L_Y}$ %  
Deposit $E$          |                                                                                         |
| Pension reduction    | Entry                | $R_{Red,Entry} = s_{Red} \cdot L_Y$, where $s_{Red}$ is an age-upon-entry-dependent rate (to be taken from the rule) |
| Cap. Util. Level     | Increase $\rightarrow$ Increase of $R_{Red}$  
Cap. Util. Level     | Change Increase $\rightarrow$ Reduction of $R_{Red}$  
Change Reduction $\rightarrow$ Reduction of $R_{Red}$ |
Determining Benefits in the Benefit Plan

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Deposit $E$</td>
<td>Reduction by $\frac{E}{\text{BWF}}$ ***)</td>
</tr>
<tr>
<td>Technical Entry Date</td>
<td>Entry $D_T = \text{Entry date}$</td>
</tr>
<tr>
<td>Cap. Util. Level Change</td>
<td>Increase $\rightarrow$ Increase of $D_T$ **)</td>
</tr>
<tr>
<td></td>
<td>Reduction $\rightarrow$ Reduction of $D_T$ **)</td>
</tr>
<tr>
<td>Deposit $E$</td>
<td>Reduction by $\frac{E}{\text{BWF} \cdot s_0 \cdot L_Y}$ years **)</td>
</tr>
</tbody>
</table>

*) Calculation according to the rule. An increase in the capacity utilization level results in a reduction of the retirement pension, equal to the increase.

**) The present value factor BWF is dependent on the age at the time of the deposit. An advance is treated as a negative deposit.

SAP calls the basic scale for the calculation of benefits, the **BP-Basis**. Apart from the above-mentioned scales, the calculations are often made more complicated by:

- Operating a savings account for extra invested labor mobility benefits, which is used to reduce arrears payments and the reduction of additional benefits insurance;
- Separating contribution pay and insured pay: the contribution pay is the base for calculating contributions; the insured pay is the base for the calculation of benefits. In some circumstances, the insured pay can be reduced or increased. You can set an age limit, above which an increase of contribution pay no longer goes fully into the insured pay.
Arrears Payments, Purchases and Advances

Arrears payments

Arrears payments are BP-specific: Using the above formula for $R_{Age}$, you can see that an increase in the insured wage $\Delta L_y > 0$ leads to a corresponding increase in retirement pension $\Delta R_{Age}$. The costs for this increase are $BWF \cdot \Delta R_{Age}$, where the present value BWF depends on the age at the time of the wage increase.

These costs are paid by the insured person and the employer, where the payment is usually in the form of an exceptional contribution, that is, in 12 monthly payments. Take the respective calculation from the regulation.

Purchases

These are incoming savings credit payments in the contribution plan. The improvement in benefits is increased by the same amount.

You must adjust the BP base in the benefit plan.

Advances

Generally, you can enter advances as a negative deposit, where the problem is solved for the contribution plan. This leads to a corresponding reduction of the BP Base.

It can be unclear as to how much advances go into the LOB age-related credit. (This is not set by law.) There are three variants:

1. Advances go fully into the LOB age-related credit as a negative deposit.

2. Advances go partly into the LOB age-related credit: $\frac{LOB \cdot Age-related \cdot credit_{current}}{PF \cdot Leavingbenefit_{current}}$. This variant is the most common. Advances are not considered for the LOB age-related credit.

   When an employee leaves, the required repayment is displayed for the advances. This value is deducted after determining the LMB. This option is rarely used.
Example: Events in the Life of a BP-Insured Person

Bruno Bluntschli is insured in a BP fund. This is the technical process:

<table>
<thead>
<tr>
<th>Event</th>
<th>Arrears Payment (see below)</th>
<th>BP-Base</th>
</tr>
</thead>
<tbody>
<tr>
<td>01.03.199 7 Entry</td>
<td></td>
<td>–</td>
</tr>
<tr>
<td></td>
<td></td>
<td>The BP-Base is determined using the table in the rule; the benefit gets lower, as Bruno gets older, as his contribution period gets correspondingly shorter; the LMB is used to increase his benefits to the maximum amount (normally 60 – 70% of the insured wage).</td>
</tr>
<tr>
<td>01.03.199 7 LMB</td>
<td></td>
<td>–</td>
</tr>
<tr>
<td></td>
<td></td>
<td>LMB is converted to a pension using an age-dependent present value factor; for fixed LMB, this calculated pension gets lower as Bruno gets older, as the LMB for older employees receives interest over a shorter period (Value date to retirement date).</td>
</tr>
<tr>
<td>01.01.199 8 Increase in wages</td>
<td>Exceptional contributions for EE and ER are determined according to the rule (for 12 periods). They are processed using infotype 0014.</td>
<td>–</td>
</tr>
<tr>
<td>01.01.199 9 Change in capacity utilization level 100% → 60%</td>
<td>–</td>
<td>This change would lead to an immediate reduction of benefits, as the insured wage is also reduced. Compensate this by adjusting the BP base, so that the previously-paid contributions are taken into account. Calculation according to the rule.</td>
</tr>
<tr>
<td>10.05.199 9 Deposit for improving benefits</td>
<td>–</td>
<td>The deposit is converted to a pension with a present value factor.</td>
</tr>
</tbody>
</table>
### Events in the Life of a BP-Insured Person

<table>
<thead>
<tr>
<th>Date</th>
<th>Event</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>01.01.2000</td>
<td>Increase in wages</td>
<td></td>
</tr>
<tr>
<td>03.07.2000</td>
<td>Advances</td>
<td>BP base is adjusted as for a negative deposit.</td>
</tr>
<tr>
<td>01.01.2000</td>
<td>New exceptional contributions.</td>
<td></td>
</tr>
</tbody>
</table>

If Bruno leaves the company on 31.10.2000, you must determine his labor mobility benefit. In the BP, this is the present value of the *earned* retirement pension:

\[
P_{\text{Age}} = \frac{\text{Pension}_{\text{BP}}(B_Y, BP - \text{Base})}{\text{Years}(D_{\text{contrib.} - \text{start}}, D_{\text{leaving}})}
\]

\[
P_{\text{earned}} = P_{\text{Age}} \cdot \frac{\text{Years}(D_{\text{contrib.} - \text{start}}, D_{\text{retirement}})}{\text{CVF} \cdot P_{\text{earned}}}
\]

\[
LMB = \frac{\text{Years}(D_{\text{contrib.} - \text{start}}, D_{\text{retirement}})}{\text{CVF} \cdot P_{\text{earned}}}
\]

If necessary, you must deduct unpaid exceptional contributions from the LMB calculated in this way.
Implementation in the Standard PC-Schedule S3

In the PC schedule S3, pension reductions are carried out as a BP base. These pension reductions are managed in the individual account. To calculate benefits, the relevant postings (pension reductions/credits RE91, RE93, RE54) are cumulated and totaled as an effective pension reduction RE90. Advances are not yet taken into account. The base value is a RE91 posting. All pension reductions/credits prior to the value date are ignored in this calculation. In this way, you can assign a particular amount to the whole pension reduction at any time, if you notice an error, where the cause cannot be located.

The pension reductions are posted under the following circumstances:

<table>
<thead>
<tr>
<th>Event</th>
<th>Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Change in Wage/Capacity utilization level</td>
<td>Calculate_A01</td>
</tr>
<tr>
<td></td>
<td>Depending on the comparison between the new and the old capacity utilization level, either KE82 (an arrears payment) or RE52 (a pension credit) is posted.</td>
</tr>
<tr>
<td>Entry</td>
<td>Calculate_A09</td>
</tr>
<tr>
<td></td>
<td>A pension reduction RE93 is posted.</td>
</tr>
<tr>
<td>Change in capacity utilization level (WF)</td>
<td>Calculate_A10</td>
</tr>
<tr>
<td></td>
<td>A pension credit RE52 is posted.</td>
</tr>
<tr>
<td>Equity contributions</td>
<td>Calculate_A22</td>
</tr>
<tr>
<td></td>
<td>For equity contributions (WT.attribute 25), the RE53 calculation method (posting) is called up. The pension credit RE53 is calculated and written as a follow-on posting.</td>
</tr>
</tbody>
</table>
Contribution Plan vs. Benefit Plan

At this point, you should re-check the terms in the contribution and benefit plans.

The level of contributions is defined in the benefit plan. Benefits depend on the contributions paid.

<table>
<thead>
<tr>
<th>Insured wage</th>
<th>Contributions</th>
<th>Benefits</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The level of benefits is defined in the benefit plan. If necessary, the benefits must be purchased with exceptional contributions. Total contributions depend on the acquired benefits.

