Principles of successful time management configuration in SAP: Lessons for new and existing implementations

Sven Ringling
iProCon
In This Session

- We’ll discuss lessons learned in the trenches of 19 years of time management configuration, most notably time schema, in SAP
- Whilst the lessons stem from time management schemas that have been used for some years, anybody planning a new implementation will take away valuable advice, too
- We will show:
  - Techniques to analyse an existing time schema
  - Some typical pitfalls and how to avoid them
  - Guidelines for schema documentation
- We will not:
  - Provide a comprehensive training session for time management configuration or discuss all tables, functions and operations available
- We’ll have a quick glance at the future of time management in S/4HANA / SuccessFactors
What We’ll Cover

• Why would your time schema need a redesign?
• Typical pitfalls to watch out for
• Analysing your existing set-up
• Best practice for documentation
• A glimpse on the future of time management
• Wrap-up
For Most Time Schemas There’s a Redesign Moment

- **Root causes**
  - Most initial implementations didn’t have long term ease of maintenance in mind
  - Documentation was often high volume, but low value
    - Typical: a document with screenshots of all config steps
    - No overview of critical elements and no link to business requirements
  - After the initial implementation, changes were made
    - Without the big picture in mind
    - Without updating documentation

- **So what?**
  - After several years of changes and with the initial consultant gone
    - New changes become more and more risky
    - Errors in special cases keep popping up
Benefits of a Time Configuration Review

- Reduced maintenance cost
- Lower risk for ad-hoc changes
- Clean basis for rollouts
- Improved usability
  - e.g. due to cleaned up dropdown lists
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Hard Coded Numbers

Never put a number that could change into your schema

Use a constant from table T511K instead

Easier Maintenance and time dependancy
Avoid Hard Coded Organisational Objects

Not to use in your schema

• Personnel (sub)areas (PSA)
• Employee (sub)group (ESG)

Use instead

• Personnel subarea groupings in V_001P_ALL
• Employee subgroup groupings in V_503_ALL
• Set modifiers in schema using function MOD

Benefit

• When you copy a PSA or ESG, the copy works immediately
• When you create new ones you only have 1 or 2 places to check
Modifiers in function MOD

- Modifiers are set in a custom copy of rule MODT with operation MODIF
  - A: Absence valuation
  - D: Day grouping for T510S (only in day processing)
  - L: Time balance rule group (for function LIMIT)
  - Q: Quota selection rule group
  - S: type for dynamic work schedule assignment
  - T: time type determination (T555Z)
  - W: wagetype selection for T510S
Employee (Sub)groups go Across Countries

• T503 is a table with far reaching impact, so this is dangerous
  • When making changes to this table, users are asked for the country, making many of them think they make changes for one country only
  • However:
    ▶ The entries in this table can refer to many countries
    ▶ The view only applies a filter for irrelevant entries
    ▶ Any change can affect many or all countries

• Solution
  • The configuration of Employee Subgroups and their groupings should always be a global responsibility, not done by local country teams
  • Alternatively: use each Employee (Sub)group for one country only (works for limited number of countries)
Make Good Use of Groupings for Personnel Calculation Rules

- It allows you to run different “variants” for each rule depending on this grouping
- An option often neglected leading to
  - Unnecessary large decision trees
  - Doing the same change several times rather than once
Special tip for Groupings for Personnel Calculation Rules

- Within a custom rule, you can switch to a different grouping for personnel calculation rules
  - e.g. to process the same coding for 2 different groupings without writing the coding twice
  - You do this using operation PAYTP
- If your don’t have enough space in one rule you have 2 options:
  - using a subrule
  - Or a different grouping for personnel calculation rules, which is not otherwise used (usually letters rather than numbers)
Differentiate Between Day Processing and Month End Processing

Day processing fills TES (day balances)

CUMBT transfers this into SALD (monthly balances)

Using ADDDB after CUMBT or ADDMB before CUMBT leads to erratic results

This may well be the most ignored crucial rule in SAP Time Management documentation:

**Recommendation**

You should only use operation ADDMB in period end processing under IF EOM. If you use the operation in day processing (between BDAY and EDAY), it may cause errors if there is a recalculation.

Note: reading monthly balances during day processing is ok.
Time Dependancy in the Schema

It is normal practice to use IF statements to have certain parts of the schema processed before or after certain dates only.

