Can SAP be Function Point Counted?

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Introduction

• Can you function point count SAP?

• Why do you want to?

• What will it be used for?

• IS there a size for SAP?

Answer:

• OF COURSE YOU CAN COUNT IT

• Just approach it after doing proper analysis and keep the goal in mind
Agenda

- Problem
- Process Approach
- Function Point Counting Process
- Establish Scope & Boundary
- Establish Size Measures
- Determine Metrics
- Summary - Lessons Learned

Note: This presentation will not provide a size to SAP
Introduction

First of all, there are multiple reasons for obtaining a size for SAP

- Measure enhancement productivity of enhancing SAP
- Manage your vendors and how they apply maintenance to SAP
- Determine make-buy decision for purchased packages
- Determine the financial impact of an ERP implementation*
Sample Problem

• You have implemented SAP and want to prove that there has been a financial benefit to justify the actual cost involved

• This presentation will discuss an approach based on utilizing function point analysis techniques to establish a baseline for the SAP product and replaced application

• To succeed in the approach, a standard sizing measure must be utilized to establish the size for comparison
Process Approach

- Use IFPUG Function Point Counting Process
- Baseline both applications to establish size measures
- Gather effort, staff, quality and support costs for the replaced application
- Gather project costs for the SAP implementation and support including customization, acquisition cost, ongoing upgrade and maintenance costs
- Be sure to estimate **ENOUGH** time to review each screen
- It is best to use an application expert (in-house or vendor) and sample data to analyze each function
Challenges

- Highly Customizable
- Time constraints
- Inherent capabilities of the package
- Knowledge of the package
- Separate developer tools
- Broad spectrum of functions
- Accurately defining the applications boundaries
- Highly integrated across the applications
- SAP package has grown over time
Function Point Counting Process

1. Determine Type of Count
2. Identify Scope & Application Boundary
3. Count Data Function Types
4. Count Transactional Function Types
5. Determine Value Adjustment Factor
6. Calculate Adjusted Function Point Count

CPM v4.2
Determine Type of Count

Application Count *

- Associated with the installed application
- Provides a measure of the current functions used
- Also referred to as Baseline count

- Purpose of the count is to determine the basis for support rates measurement and to identify the baseline for comparison of costs

- VERY Important Note: Determine what view needs to be sized – is it from the end-users view or the system administrators (i.e. configuration, customization)?
## Identify Counting Scope

<table>
<thead>
<tr>
<th>Counting Scope *</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Defines a (sub) set of the software being sized</td>
</tr>
<tr>
<td>• Is determined by the purpose for performing the count</td>
</tr>
<tr>
<td>• Identifies functions included in the count</td>
</tr>
<tr>
<td>• Could include more than one application</td>
</tr>
</tbody>
</table>

### An application count, depending on purpose, may include:

- Only the functions being used by the user, OR
- All functions available

Scope of this count is to include all installed and utilized software:
- Count the functions being used by the end user and the system administrators
- Count additional functions created that are not supplied by the package

* IFPUG Function Point CPM 4.2
Establish Scope

Establish size based on functions utilized

Utilized Functionality + Additional Functionality

= MAINTAINED SIZE
Identify Application Boundary

**Application Boundary***

- Defines what is external to the application
- Is the conceptual interface between ‘internal’ application and ‘external’ user world
- Encloses the logical data maintained by application
- Assists in identifying logical data referenced but not maintained by this application
- Is dependent on user’s external business view of application; not based on technical/ implementation

Depending on the modules utilized, the application boundary may be:

- One functional area
- Multiple functional areas

* IFPUG Function Point CPM 4.2
# Sample SAP Modules

## SAP Logistics Modules
- Material Management
- Logistics Execution
- Sales and Distribution
- Production Planning & Control
- Quality Management
- Plant Maintenance
- Project System

## SAP Financial Modules
- Financial Accounting and Controlling
- **SAP Human Resources**
  - Personnel Management
- **SAP System Administration**
  - Basis Components
- **SAPGUI, Unix, SAP ITS, Router, Client Copy and IDES**
Count Data Functions

Identify the ILFs and EIFs *

- SAP documentation includes a data dictionary or data relationship/data flow diagram
- Evaluate maintenance of files for business, reference and code tables
- Use current system documentation to size existing application (or a previous function point count)