<table>
<thead>
<tr>
<th>BP-Base</th>
<th>Benefits</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Insured wage</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Change in insured wage</th>
<th>Contributions</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Contribution plan fund calculations are usually simpler and easier to understand, as the benefits arise from the fact that a savings credit is created and directly paid out (leaving, death), or can be converted to a pension.

<table>
<thead>
<tr>
<th>Contribution Plan</th>
<th>Benefit plan</th>
</tr>
</thead>
<tbody>
<tr>
<td>Savings credit</td>
<td>Present value of the earned retirement pension</td>
</tr>
<tr>
<td>Savings credit, projected to retirement age</td>
<td>Present value of the retirement pension</td>
</tr>
<tr>
<td>Retirement pension</td>
<td>Total of the conversion rate and the projected savings credit</td>
</tr>
<tr>
<td>Entry</td>
<td>Adjust BP-Base</td>
</tr>
<tr>
<td>Equity contribution</td>
<td>goes into savings credit</td>
</tr>
<tr>
<td>Change in wages</td>
<td>Contributions (dependent on new insured wage)</td>
</tr>
</tbody>
</table>
## Contribution Plan vs. Benefit Plan

<table>
<thead>
<tr>
<th>Change in Capacity Utilization Level</th>
<th>Contributions (dependent on new insured wage)</th>
<th>Contributions (dependent on new insured wage), BP base</th>
</tr>
</thead>
<tbody>
<tr>
<td>Termination benefit</td>
<td>Savings credit</td>
<td>Present value of the earned retirement pension without outstanding exceptional contributions</td>
</tr>
</tbody>
</table>
Work Processes for Implementing a PF
Setting Up a Customer Rule

This section describes how to set up a specific pension fund, and to apply the desired functionality.

The process is as follows:

1. Create a new fund.
2. Retrieve (copy) an appropriate processing schedule.
3. Set up the necessary PC parameters for the processing schedule. (Create parameter area determination grouping (PaGru); if necessary, create parameter area, check parameter assignment).
4. Link the fund to the corresponding processing schedule and the PaGru.

The fund, processing schedule, a possible new parameter area and the PaGru should all be in the customer name space; you can also use SAP objects for the value types.
Modification/Expansion Possibilities

Purpose
You can carry out a wide range of pension fund management modifications and expansions within the SAP standard PF module. This largely consists of modifying processing schedules. These include:

- Changing calculations (for example, insured wages)
- Changing evaluations (determining and displaying other values)
- Defining new evaluations
- Expanding existing online-evaluations
- Defining new online-evaluations
- Defining your own processes (batch-input or postings)
Modifying Calculations

Definition

SAP delivers example processing schedules for the PF module. These schedules will not normally fit exactly to the currently existing PF rules.

Use

It is not recommended that you modify these sample schedules, as they are stored in tax tables (delivery class E). Rather, you should copy the SAP processing schedule that best matches the PF rule to the customer name space and edit this copy.

As opposed to wage types in payroll, you cannot normally copy value types, as the schedule-dependent value type settings are not customer-specific.
Basic Calculations

Definitive wage
The definitive wage LN00 (annual value) results from the monthly definitive wage LN02 as LN00 = 12 * LN02 or LN00 = 13 * LN02.

The monthly definitive wage is read from the wages in infotype 0008 – if necessary, with indirect valuation. If the existing employee subgroup grouping for the person group person area has the value 1 for payroll (hourly wage earner, as defined by T503), this wage is seen as an hourly wage and multiplied by the number of hours in the month (working hours per payroll period of infotype 0008).

Coordination deduction
The coordination deduction KO00 is usually a constant that is defined in the rule. It is also possible that KO00 can be a proportion of the definitive wage.

Insured wage
The insured wage LN10 forms the basis for many PF calculations. It is normally defined as:

\[ L_{V} = \begin{cases} g \cdot \min(L_{V,\text{max}}, \max(L_{V,\text{min}} - \frac{L_{\text{defin.}} - K}{g})) & \text{if } g \neq 0 \\ 0 & \text{otherwise} \end{cases} \]

(where \( g = \text{CapUtilLvl} \cdot (1 - \text{InvLevel}) \) the effective capacity utilization level BG10, \( L_{\text{defin.}} \) the definitive wage LN00, and \( K \) is the coordination deduction KO00. Minimum and maximum insured wage is GW00, GWB0 and GW01.)

The calculations can vary.

Usually, you must also consider a vested payment (that is, avoiding a reduction of the insured wage), where you can use the operation V7. This operation considers the previous and new capacity utilization level, and the new coordination deduction: There is no vested payment for the change in capacity utilization level, unless the coordination deduction was not increased. If you do not take the coordination deduction into account, you can set the corresponding parameters in the processing lines (for example, constants) to the same value.

Contributions
Contributions are calculated according to the model \( BTxx = BSxx \cdot LN10 \). That is, you must first read the contribution rate BSxx (often age/gender-specific). This rate is the product of the insured wage and the respective contribution.

Remember to divide this by 100, if you want a percentage.

Benefits
The benefits for the insurance statement are based on the foreseeable retirement pension (for retirement at the regulatory age).

In the contribution plan [Page 11], the savings credit is projected to the retirement date and then multiplied by a conversion rate (usually 7.2%): \( RE04 = RS00 \cdot KE02 \). For a more exact description, see the user handbook.
Basic Calculations


SAP recommends that you calculate benefits using the base gross amounts in the account.

The retirement pension RE00 is 0 for risk insured persons, otherwise RE04.
Calculations in the Individual Values PF Infotype (0279)

Note that calculated fields must be explicitly written (Operation I7), otherwise they are not transferred to the infotype.

You can remove the field that was changed, and therefore triggered the calculation, otherwise it will be saved as having been calculated.
Calculations in Workflow

Calculations in Workflow

A value table is created for workflow calculations (call up method PFValsCH.VSAction), which can be accessed by subsequent BOR object methods. These methods are: SuccCreateWithVals, CreateWithVals, WriteValueToTab and GetValueFromTab of the object type PFValsCH. The first two copy infotype 0279 or create a new record; all assigned infotype fields are taken out of the value table.

If necessary, the method VSAction transfers a table of follow-on postings to the WF container. These are processed with the methods SuccCreateWithVals and CreateWithVals of the object type PFValsCH.
Reporting

All values that were determined by a PC activity can be assigned to display structure fields. Subsequent postings can be processed.

Online Evaluations

Online evaluations are only used to display values. You can assign all calculated values to the display, depending on whether the determined value is zero.

Calculations for creating postings

Value date (PC activity 02)

The value table has a PC interpreter that is used to start processing. This contains the value types VT00 and DTBU.

Subsequent postings (PC activity 22)

The value table has a PC interpreter that is used to start processing. This contains the value types VT00, VA00, DTBU and DTVA.
PC Activities

Procedure

Usually, where you have to calculate PF values, or process them in a certain way, you need to carry out a processing control activity. For new processes that are not covered by existing ones, you must create new PC Activities, for example, for:

- New evaluations
- New online evaluations
- New calculations in the *Individual Values PF* Infotype (0279)
- New processes in workflows
PC Value Types

Procedure

A central term for processing control is the **value type**. A value type defined within a processing context has a *name* and a *data type* (if required, a PC value set). The *documentation* for the (economic) definition of the value type is also schedule-independent.

The actual name of the value type is fixed in the individual PC schedules by the defined methods and certain schedule-dependent settings. Note, that the use and the name of the value types must match.

For example, a value type *savings contribution EE* could be processed in a retirement pension schedule.

As it is not practical to supply value type for every case, the customer value types can be expanded. The possibility to include new value types is a basic prerequisite for most other enhancement possibilities.

You do not need to copy SAP value types to use them in customer schedules.
Value Type Characteristics

Definition

Some value type characteristics have a fixed special meaning, for example, eligible manual postings that are fixed in the program.

Usually, VT characteristics are used to control cumulations, for example, which postings go into savings credit.

It is therefore not recommended that you change this assignment of the following VT characteristics, as their meanings are partly fixed in PC operations:

<table>
<thead>
<tr>
<th>WT Characteristic</th>
<th>affects</th>
</tr>
</thead>
<tbody>
<tr>
<td>11 (PF contribution EE)</td>
<td>FLV-minimal benefits</td>
</tr>
<tr>
<td>25 (Incoming payment)</td>
<td>Credit projection determination of dependent postings</td>
</tr>
<tr>
<td>26 (Incoming payment EE)</td>
<td>FLV-minimal benefits</td>
</tr>
<tr>
<td>44 (Interest EE)</td>
<td>FLV-minimal benefits</td>
</tr>
<tr>
<td>LOB age related credit</td>
<td>LOB age-related credit</td>
</tr>
</tbody>
</table>

Integration

If you change the assignment of these VT characteristics, you must check the possible effects exactly. This is also the case for changes to other VT characteristics, especially if they control calculations.
PC Methods

You must account for certain aspects when structuring PC methods. The following structure is useful:

1. Reading global variables such as reference date, fund, and so on
2. Positioning infotype records
3. Reading postings from the database
4. Reading data from accounts/master data
5. Calculations (if required)
6. Storing data (for example, writing postings) (if required)
PC Parameters

Procedure
As a general rule, a parameter area must exist for each PC schedule, which only contains parameters for this schedule. The name should match the schedule. If PC parameters are within this parameter area, you must configure them.