However, this can make the schema chaotic over time:

- Try to define definite cut off dates, e.g. 2 years in the past
- Don’t allow retro before that and delete obsolete schema parts
- Keep them safe somewhere, so they can be restored just in case.

Avoid using year and month in the schema directly:

- Use a “switch” instead: a constant in T511k, set to “1” for the period the special logic is to be processed
- This way, there’s only one place to change
Daily Maximum Working Time

Daily maximum in SAP standard schema
- Value from daily work schedule configuration
- Constant TGMAX,

Custom amendments
- Custom rules for the daily maximum are often required
- Usually the cut off happens in function LIMIT, where custom limits are given in configuration tables

Problem
- Function DEFTP is hardcoded to use standard sources mentioned above

Solutions
- Enhance coding in function module RPTMAS02_GET_TGMAX
- Set TGMAX to 99 and add custom logic later
Paying Overtime in Arrears: Cost Assignment Issue

- Paying overtime and other time wagetype only in the following period is not unusual
  - This is usually done in the payroll schema, by importing table ZL (time wage types) from the previous month
- However, what few people are aware of:
  - The original cost assignment gets lost
  - Instead of this, the first cost assignment of the payment period is used

Solution

- Ideally, you decide you can live with that and just need to be aware in case of questions
- A technical solution is possible, but can be complex and involves
  - Forcing an explicit cost assignment for each wagetype in time management
  - Enhancing SAP standard coding in payroll (form import_c2_zl in RPCZA100)
Observe Documentation and Descriptions, When Copying

Copy standard rules

- You often copy standard rules and then amend the logic
- If documentation is not amended as well, it can be very confusing
- Check for all relevant languages!

Copy table entries like time types

- You need to check all relevant languages
- E.g. you copy sa time type called “on-call weekday” to create “on-call weekend”
- If you change the text in English only, but it is used in French as well, this can create confusion
- Even, if you use separate time type groupings per country:
  - Someone from corporate HR may still report on local data in different language
  - Some countries like Switzerland use several languages
- Make sure it is clear, which languages are set up properly and can therefore be used by end-users
Do You Need Authorisation for Infotype 0008 and 0004?

• In some cases you may need information from infotype 0008 (basic pay) or 0004 (challenge), because
  • wagetype generation is based on payscale data or
  • leave quota calculation is based on challenge percentage
• To have access to that data, you need to use function CHECK to make it available
  • CHECK BP for infotype 0008
  • CHECK CHAL for infotype 0004
• However, in that case users running time evaluation need read access to the respective infotypes. If you want to avoid this you can
  • Assign these rights only for a non-existing employee group
  • Assign authorisation object P_ABAP with report RPTIME00 and degree of simplification “1”
  • Then time evaluation will work, but no direct access to these infotype is given
Merging Two Time Schemas

Using several schemas can be difficult to manage

Idea: create one schema only with different subschemas called for different populations

To observe: subschemas need to be split between day and month-end processing
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Tools for Analysing Your Time Configuration

**Standard tools**

- Schema comparison custom vs. standard
- Report RPDASC00: fully expanded schema
- Report RPUCCOSE: search in rules
- Report RPUCTC00: list coding for selected rules
- Transaction SE16: Search in features

**Often used custom tools**

- Unused work schedules
- Unused time types
- Extended schema comparison
- Extended schema search
Expanding the Whole Schema

- Can be used for Time Management as well as Payroll Schemas
- When used for analysis, you’d usually want to expand all subschemas and rules
- The use text search in the result list, e.g.
  - ADDMB to see, whether it occurs in day processing
  - OUTWPPLANT to see, whether the personnel area is read directly without groupings
Standard Tool RPUCCOSE: Search in Rules

Source text search in PC rules

Personnel Calc.Rule 2*

Search strings
Free Entry *ADDNE*

Operations that are useful in certain cases

- *MULTI ANN*
- *MULTI RNN*
- *MULTI NNN*
- *MULTI AAN*
- *MULTI RNN*
- *MULTI AAA*
- *MULTI RNN*
- *MULTI AAA*

Operations that are not useful

- *MULTI ARN*
- *MULTI RAN*

Allows for pattern search in specified rules, but not in full schemas. Can be useful in some cases, but RPDASC00 is usually more helpful, because it provides the context.