Determine the ILF or EIF complexity and contribution *

- Based on the identified fields, determine whether tables are separate internal logical files, shared data, record element types or data element types
- Assign complexity based on RETs and DETs identified
- Typically ranges are sufficient for determining the complexity

* IFPUG Function Point CPM 4.2
Count Transactional Functions

Identify elementary processes *

- Identify primary intent of identified elementary processes and classify as an EI, EO, or EQ

Steps

- Analyze each screen and icons associated with the screen
  - There may be Add, Change, Delete, Copy, and multiple kinds of output …
- Determine whether separate EP or part of the larger transaction
- Look for drill-down capability and tabs of information
- Only identify unique elementary processes (watch out for duplication)
- Keep customized transactions separate to identify setup work

* IFPUG Function Point CPM 4.2
Determine the transaction complexity and contribution *

**Steps**

- Evaluate the fields and files accessed for each screen
- Remember to include log files, security, common or organizational tables as required by the user
- Identify each type of capability (such as help) supported by SAP and the existing application
- Count setup and customization functions as appropriate
- Count conversion transactions as necessary

* IFPUG Function Point CPM 4.2
Example
Don’t let the functionality overwhelm you, only count each function once
Example

<table>
<thead>
<tr>
<th>Flight no.</th>
<th>Date of Flight</th>
<th>Float Price</th>
<th>Currency</th>
<th>Plane type</th>
<th>Max. capacity</th>
<th>Occupancy</th>
<th>Booking total</th>
</tr>
</thead>
<tbody>
<tr>
<td>2402</td>
<td>28.01.2000</td>
<td>485,00</td>
<td>DEM</td>
<td>A321</td>
<td>220</td>
<td>202</td>
<td>32,329.45</td>
</tr>
<tr>
<td>2402</td>
<td>18.02.2000</td>
<td>485,00</td>
<td>DEM</td>
<td>A321</td>
<td>220</td>
<td>201</td>
<td>31,316.80</td>
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<tr>
<td>2402</td>
<td>12.05.2000</td>
<td>485,00</td>
<td>DEM</td>
<td>A321</td>
<td>220</td>
<td>93</td>
<td>12,360.00</td>
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<tr>
<td>2402</td>
<td>14.07.2000</td>
<td>485,00</td>
<td>DEM</td>
<td>A321</td>
<td>220</td>
<td>2</td>
<td>882.70</td>
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<tr>
<td>2402</td>
<td>25.08.2000</td>
<td>485,00</td>
<td>DEM</td>
<td>A321</td>
<td>220</td>
<td>78</td>
<td>13,196.85</td>
</tr>
<tr>
<td>2402</td>
<td>15.09.2000</td>
<td>485,00</td>
<td>DEM</td>
<td>A321</td>
<td>220</td>
<td>8</td>
<td>3,578.30</td>
</tr>
</tbody>
</table>

**Circles:**
- The first circle highlights row with Flight no. 2402 on 28.01.2000.
- The second circle highlights row with Flight no. 2402 on 15.09.2000.
- The third circle highlights row with Flight no. 2407 on the same date.
Example
Determine Value Adjustment Factor

- Evaluate each of the 14 general system characteristics *
- Add degrees of influence for all 14 general system characteristics to produce a total degrees of influence (TDI) *

1. Data communications
2. Distributed data processing
3. Performance
4. Heavily used configuration
5. Transaction rate
6. On-line data entry
7. End-user efficiency
8. On-line update
9. Complex processing
10. Reusability
11. Installation ease
12. Operational ease
13. Multiple sites
14. Facilitate change

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Calculate Adjusted Function Point Count

Use the formula to calculate the size of the project or application *

Now you have your size

• **IMPORTANT NOTE**: Make sure that you document the assumptions made for the count
Summary - Lessons Learned

- SAP function point counting follows traditional function point analysis methods
- SAP has a large amount of functionality embedded in the modules, therefore plan appropriately to allow sufficient time to perform an accurate function point count
- Understand what viewpoint is necessary for sizing; administrative team or end-user (or both!)
- System experts are very important and essential in determining functionality utilized

Repeat with me … Document Assumptions