Create a PaGru for the new fund, which you can use to control the assignment of parameter areas for this fund. You must set up the parameter assignment for this PaGru, otherwise no parameters can be read: For each PC parameter you must specify the new PaGru for the parameter area, from where it is to be read.
User Exits

Purpose
If the standard PC operations are insufficient, you have the option of using User Exits as processing steps.

For example, if you want to process other non-standard infotypes.

⚠️ The number of processed infotypes is fixed in a processing context.
Customer Name Space

There are many settings in the tax table (delivery class E or G) that do not apply for PF. You can recognize these by the fact that they are connected to a customer name space. You have the option of overwriting objects outside this customer name space when you upgrade with SAP objects of the same name.

Customer name spaces are documented in the technical reference handbook (Appendix). You can also display the current name space in the system.

Display current name space in the system

1. Start table maintenance (SM30).
2. Display table TRESC.
3. Specify the table, where the customer name space must be determined.
Setting Up a Fund

Use

A fund as a PF module object is a central term for the PF. The fund is used for:

- Controlling PF infotypes
- Linking to processing control and
- Controlling account management.

Use the setting Pension Fund Control to link the created fund to the new PC schedule. You must also specify the relevant PaGru. You can only test the changes once this link exists.
Setting Up Master Data

Procedure

The usual settings (T777D, T582A, T588M) must exist for the infotypes. If this is not the case, you must copy them. Select time constraint 2, to be able to define several insurance contracts with gaps for a personnel number in a fund.

In the standard system, specify 05 as the header, as displayed on the Header-Modifier 27 (T588I). If no headers are displayed in the infotypes, you may need to generate them (T588J). You may need to match tables T588I, T588J and T588M with client 000.

You can define the Individual Values PF infotype (0279) within the 20-field outline. If you need an additional field, you must expand the relevant field assignment.

If no appropriate value type exists that could be specified in the field assignment, you must create this value type in the customer name space.

Field assignment id dependent on the fund and the employee grouping that is primarily used to differentiate between active and retired employees. The employee grouping for an employee is determined using the CHPKP feature. You can also define the texts for the upper and lower frames in the infotype.
Payroll Integration

- Contributions [Page 38]
- Pensions [Page 39]
- Arrears Payments [Page 40]
- Special Payments (→ Transfer to Financial Accounting) [Page 41]
Contributions

Contributions are processed in the *Individual Values PF* Infotype (0279).

This excludes exceptional contributions, which are processed using the *Recurring Payments/Deductions* infotype (0014). In this way, you can process changes in wages many times during the year. If the customer is not going to use this option, you can implement the *Individual Values PF* infotype (0279).
Pensions

Procedure

Pensions are processed within HR master data and can therefore be paid out as part of the payroll run.

Generally, the Basic Pay infotype (0008) is used for this. You can also use the Recurring Payments/Deductions infotype (0014) if:

- The pension has a time limit (for example, an orphan's pension)
- You want to use a different cost assignment (for example, for a partially disable invalidity pension that is processed with a personnel number)

Within PF, you must post the pension payments to the relevant account. This enable you to reduce death-related equity by the amount of pension already paid out, and to display pensions in the statistics-infolist.

You must have processed pensions in the Individual Values PF infotype (0279), before you can post them. If pensions are assigned to value types in the same way as contributions, they are posted with the same Payroll Postings report to the corresponding individual accounts.
Arrears payments

Procedure

Arrears payments only create problems for benefit plan funds [Page 13]: If wages are increased, the resulting increase of benefits is not yet paid for by corresponding contributions. Therefore, this discrepancy must be covered with arrears payments (exceptional contributions).

Arrears payments are not generally processed in the Individual Values PF Infotype (0279). This is only possible if wages are increased only once per year. The HR-component can simultaneously process many arrears payments, using the Recurring Payments/Deductions infotype (0014). If you use this, as it is set up in the standard system, it can result in a large number of maximum length periods with a constant exceptional contribution due to overlapping periods with a specified arrears payment:

It would not be practical to keep the entire exceptional contribution (monthly rate) in the Individual Values PF infotype (0279). For this reason, you should use the wage type category Arrears Payment.

The arrears payment amount is taken from the IT table using the function CHPK. A corresponding entry is created in the PK table, which allows you to post the arrears payment to the individual account.
Special Payments (→ Transfer to Financial Accounting)

The wage type category S (Special payments) allows you to read payroll postings with the function CHPK. This transfers such values to Financial Accounting.

You must code these postings with the wage type S. Processing control is read when creating manual postings to the PF account. The posting is then created in the next open month. As soon as the monthly payroll has been run for the open account, the postings are transferred to payroll.
Workflows

Purpose

The individual PF solution based on the PF module should be implemented so that you can run it without workflows. To implement PF workflows, it is best the start your own project, if the most important components of the PF module have been successfully implemented.

Here are some tips if you are using workflow for the first time:

- **Use as communication medium**
  
  An event in a department (such as a change in wages) can trigger a workflow, which informs the payroll administrators in another department.

- **Avoid complicated calculations**
  
  Calculations with container elements are limited. This also complicates the workflow EPCs (Event-controlled Process Chains). Alternatively, you can use PC activities, whose results can be transferred to the container.

- **Don’t automate everything**
  
  The temptation with the Workflow-Management-System is to automate everything. This can result in overcomplicated processes that are prone to error!

- **Avoid background steps as far as possible**
  
  Avoid running background jobs, even if it is technically possible. In this way, the user retains a clear overview of the workflow steps. This also makes the error search easier.

- **Assign appropriate employees**
  
  Each customer should have a specially-trained employee for workflows, who assists the user and analyses errors. This person can be defined as a Workflow-Administrator, and is informed of specific system errors per e-mail.

- **Administrator assignment per organizational plan** [Page 47]
  
  Assign administrators using organizational units.

The standard system sees processes as *customer-specific*. Therefore, the standard system has no finished workflows that can be implemented. Instead, it has *workflow-models* and *standard tasks*. You must copy these to corresponding customer objects — *workflow-tasks* and *customer tasks*.

Procedure

Generally, the following steps are required to set up customer workflows:

1. **Create the necessary customer objects** (by copying SAP objects). Note that the customer objects (workflow tasks and customer tasks) are client-specific – as opposed to the corresponding SAP objects.

2. **Set up Organizational Units** necessary to the processes. (⇒ Administrator assignment)
3. Set up the *administrator assignment* at the customer task level (possible administrator) and Activities (selected administrator). Note that the standard activities have no administrator assignment.

4. Check, and if necessary, activate the *event linkage*. Event linkage is always client-specific. Always use Business object types with the corresponding methods to define individual activities. To expand a SAP object type, you can create a sub type, where you can enhance or redefine methods.

Pension fund business object types have the names PFBasicCH and PFValsCH. You can use these to start the PC interpreter within workflows (Method PFValsCH.VSActivity), and to transfer these values (table VALUETAB) with the workflow-container to the subsequent tasks.

The following describes the structure of PF workflows:

- [Event outside the PF](Page 44)
- [Event in the PF](Page 45)
Event Outside the PF

Purpose

If a workflow is triggered by an event, which provides no information regarding a pension fund (for example, changes in the Basic Pay infotype (0008)), you must start the process to be implemented for all funds to which the employee is assigned.

To do this, you can use the instance independent method PFBasicCH.GetPFBasicDataList: A top-level workflow uses this to import a table with all possible funds (Object references from category PFBasicCH) to the workflow-container. The actual process is implemented with a further workflow, which is called up as a sub-workflow for each entry in the container-table.

You can do this by specifying the fund table (for example, BasicDataList) as a table element, under the setting Other, in the activity in which the subflow is specified as a task. Usually, there is an element for the object type PFBasicCH in the called up subworkflow container, that you must assign to the current table element BasicDataList() in the data flow of the call up activity. An example of this process is the workflow-model PF: Process change for BASICPAY.
Event in the PF

Purpose

If the triggering event occurs in the PF module (for example, creating a new Basic Data PF infotype (0278) record upon entry), one fund is recognized. The TopLevel is not required:

An example of this process is the workflow-model PF: Entry of all funds.
Refinement Possibilities for Entries

Purpose
The Entry Workflow assumes that the HR Administrator decides whether or not a new employee is to join the PF by creating the Basic Data PF infotype (0278). In practical terms, it is perhaps better that this decision is made in the PF department.