Relevant for Payroll
Using the Data Browser

- Transactions SE16, SE17 or SE16N can all be used for this purpose
- Idea: schemas, rules and features are also stored in tables and whilst schemas and rules have other tools for analysis, checking the tables directly can be very useful for features
- The relevant table is T549C

  - This example shows how to find features using employee subareas in the decision tree

  - You can search for
    - WERKS (Personnel Area), BTRTL (Personnel Subarea)
    - PERSG (Employee Group), PERSK (Employee Subgroup)
Avoid Duplicate Work Schedules

- Whilst not exactly an analysis tool, the Work Schedule Rule Finder fits into this context very well.
- It allows users to use various search criteria to find existing work schedules.
- This often helps to avoid the creation of new work schedules, although an existing one could be used.
- For implementation, check SAP note 1795844.
Custom Tools

It is often useful to build custom tools, e.g.

• Find obsolete entries like time types of work schedules
• Find breaches of rules/conventions in schemas easier than with the standard tools

Some tools are quick to build for a developer, but

• ...require a good understanding of time management data and configuration
• ...your consulting partner may have tools available already
Life Demo for Analysis tools

Demo
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Components of a Time Management Documentation

- Time sheet with time types
- Overview of time types and time wagetypes with explanation when they are created
- Naming conventions for schemas, rules and config tables
- Overview of and absence/attendance types with definition, when to use
- Overview of variables used in the Schema
- Calculation flow of selected time types
- Logic for overtime approval
Errors are usually spotted on the time sheet first.

Then you need to find out, which time type is wrong.

You need a document, where you see, which time types / wagetypes / sums are printed on the time sheet.
Variables Used in the Schema

Variables can be used for temporary results in the time schema

- Stored with operation ADDVS
- Variables have a key, but unlike time types no description

Using variables makes it difficult

- To understand the schema
- To interpret the time evaluation log

Provide overview of all variables used

- Find them using full text search for ADDVS in output of report RPDASC00
- Capture and explain them in a separate list
Keep the Log of Time Evaluation Helpful

- The log of time evaluation is an important tool to
  - Understand the logic of time evaluation
  - Find causes for errors in the schema
- In order to make the log a helpful as possible
  - Keep your custom rules short. If there is a choice, rather split the processing into two rules than create one very large rule (including sub-rules)
  - Use the PRINT function generously
  - If you create custom functions or operations, make sure they provide relevant information for the log
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Long Term SAP Strategy as we Understand it

- S/4HANA will include only HR mini-master on premise
- Core HR and Talent Management are provided in SuccessFactors
- Payroll if re-packaged as Employee Central Payroll
- Time evaluation as we know it will not be available

- S/4HANA is already available, but will completely replace the current on-premise solution by 2025
- Until then, the “old” time evaluation is available
Time Management in Employee Central

- Time off already a quite mature solution
- Time sheet is quite new
- Time evaluation planned
- Alternative: integration of partner solutions
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Where to Find More Information

- [www.irocon.com/nl-en](http://www.irocon.com/nl-en)
  - Newsletter on SAP HCM, SuccessFactors, and HRIS strategy, including SaaS vs. On premise
  - Blog article: “Changing daily working time maximum in time evaluation (DEFTP)”, Sven Ringling
  - SCN article: “(RP)TIME to Say Good Bye”, Sven Ringling
  - Blog article: “Enhanced Workschedule Finder in Infotype 0007”, Sven Ringling
7 Key Points to Take Home

- Most time evaluation schemas need a review after some years
- Use groupings instead of hard coded personnel (sub)areas and employee (sub)groups in the schema
- Use constants instead of hard coded numbers in the schema
- Just taking screenshots of all settings is not a helpful documentation. Explain the process flow and keep overview lists of critical elements
- Make sure you amend documentation and texts in all relevant languages, when you copy entries
- Use standard and custom tools to find critical lines in your schema and obsolete elements
- Time evaluation as we know it will go away with S/4HANA, but we expect a new solution in Employee Central to work with Time Off and Timesheet
Your Turn!

Questions?

How to contact me:
Sven Ringling
s.ringling@iprocon.com
@svenringling

Please remember to complete your session evaluation
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