Prerequisites
Master data authorizations must be defined. That is:

- The HR Administrator can only write certain locked Basic Data infotype (0278) records (authorization level E). These are employees with the corresponding organizational assignment (for example, hourly wage earners). The entry-workflow is started for records that are saved normally.

- The PF Administrator must be able to write and unlock all records (Authorization level S).

Procedure
You can display the above per workflow as follows:

1. The HR Administrator writes the locked Basic Data PF infotype (0278) record (Edit → Lock/Unlock, Save).

2. A workflow is defined that is triggered by the event PFBasicCH.requested (Event-linkage). This workflow has the step approve, which is done by the PF Administrator. The corresponding task should be displayed on the PFBasicCH.edit method. In this way, the respective record can be deleted or locked. Locking can trigger another workflow, for example, Standard Entry.
Creating an Organizational Plan for the PF

Purpose
A significant problem when setting up the runtime environment for workflows is administrator assignment. The best solution is to create an organizational plan for the PF department. This requires a lot of time and work. It is never necessary to implement the HR Planning Module. You can create an organizational plan for the standard-workflows in a few minutes. Only if customer-specific individual steps are used, can this take more time.

Procedure
Creating an Organizational Plan for the PF

1. In the Workflow-Development Environment (transaction SWLD), choose Definition Tools → Organizational Plan → Create.
   The Create Organizational Unit dialog box appears.
2. To maintain a position, choose *Staff Assignments*. You can select from existing positions for a *PF Administrator* or if necessary, create an individual position. Result: A *PF Administrator* position has been assigned to the PF department.
Creating an Organizational Plan for the PF

3. You must now assign a user to the position *PF Administrator.*
   In the dialog box *Assign User,* enter the name of the user and assign a staffing percentage and a validity period.
4. Next, you must assign a relevant task profile for the Administrator:

1. Place the cursor on the PF Administrator (job).
2. Choose Task Profile.
3. Choose Assign Tasks.
   A dialog box appears, in which you can specify the tasks to be assigned. If the cursor is on the job entry, all user tasks are assigned for the PF Administrator’s position.
4. In the Select Task dialog box, specify HRCHPK as a search entry, as all identification codes for PF tasks have this prefix.
5. Choose Execute.
6. In the following dialog box, choose Select All (context menu) and Transfer.
7. In the next dialog box, choose Save.
   Tasks marked yellow are workflows that do not have to be assigned. The same applies for background tasks.

   Result: You have created the task profile for the PF Administrator position.

If you use customer-specific tasks in PF workflows, you must also assign these. SAP recommends that you keep to a uniform naming convention, as this simplifies the assignment of tasks.

This procedure creates an organizational plan more quickly than if you use PF workflows.

You have further possibilities to refine the organizational plan, such as:

- Differentiating between jobs with different task profiles
- Creating a PF Manager position, especially for such activities as missed deadlines
Emergency Assistance

Purpose

Workflow processing is largely based on running background processes. There are also workitems without dialog, especially in the case of PC Interpreter call up from workflows.

To solve workflow problems, appoint a Workflow Administrator, who is the contact person for the user. You can generally define a Workflow Administrator in Workflow-Customizing (or per Workflow), who is notified of any errors in background processes (for example, invalid workitems due to erroneous administrator assignments or organizational structures), by e-mail.

Procedure

You must specify a PC Administrator for processing control, who is notified of errors per e-mail. The PC Administrator is assigned a corresponding container element in the Toplevel-Workflows as an initial value, and transferred to the relevant subworkflows.

This is one of the reasons why the Toplevel-Workflows must always be copied to the customer workflows.

If an error occurs when processing a PC activity, the PC Administrator is notified in the Office-Inbox (not Workflow!). The actual message looks like a normal PC dump.
Call up the workitem selection for workflow.
Emergency Assistance

You can go to the Workitem-Selection for the call-up Workflow using *Execute*. This is a function of SAP-Workflow-Management-Systems. You can check the run-time data using the container-contents. If the (only) Workitem-line has been displayed, you see a step log of the corresponding workflow.
You can see an overview with the function *ActiveX-Version*. By selecting individual lines, you can display other details for the individual workitems.

You can call up the current container contents from this view with *Extras → Container*.

For more information on Workitem-Selection see *Help → R/3-Library → Business Engineering Workbench → SAP Business Workflow → Runtime System: Diagnosis and Test tools → Selection Report for Selecting Workitems and Workitem Display*. 
Further Notes

Most workflow problems occur due to erroneous **administrator assignment**. You can check these with Workitem-Selection. Note that you must carry out the function *Refresh OrgEnvironment* in the *Edit* menu of the Workflow-Inbox (standard system), after changes to the organizational plan.

If a workflow does not start, it is probably because **event-linkage** is not active. Note: this is client-specific.

Definition changes in the workflow environment only take effect with a **time delay**. It is best to restart the transactions or log on again to the system.

Workitems are created with a background process. You may also encounter time delays (minutes) here.

If your workflow-inbox in the test system is full of unusable work items, you can delete them by running Report RSWWWIDE. Do not use this in a productive system.
Reporting

Purpose
The concept of Universal Reporting enables you to enhance existing reports or to create new reports without ABAP programming. To do this, you must differentiate between two settings areas:

- Processes, calculations
- Output

Procedure
Output control is only required for SAPscript-based reports. Standard reports simply display the values determined from the PC Interpreter according to the output assignment.

For SAPscript-Reports, you must also consider the additional SAPscript forms, group formations and so on.
Concept of Reports

When conceiving a report, it is best to keep in mind the desired result. Complications arise with displayed interim results, where previous calculations must be split.

If necessary, create new value types for these interim results. Change the PC schedule so that you can also calculate these interim results. Instead of creating these interim results in the processes, it is better to replace existing value types such as LN10 (insured wage) with your own, such as 0010 (insured wage for report xy).
New SAPscript Reports

Purpose
You can access a new SAPscript report – for specified processing – with a new form or a differently-defined group formation.

Procedure

Group Formations
There are up to 4 user-defined group levels in the SAPscript reports.

To implement these, proceed as follows:

1. Choose a Group formation category or create a new one. You can specify up to four output structure fields (PR_TAB-<Field name>) for a new group formation category. As these are fields that are filled by the PC Interpreter, you can create derived terms for the basis of the group formation. For example, salary groups, age level.

2. Create a SAPscript form that has specific text elements for headers and subtotals for the defined groups. The text elements for the headers are called GRSx, each for the subtotals ZWSx, where x is the group level number (1 is the lowest, 4 is the highest; the total number is always displayed for ZWS5). Use the data (not the structure PR_TAB), from GRP_WAx when displaying subtotals.

3. Define a PC form that displays the defined SAPscript form. Assign it as a List.

4. You must include an output step with the above group formation category and the new PC form in an output sequence. If necessary, create a new output sequence.

Addresses, Headers and Footers
To use the same address, header and footer texts for all PC forms, these are added as Includes in the form text. Maintain the name of this text in the setting Reports → Basic Objects for SAPscript Reports → PC Forms → Determine PC Form Attributes.

Maintain these texts with transaction SO10 (R/3 Main Menu: Tools → Word processing → Standard Text) with the text-ID ADRS.
Generate Batch-Input Session

BI-Universal Reporting enables you to create BI-sessions for the Individual Values PF infotype (0279) and other infotypes, using certain table entries. Use this function to define exceptional contributions for an increase in salary for the Recurring Payments/Deductions infotype (0014).

Check these settings in the view cluster under Reporting → Reporting type 3: Universal reporting list with batch input → Maintain batch input for PC-schemas. If records should be created for the Recurring Payments/Deductions infotype (0014), specify the following:

- Pension fund
- Infotype 0014
- Sequence number (as of Release 4)
- Module pool MP001400 (generally: MP<Infotype>00)
- Screen 2000

You must define the field contents as dependent entries. You must select the name of the screen field for the field name. Use F1-Help on the field, then Technical Info:

<table>
<thead>
<tr>
<th>Field name</th>
<th>Value type</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>P0014-BEGDA</td>
<td>DT60</td>
<td></td>
</tr>
<tr>
<td>P0014-ENDDA</td>
<td>DT61</td>
<td></td>
</tr>
<tr>
<td>P0014-LGART</td>
<td>M80A</td>
<td></td>
</tr>
<tr>
<td>Q0014-BETRG</td>
<td>BT35</td>
<td></td>
</tr>
</tbody>
</table>

(Example in line with the standard for exceptional EE contribution)

If no value type is specified, the specified value is transferred as a constant to the screen field; otherwise, the formatted value for the specified value type.
Limits of Universal Reporting

Universal reports are flexible, but are limited. The number of fields in the display structure is limited. In an emergency, SAPscript-Universal Reporting can help, by using the fields for data types 05 or 99. However, you should be aware of the disadvantages in display formatting.

A data record is created for each personnel number and fund with a specified number of fields in the output table. This means that you cannot process a user-defined number of single postings. For example, you cannot display all postings in an account in SAPscript-Universal Reporting. You can only assign a specific number of postings per value type that are transferred to a specific field in the display structure.
User Interface

To use the user-interface, you need universal evaluation variants, to simplify the process.

Specify the variants CUS&<Fund prefix>_..., by assigning the respective fund CUS&<Fund prefix> in Customizing. Customer variants that begin with CUS& are transferred automatically.

If you do not use PF Workflows, you can hide the function Event linkage in the user-interface tools for the respective fund, by setting the assigned tasks to zero.

To select the funds in the initial entry screen, use the C-Table T5CP2. You can delete irrelevant funds here (IMG: Funds → Assign Schedule and PaGru for Fund). The funds are no longer displayed.
Transferring Legacy Data

Purpose

An important element of implementing a PF is the conception and execution of legacy data transfer. Generalizations cannot be made, as the respective problems are specific to the old system.
Conception

Purpose
All data that forms the basis for calculations must be transferred to the data component of the PF module. You can store the data in the account, or in the Individual Values PF infotype (0279).

Procedure
You must transfer the following values (DTUN is the transfer date):

<table>
<thead>
<tr>
<th>Value</th>
<th>Where to</th>
<th>Remarks</th>
</tr>
</thead>
</table>
| EE Entry Benefits               | Account  | Individually with value date  
                                  |          | Or as total with interest calculation  
                                  |          | Requires the minimum LMB acc. to FLV Art. 17 for the calculation  
                                  |          | The corresponding value type(s) should be assigned to VT attribute 26  
                                  |          | This value must not go into the savings credit (VT attribute 31), if it is transferred as a total  |
| Interest on EE Entry Benefits   | Account  | Requires the minimum LMB acc. to FLV Art. 17 for the calculation  
                                  |          | The corresponding value type(s) should be assigned to VT attribute 44  |
| EE contributions                | Account  | Individually, or as a total with value date DTUN – 1  
                                  |          | Requires the minimum LMB acc. to FLV Art. 17 for the calculation  
                                  |          | The corresponding value type(s) should be assigned to VT attribute 11  
                                  |          | These contributions must not go into the savings credit (VT attribute 31), if it is transferred as a total  |
| Advances                        | Account  | Individually with value date  
                                  |          | Alternative  |
| Contribution Plan Savings credit| Account  | Split by EE/ER  
                                  |          | Total or individual postings  
                                  |          | The corresponding value type(s) should go into the savings credit (VT attributes 30, 31, 32)  |
Benefit plan:
Base for benefit calculation
(Pension rate, non-insured pension contribution, technical entry date) | Account or IT 279 | The process depends heavily on the conception of this value processing in the new PF module
---|---|---
Termination benefits at the age of 50 | Account | 
LMB upon marriage | Account | 
Pensions | IT 0279 | 
Benefit plan:
Exceptional contributions | IT 0014, account | You must transfer the actual deductions and the total of the outstanding exceptional contributions for the last pay change

You may need to transfer other values, depending on the rule.

To correctly process these values, you must carefully assign the corresponding value types.

To enable special processing of legacy transfer data (in the processing schedule or when assigning VT attributes), it is best to set up your own value types.

Apart from calculating necessary values, it is a good idea to transfer data for future reference. You can use the PF account as a universal data reservoir.
Including Legacy Data in Calculations

To do this, assign the value types for the legacy data transfer to the corresponding VT attributes. In more complicated cases – for example, if the calculations were previously modeled differently – you may need to modify existing calculations so that you can process legacy data there as required.
Legacy Data Transfer Tools

Purpose

You must modify the three model reports. The sections to be modified are marked with a comment (C), and can be found using a global search.

These reports are:

**RPUPKUC0**
Transfer postings and generate BI sessions for the old PF
Modifications:

- Selection of the infotypes to be processed
- Assignment of *old fund → new fund*
- Origin of *Basic Data PF* infotype (0278) fields
- Origin of infotype 0279 fields (from infotypes)

**RPUADUC0**
Transfer of postings from an old system, Generate accounts
Possible modifications:

- Origin of files from which the postings are taken (Default: Workstation)
- Generation of the start/end dates for the new accounts
- **RPIADUC0**
  Transfer of master data from the old system
  Possible modifications:

- Origin of files from which the data is taken (Default: Workstation)
- Maximum line width of the data files

Get details regarding the reports from the corresponding report documentation. In the standard system, the reports can not yet be run. You must therefore copy these as local objects to the customer name space.
Editing the User-Interface

As the field in the Individual Values PF infotype (0279) are generically created, the normal Online-Help for the data element field is not very useful: You do not know the significance that the respective fields will later have. Use the transaction PUCA to enter documentation for each value type, which than appears as F1-Help. This F1-Help is also used in Posting Maintenance.

Also, there are a range of settings to cut out irrelevant information for the user. These are:

- **Funds for the user-interface** [Page 62]
- **VT attributes for dialog**
  The value type attributes are specified in the Implementation Guide (IMG) under Processing Control → PC Schedules → Determine Value Type Attributes for Dialog, that can be selected as a filter for posting maintenance.

- **Value Types for Dialog**
  After calculating the Individual Values PF infotype (0279) per Workflow or user-interface, you have the possibility of displaying all calculated values. You can limit this value type list, by assigning attribute 4 to the value type.

- **Function Event linkage**
  If you are not using workflows for a fund, you can hide this function in the user-interface.

**Error handling:** To simplify the analysis of errors, you can generate your own messages within PC methods. These messages are then included in the message list. You can alter the default messages for operation conditions in the setting Processing Control → PC Operation Attributes. You can specify different messages for the work area 5C; these must be in the customer name space (9++).

Access the PF user-interface from the master data maintenance menu (PA30) – for user parameter MOL = 02). A menu entry in the specific area is not expected (as it is not country-specific). Therefore it is best to set up an area menu, which can be assigned to the PF administrators using the fixed user values. Maintain the area menu with transaction SE43. You can use the area menu PACK as a template.
Most Used PC Activities

There are more than 100 PC operations on the Swiss Pension Fund processing context. Some are needed only for special cases.

The following table shows which operations are most often used:

<table>
<thead>
<tr>
<th>Code</th>
<th>Operation</th>
<th>Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>E0</td>
<td>Select postings</td>
<td>Select postings using value type; the postings must have been imported with E3</td>
</tr>
<tr>
<td>E3</td>
<td>Append account list</td>
<td>Account postings are imported to the already-existing postings from the database</td>
</tr>
<tr>
<td>E4</td>
<td>Delete account list</td>
<td>Internal postings are deleted; if postings are being processed, do this prior to the import (E3)</td>
</tr>
<tr>
<td>I0</td>
<td>Select infotype record</td>
<td>In line with selection criteria, an infotype record is imported into the respective header Pnnnn; the structure fields can be imported with V3</td>
</tr>
<tr>
<td>I6</td>
<td>Read value from infotype 0279</td>
<td>clear</td>
</tr>
<tr>
<td>P2</td>
<td>Read PC parameter</td>
<td>Key must match exactly</td>
</tr>
<tr>
<td>P3</td>
<td>Read PC parameter with interpolation</td>
<td>The interpolation is done between two parameter values (for example, for present value factor)</td>
</tr>
<tr>
<td>P4</td>
<td>Read previous PC parameter</td>
<td>If no PC parameter exists with an exact key, the previous parameter is read (for example, for contribution rates)</td>
</tr>
<tr>
<td>S0</td>
<td>Test match</td>
<td>clear</td>
</tr>
<tr>
<td>V0</td>
<td>Copy value</td>
<td>Has a parameter, which is returned as result</td>
</tr>
<tr>
<td>V3</td>
<td>Read variable</td>
<td>For example, to access infotype fields</td>
</tr>
</tbody>
</table>

Also, there are certain groups of PC operations (see Reference handbook -> Processing Model [Ext.]), that can not be implemented separately from one another.

This includes: Processing of infotype rates, processing of postings, projecting credit.

⚠️ Note that the PC operations are usually documented. You can display the documentation by selecting a processing line with this operation in the PC Editor (Maintenance screen for processing step) and in the field with the PC operation code, or call up F1-Help.
Concept of PC Methods

The goals of PC methods are:

- Accuracy, that is, the method implements the requirement
- Minimum effort, for example, by copying and modifying an existing method
- Reusability, for example, submethods, setting parameters

You must clear up the following questions:

- Which values should be determined and which processes should take place?
- How is the basic data created? (Master data, PF accounts, PC parameters, Payroll)
  An amount can be determined in different ways:
  - Calculating from insured wage and contribution rate
  - Reading from *Individual Values PF Infotype* (0279)
  - Reading from payroll result
  - Reading from PF account
Submethod Parameter

To be able to use the submethods as universally as possible, you can call these up with parameters.

Thus, when calling the method KE05.read, the pseudo-value type _P01 (= 1. submethod parameter) is replaced by DT31. The current substitution of _P01 is saved to a memory and then retrieved from there and restored after the submethod.

The PC editor uses _P01 in the submethod as a normal wage type; however, the type is not defined (thus, the data type = 99). At runtime _P01 is replaced by the value type specified in the submethod call and, thus, given its current value.

Here you must ensure that the parameters of a submethod have transferred the values correctly during the call. The system does not check this automatically. For this, use the where-used list. In subsequent versions, the PC editor will contain certain utilities for this.
Efficient Use of Tools

- PC Administration [Page 73]
- Entity Copier [Page 74]
- PC Editor [Page 75]
- PC Debugger [Page 82]
PC Administration

The *PC Administration* transaction (PAC0, PUCA) summarizes several settings for the process control administration that the experienced user can set up here rather than in the Implementation Guide (IMG).
Entity Copier

Problem: When copying a process control schedule in the Processing Control Schedules view, only this table entry is copied. You need a possibility to copy related table entries as well, for example, the actual method definition of a processing schedule.
PC Editor

- Creating Methods [Page 76]
- Delimit Methods [Page 77]
- Where-Used List [Page 79]
- Get Methods from Other PC Schedules [Page 80]
- Complex Search [Page 81]
Creating Methods

Creating Methods

To create a method, proceed as follows:

1. Position the cursor on an entry with a value type, a method type, an employee grouping, or a method variant.
2. Choose Create (F5).

Result: The SAP system creates an initial method as a processing line with undefined operation.
Delimit Methods

Purpose
For minor changes to a rule as of a key date, you can assign a validity period to the processing schedule method. To do this, create the new method variants, by delimiting the existing method variants.

Procedure
In the PC-Editor (Release 3.X), proceed as follows:
1. Place your cursor on the method variant node of the method to be delimited.
2. Select the Change Values function.
   This calls up the maintenance view for method variants.
3. Select the entry you want to delimit, and choose Delimit.
4. Specify the date on which the rule change is to take effect.
5. Select a new method variant.
   Otherwise, you cannot create a new method.
6. Save your entries.
Delimit Methods

In Release 4.X, there is a separate screen for maintaining method variants. This makes such maintenance easier. In particular, it helps to eliminate erroneous entries.

1. Place the cursor on the relevant method variant.
2. Choose Edit Values.

You can create further method variants or delete the last method variant using pushbuttons in the menu bar.
Where-Used List

Use

Using this function, you can find the positions in the PC schedule where a value type is used or a method is called. This takes place dependent on whether the cursor placed on a value type, method type, employee grouping, or method variant.

The where-used list is helpful for analyzing existing processing schedules.

Furthermore, you can use this if a method has been enhanced by another parameter (pseudo-value types _P++) and you have to adjust the different calls. You can make an adjustment by entering the submethod parameter.
Get Methods from Other PC Schedules

Use

It is often helpful to be able to import methods from another processing schedule. This is possible by using Utilities → Get Method for Value Type for each value type.

In release 3.X no method definitions for the current processing schedule are allowed to exist for each method. As of release 4.X, this restriction no longer applies. In addition, existing method definitions can be overwritten.
Complex Search

Purpose

To find the processing lines according to content, use the function *Complex Search (Utilities --> Complex Search)*. You can search according to the following criteria:

- Lines with a certain method type – for finding certain *special methods* such as those for subsequent postings. This search is only useful for method types that are rare.

- Lines with certain operations: For example, you could search for those lines in which infotype records or postings are selected. The search for operations is very useful if an operation has been enhanced (with a new parameter). You can then list all corresponding processing steps and edit these sequentially.

- Lines with certain value types (Usually, these can be determined by where-used lists. However, this is not valid for the parameter value types such as DTBU or VA00; these value types do not have to be defined in the PC schedule)

- Lines with operations that have a parameter with a certain PC value set (this way, you search for value type characteristics or value types). Here you can search for all processing lines that contain an account authorization (AA), an infotype number(I0), a wage type (L0), a method type (M0), or a value type characteristic (VP) as an operation parameter.
PC Debugger

**Definition**

The definitions in processing schedules are a type of programming. Thus, errors might occur. Therefore, the PF module contains several tools in order to find the source of the error:

- The PC operation **Interruption**
- Exceptional processing generated by the system (**PC Dumps**)
- The **PC Debugger**

  The PC Debugger is a simple tool that can perform the following functions:

  - Allows PC actions to be processed
  - Gives the current runtime for this processing (log)
  - Displays the results of processing (value table)

For detailed information on the PC Debugger, see the [Troubleshooting: PF Debugger][1].

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[1]: http://www.sap.com
Examples

Below, you find several examples of how to use the processing control and other settings in order to solve concrete problems. Several of these examples are typical procedures that are also used in the standard processing schedules. Others are suggestions for solutions that, however, go beyond the standard.
Return Code Processing

Return codes from operations supply the PC interpreter with certain information. In some cases, they signal an error. If there are errors, these are returned in the methods for the call. This procedure is used for all levels of the submethod; therefore, processing is cancelled completely.

You set processing for return codes in the Conditions group boxes. You can define the following options:

- Continue to next operation
- Goto a defined target (LABEL)
- Back to the call operation

Example of the processing control flow
Return Code Processing

Method 1

Method 2

Method 3

Line type SUB

Line subtype SUB

Error occurs

Method 1

Next

Go to A

A

Next

Next

Next

Next

Method 2

Next

Next

Next

Next

Next

Next

Method 3

SUB

Back with RC 1

Back with RC 1

Back with RC 0

SUB

Back with RC 1

Next

Next

Next

Next

Next

Next
Projection of Age-Related Credit

The process for calculating the age-related credit is always the same:

1. Get the relevant postings using value type characteristics (operation E5, line type CUR)
2. Cumulate relevant postings (operation E1, line type SUM)
   The second line must contain a label that is activated after a posting has been read.

Note that missing postings do not usually mean that there has been an error. They should only return a return code <> 0 in exceptional cases.
Projection of Value Dates

The value date for a posting is determined using the method `_A02.calculate`. It is based on the value type and the posting date.

As a default, the posting date and the value date are the same. If, however, a method with the method type 04 exists for the value type, it is called to determine the value date.
Counter

The system requires counters for the statistic list. They are set using the method \_T00.save. For each data record, each counter is set to 0 or 1. The SAPscript universal evaluation then collects the rest from other subtotals and totals.

The counter to be used is determined using PC parameters VT10, VT20, VT30. The count actually takes place using indirect method calls.
Simulation of Pay Raises

Essentially, simulating a pay raise replicates the process of carrying out a pay raise exactly. Ensure that no data is written to the databank during the simulation. Usually, this does not happen because the pay raise is carried out using the infotypes for payroll. If required, start the report in the Test mode.
Bonus Payment Simulation

The simulation of bonus payments is similar to the simulated wage increases. This means that the simulation takes place in with the option *Test mode* or writing postings as *Subsequent postings*. Only specify one evaluation to calculate and display bonus payments.

The almost completely automatic formation of subtotals and totals provides information on the total costs of the bonus payments.

Define the calculation rule for the bonus payment as a method in the PC schedule. Maintain any necessary parameters in the selection screen.
Address Control

For controlling addresses, you must answer the following questions: Which insured persons receive the forms as internal mail and who has the forms sent to their private address? How is the internal address formatted?

SAP is currently planning a comprehensive solution for the standard system.

Read also Letters with SAPscript Evaluation [Page 92].
Letters with SAPscript Evaluation

You want to write a cover letter for the insurance statement. This letter is then adjusted to the appropriate situation (entry, change in wages, confirmation of deposit, and so on).

A SAPscript form can be generally be a multi-purpose form so that the problem is solved by adding a page to the insurance statement. The content of this page can be a text-include in which all available fields (ADR-xxxx, PR_TAB-xxxx,...) can be used.

You could enter the include in an additional selection parameter (value type wwww; you assign this to a field in the output structure).

The include, then, is entered in the form as the corresponding variable text symbol. Several variants are created (entry confirmation and so on) for the different letters. The user can then choose from these variants.
Interest on Entry Benefits for Minimal LMB

This is a problem with the transfer of legacy data. To determine the LMB minimum for a payment upon leaving, the following basic data is needed:

- Entry benefits (account)
- Interest on entry benefits (account)
- Contributions

Often, the interest on entry benefits is not recorded in the old system although they are necessary to calculate the minimal benefit in accordance with LMB (art. 17). In this case, the interest can be calculated and credited in a special PC method.

You find an example of this in the standard PC schedule S0. There, the value type UZ30 is calculated and posted in account balancing up until 12/31/1997. This is included in the interest calculation through value characteristic 44.
Increase in Pension

The PF pensions are made up of the actual pension and the cost-of-living increase. Cost-of-living increases are usually made on a regular basis.

You manage pensions and cost-of-living supplements primarily using the infotypes for payroll. This is useful because they must be processed during the gross payroll run.

![For pensions (wage type category R) it is assumed that they are also in Individual Values PF infotype (0279).](image)

Pensions are increased for wage types by running the report RPITRF00. Here, you can define complex rules for the increase.

To transfer this data to PF you can then use the BI universal evaluation.
Counter in Universal Evaluations

You want to create an evaluation that determines how many employees are included in a certain group of insured persons. The following are examples:

- Entries/Leavings
- Insured persons list divided up according to sex and pensions that these insured receive.

To create such an evaluation, you can use the automatic formation of subtotals in the SAPscript universal reporting.

For each category that determines the count (entry/leaving/pension amount), you must set up a value type and a field for this value type. This then functions as a counter. You must set the value in this field to 1 if the person falls into the required category. Otherwise, you set the value in the field to 0.

The formation of totals using this field then gives you the result you want.

All numerical data types (01, 02, 03) can be used as a counter.
Special Problems

- Several Funds in One System [Page 97]
- Groups of Insured [Page 101]
- Processing Pensioners [Page 104]
- Individual Special Rules [Page 105]
Several Funds in One System

A typical demand from customers is the capability of running several funds in one system. In this case, the following constellations are possible:

- Several funds with exactly the same rules (this means per definition)
- Several funds with similar rules; differences are mainly in certain values such as contribution rates.
- Several funds with different rules

Each real fund (→ rule) should correspond to a fund in the system. You should set up the funds so that the effort is kept to a minimum for setting up and maintaining processing plans and PC parameters.

For more information, see:

- Identical Funds [Page 98]
- Similar Funds [Page 99]
- Different Funds [Page 100]
Identical Funds

If the funds are identical, you can assign the same processing schedule or the same parameter area determination grouping to them. For later changes, then, you only have to maintain the PC parameters and schedules once.
Similar Funds

You only have to create a single processing schedule for rules that are very similar. Minor differences can be accounted for within the schedule by using different calls.

If the only difference is in values of the PC parameters, you must set up and assign different parameter area determination groupings for the funds. The matching PC parameters must be summarized in a separate parameter area. Thus they can later be maintained at one time for the different funds.

![Diagram showing PC schedule and parameter areas for Fund 1 and Fund 2]
Different Funds

If there are major differences in the rules (for example, one has a contribution base, the other a benefits base), you must choose different processing schedules. Calling up the different rules would be confusing.
Groups of Insured

The insured employees can be grouped according to the following criteria:

- **Calculation of the insured wages**
  For certain insured employees, wage elements, such as commission, can be included in basic pay.

- **Contribution rates**
  Higher ER contributions and corresponding lower EE contributions may exist for certain insured employees.

- **Special regulations/transitional regulations**
  These can be, for example, regulations that protect the employee’s credit if he or she belonged to a fund before a change in regulations was implemented.

- **Active/Pensioner**
Technical Implementation

The PF module contains several options for processing employee groupings. The following areas represent a few examples:

- **Layout of Individual Values PF infotype (0279)**
  The assignment of wage types to the fields of infotype 0279 depends on an EE grouping. The employee grouping is determined at runtime by the CHPKP feature. This allows a distinction between active employees and pensioners.

- **Choice of PC methods**
  For each value type of a PC schedule, you can define whether a difference should be carried out according to the EE grouping by using the setting Value Types → Characteristics. In this case, you must specify a feature to determine them. This difference can, for example, control the calculation of the decisive wage dependent upon an EE grouping.

- **Import conditions in PC methods**
  Example: Import PF attribute 01 in PC schedule S0 for determining savings-contribution rates.

- **Definition of appropriate PC parameter**
  Example: PC parameter BSR0 in parameter area S3
Pensioner

A pensioner who draws a pension from the PF must be registered in the system with a personnel number so that this pension can be paid out.

In principle, an account can be assigned to several personnel numbers at the same time; however it is not possible for more than one account of a certain account type to exist for a personnel number in a fund at one time. When creating a posting, you must be able to determine the appropriate account from the entries for posting date, fund, and account type.

An account on which pension is drawn must have the account type 02 (passive).

If the pension paid out is to be recorded in the PF, the pensioner must be assigned to each account.

If the person is both active and draws a pension from the PF, a separate personnel number usually has to exist for the active employee and the pensioner. If the employee draws on several pensions, this must be the case for each pension. The reasons are as follows:

- Wage statement
- Cost distribution
- Restriction in the assignment of personnel number ↔ account number
Processing Pensioners

Special case: Partial invalidity
Partial invalid, 1 personnel number

Advantages:
- Reduced redundancy/inconsistency
- Increased clarity

Disadvantages:
- Pensions are paid out together with wages The other pensioners may request payment earlier
  (Possible solution: DME special payment)

Problems:
- Assignment of costs

Partial invalid, 2 personnel numbers

Advantages:
- The pensioner can be assigned to a payroll area for pensioners.
- For other pensions, you must create individual personnel numbers anyway.

Disadvantages:
- Restricted clarity
- Redundancy
- Inconsistency
Individual Special Rules

Activities

Individual special rules are supported in various ways. The simplest case is manually overwriting values in Individual Values PF infoType (0279). To do this, you do not need to make any special preparations. If this option is not available, you can set the appropriate fields to Display only (in the field assignment).

If the individual special rules affect whole groups of insured, they can be controlled using the PF attribute.

You have a second option. You can store individual values as postings to the account, thus allowing them to be included in calculations. If the system finds a posting, its value is used. Otherwise a value is calculated.

Note that this could have complications. For example, the posting could have been reversed. To ensure that this is not the case, you must read a total within a given time period and, for example, check for the value 0.
Questions and Answers

Stammdaten [Page 107]
Sachbearbeiteroberfläche [Page 110]
VS-Editor [Page 111]
VS-Methoden [Page 113]
Auswertungen [Page 117]
Abrechnungsintegration [Page 118]
Workflows [Page 119]
Aktivitäten bei einer Einführung [Page 120]
Sonstiges [Page 124]
Master Data

Infotyp-Header [Page 108]
Gestaltung des Infotyps Individuelle Werte PK (0279) [Page 109]
Infotype header

*The system does not display headers for the PF infotypes.*

or

*The system cancels the transaction when I call a PF infotype.*

Check the following settings:

- Assignment infotype → screen header (T582A)
- Assignment screen header → header modifier (T588I)
- Definition of headers (T588J)
  
  If required, the infotype headers must be generated here. As of the 4.5 release, infotype headers are generated automatically. Under certain conditions, an adjustment of the tables mentioned to client 000 is necessary.
Layout of Individual Values PF Infotype (0279)

I have assigned the fields for active employees and pensioners; however, the system gives me the message „EE grouping cannot be determined“. Probably, the CHPKP feature has not been generated.

The field assignment for infotype 0279 has been changed. If a new record for the infotype is created by copying, the old field assignment stays intact. Why?
In Individual Values PF infotype 0279, the actual values and the corresponding value types are stored because the value can not change semantics when a the field assignment has been changed. These value types are copied into the former fields.
In release 4, the report RPUA79C0 allows you to reorganize master data. As of the 4.5B release, certain changes in the field assignment are automatically taken into account.
User Interface

Employee view

*If you call up the employee view, the transaction is cancelled.*

The employee view is integrated in an infotype header. If this has not been generated, the system cancels the transaction because it tries to call a subprogram that does not exist.
PC Editor

Operationsparameter [Page 112]
Operation Parameter

A parameter of an operation, for example, a submethod call must be specified with a certain data type. How can this be achieved?

In several cases, you need the F4 help – for example if a parameter is numerical, but to be processed as a character string, such as when comparing GSCH with a constant.

How can you find the processing steps for a processing schedule that must be adjusted with the standard?

You can mainly do this with the function Utilities → Complex Search in the PC editor.

I have discovered that the standard processing schedule has been enhanced and I want to transfer the methods to my customer processing schedule in order to adjust them.

For this you can use the function Utilities → Get Methods for Wage Type.

When creating a submethod call, I the system gives me the warning message „Value xxxx does not match parameter 01“. However, the specified value type is correct.

The parameter (and value types) are not automatically converted to capital letters. Apparently, the value type was entered in small letters; however, such a value type does not exist.
PC Methods

Buchungen [Page 114]
Lesen von Basisbezügen [Page 115]
Allgemeines [Page 116]
Postings

In a method, the system reads the letters; the system always returns the value 0 even though the appropriate postings exist.

This can have various causes:

1. The expected postings are not in the selection; this means that the value type, value type characteristic, and the posting/value data are incorrect. Note that a selection is a two-step process. First the postings are imported from the database. In a second selection the system actually gets the postings.

2. In the top-level method, the system does not import any postings from the database (PC operation: Attach to Account List and afterwards Delete Account List.) Usually, these operations are called directly after the infotype records have been selected. In case PC actions have not yet required any postings, these calls are probably missing due to performance reasons.

For details on the account access, see Processing Model: Accounts [Ext.] in the Reference Manual.
Reading Basic Pay

Reading Basic Pay

How can I control which wage types from Basic Pay infotype (0008) (Operation/8) are used to determine the monthly wage?

You use the Wage Types for Monthly Wages (IC) operation in order to specify the wage types used to calculate the monthly wage. If the logic for the calculation of the monthly wage for hourly wage earners cannot be used, specific amounts from wage types from the current record for infotype 0008 can be read by using the Amount Ltype Infotype 8 operation.
General

How can a certain value be assigned to a value type from a method that is derived from another value type?

You do this by using a method (usually with method type 05) for this value type by copying a submethod parameter (operation V0). For copying, this method is called; the desired value is specified as the method parameter.

How can you query a date DTxy, as to whether it is, for example, 03/01?

Here, you must use a trick. Use the operation Put Together Date (D8) for the date (or a copy if the date if it is a submethod parameter). Set the date to a fixed year, for example, 1977. The operation parameters must remain initial for month and day. This date is then compared with, for example, the 03/01/1977.

Can PC parameters be dependent on organization data?

For this, create a value type 1ORG. This should contain the appropriate field (for example, personnel area). The PC parameter can then be set up with this value type in the key.

If the field for organizational assignment is stored in Organizational Assignment infotype (0001), proceed as follows in the processing schedule:

1. Select a record for infotype 0001.

2. Assign the content of this field to the value type with the organizational unit (operation V3).

For the value type 1ORG, you can set up a value help that contains the defined PC value sets and to which the value type is assigned.
Reporting

PC Schemas

Can I use the standard PC schemas delivered by SAP or is it advisable to create my own schemas?

For the PC schemas it is possible to use the standard objects because their relevant settings are not overwritten during an upgrade (C or G tables).

Forms

I have adjusted a SAPscript form; however, the output has not changed.

The SAPscript form must be activated. If required, you must ensure that the form is in the correct language.

SAPscript Evaluations

How can I integrate the addresses and the headers/footers into a PC form?

Generally you can integrate the texts as text elements directly into the ADDRESS, HEADER, and FOOTER windows.

The standard forms include these texts using the corresponding settings for the PC forms.

Ensure that these texts exist in the system.

Additional Entry Parameters

Can the additional entry parameters be used to enter, for example, an address in the selection screen?

You cannot use the additional entry parameters because the fields are not long enough. The entry parameter should make simulations possible.

Your data format is 12 or 18 digits (external or internal).

Use the fields to specify the name of a text include. Use the SAPscript text editor to create the include text.
Payroll Integration

Concurrent Employment

Does the pension fund support concurrent employment?
No.

Payroll postings

Can you prevent payroll postings?
No. Each entry in the payroll table PF that was created in line with the assignment table for payroll integration (T5CPA), results in a posting to the individual PF account.
Workflows

Processor Assignment

I have just set up an organizational plan and now I should be assigned as the processor for PF work items. However, my workflow inbox remains empty.

Choose (as of release 4) from the standard WF inbox Process -> Refresh OrgEnvrnmt
Implementation Activities

Wertarten [Page 121]
Altdatenübernahme [Page 122]
Kopieren einer Vorlagekasse [Page 123]
Value Types

Is it advisable to copy standard value types?
Almost all settings for value types depend on the schedule. Therefore, they have a customer name space. For this reason, you can generally use the SAP standard value types.

When should I create new value types?
If no corresponding SAP standard value type exists or only a value type with inappropriate terminology exists (for example for field names in Individual Values PK infotype (0279)), you must create new value types.

When creating a customer value type, I get the warning that the object is in the SAP name space.
The customer name space for value types mainly contains the value types written " #xxx" and "#xxx". The symbol "#" represents a digit. See also Customer Name Spaces [Page 34].
Legacy Data Transfer

When transferring legacy data, do I have to transfer Individual Values PK infotype (0279) or is it sufficient to calculate it using the batch input New Wage and Salary Data?

Whether or not it is necessary to transfer the data in infotype 0279 depends on the data that the infotype contains.

In the benefit base fund, it may be that this infotype contains data required for the calculation of benefits (for example, a pension rate). This data is not changed along with a change in wages. Therefore, it must be transferred.

The following could be another reason. The infotype contains certain pensions (if a case of partial invalidity, the invalidity share and the non-invalidity share is processed over the personnel number).
Template Fund Copy

I have copied a standard template fund. If I choose and start a report from the user interface, the template fund is already specified in the report selection screen. However, it is not ready for entries.

When copying the template fund, its variants are used. To correct this, you must specify a variant prefix for the new fund; for this prefix, then, you must define variants for the various reports (ABAP Editor, variant maintenance).

While copying a template fund, PF attributes from Basic Data PK info type (0278) were not taken into account.

The entity copier copies table entries based on the key domain „P02K_KASSE“. However, PF attributes are assigned based on the domain „SUBTY“.
Miscellaneous

Wartung [Page 125]
Zeitpunkt der Einführung [Page 126]
Aufwand [Page 127]
Benutzerparameter [Page 128]
Varianten [Page 129]
Performance [Page 130]
Tabelleneinträge [Page 131]
Maintenance

Are PF corrections delivered via Support Packages (formerly LCP)?
Yes. Usually, corrections for programs are contained in the notes so that the changes can be implemented manually.

Where can I find notes for the new PF?
You find the notes for PK under the area PA-PA-CH. You can select the note from the area by entering the release and the key work pension fund.
Time Point of Implementation

Can I only implement the PF module on 01/01/ of a year or is a later date possible as well?

In principle, you can implement the PF module at any time point. However, you must ensure that changes in master and transaction data are updated retroactively back to the beginning of the year.

For correctly determining the LOB age-related credit, the LOB base must be recorded for the entire year in Individual Values PF infotype (0279). If the infotype starts at a later date, the calculation base for the LOB age-related credit is reduced accordingly.

Alternative: You can write the LOB base to the account. In this case, however, Basic Data PF infotype (0278) must exist with a period after the beginning of the year (or the entry date).
Amount of Effort

How much effort do I have to invest in order to implement the PF module?

No one has had enough experience to allow a definitive statement. Generally, the following is valid:

- A savings account is much easier to configure than a benefit-based fund.
- For a benefit-based fund, you always have to set up benefit calculations. Currently, the standard only contains the calculation for pension reductions. The conception and conversion takes an estimate of three to four days (if the technical side poses no problem). Later, you may have to make corrections and refinements.
- New evaluations require between two and ten days working time, depending on the complexity of the evaluation.
User Parameter

Are there special user parameters for the Swiss Pension Fund?
Yes. For example, you can assign the PK value to the TEA parameter.
Variants

In the test system, I have created variants for the user-defined funds. How can I transport these into the productive system?

You use the function Variants→Transport Request in the variant maintenance of the ABAP editor (transaction SE38). When choosing the request, you must specify the task and not the request.

As of the 3.1I release, there is also an automatic transport connection for variants that follow a set naming convention for user variants: SAP&* or CUS&*.

How can the variants be transferred to the desired target client?

The transport that contains the variants can be imported directly into the target client („tr... clntXXX...“).

Alternative: Import into client 000 and client copy (transaction SCC1) according to transport request.

Several table entries appear to be missing from my new system. Thus, the template copier does not function properly.

The PF module contains several Customizing tables (delivery class C). During the put, the entries for these tables are not automatically distributed to the customer clients. These tables must be adjusted manually. Be aware that the user specified in the RFC destination must have the correct authorizations in the source client.
Performance

Can the new pension fund management actually process such large amounts of data?

Yes it can – provided the hardware is capable as well.

As of the 4.6A release, the universal evaluation supports as split or parallel run so that processing can be divided among several application servers or databases. The three reports for universal evaluation have be combined in one report.
Table Entries

Table entries appear to be missing from my new system. Thus, the template copier does not function properly.

The PF module contains several Customizing tables (delivery class C). During the put, the entries for these tables are not automatically distributed to the customer clients. These tables must be adjusted manually. Be aware that the user specified in the RFC destination must have the correct authorizations in the source client.