RBE Plus User/Role Analysis

IBIS Prof. Thome AG
Agenda

- Status Quo

- RBE Plus User/Role Analysis
  - User Analysis
    - Usage Analysis
    - Security Checks
  - License Analysis
    - Classification Analysis
    - Activity Analysis
  - Role Analysis
    - Role Usage
    - Security Checks
    - Role Query Database (Service)
    - User Analysis Inqueries (Solution)
Status Quo: Standard SAP Reports

- **Master Data Documentation**
- **Inverted Search by Master Data Object**
- **Where-Used Lists for Master Data Objects**

**Quintessence**

No Reporting concerning the real Usage!
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RBE Plus User/Role Analysis Objectives

- Linking Master Data (Roles, Users, Authorizations, Licenses) to Usage Data (Transactions and Reports as well as Document creation and change)

- Qualitative and quantitative Data in Key Figure Folders, along with detailed Evaluations

- Individualized Filters and Evaluation Options for customer individual Reporting in the Role-Query-Database
Typical Questions about Users and Roles

- What is the degree of use for Transactions/Reports assigned to Roles and Users?
  - Do the Roles fit? Is Role granularity appropriate?
  - Are there unnecessary Transactions/Reports in the Roles?
  - Do the Roles assign Users Transactions and Reports more than once?
  - Which Users have never been active in the System despite Authorization?
  - Which Users have been assigned critical Authorization Profiles?

- Which (potential) standard SAP Roles can be used?
  - Does the Transaction/Report use Profile correspond to standard SAP Roles that could serve as Templates?

- Can Template Roles be defined?
  - Do several Users implement categories of the same Transactions/Reports?

- Which Authorizations do Users have for the Transactions/Reports executed?
  - Are the assigned Organization Elements and values for Authorization Objects correct?

- Does the use Profile fit the existing license assignments? (Active License Management)
Provided Answers by the RBE Plus User/Role Analysis

- **Standard Roles**
  - Which Roles do exist?
  - Are assigned Roles not in use?

- **Degree of use for Transactions/Reports**
  - Which Transactions/Reports were executed during the Analysis Period?
  - Which Role Assignment did the Users implement to execute the Transactions/Reports?
  - Which of the Transactions/Reports of the Roles used were not executed and may therefore be deleted?

- **(Potential) SAP Roles and Template Roles**
  - Comparing Transaction use with standard SAP Roles or
  - Does the Transaction/Report use Profile correspond to standard SAP Roles that could serve as Templates?

- **Authorization Objects and values**
  - Which Authorizations do Users have for the Transactions/Reports executed?

- **Active License-Management**
  - Which Users are active in which Application Areas?
Use Scenarios

- **As-Is-Analysis**
  - Information on Roles and Users implemented
  - Documentation of used Transactions/Reports and Authorizations in Roles

- **Potential-Analysis**
  - Reconciling the Roles implemented with the actual Transaction/Report use
  - Comparing the logon Authorizations with the Users Activities
  - Comparing Transaction use with standard SAP Roles

- **Security Checks**
  - Checking critical Authorization Objects via Transaction use and Role Evaluation
  - Check of password and logon guidelines
  - Verify critical transactions as well as combinations of transactions

- **Active License-Management**
  - Classification of users concerning their license
  - Verify the license assignment to real activities of users
Detailed Levels: RBE Plus Service

The detailed Levels Key Figures, Detailed Evaluations and individualized Research provide for a comprehensive Analysis.
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**User Analysis**

- Analysis of Activities and Authorizations gives detailed insight into your System’s actual use in light of existing System Authorizations and Security Checks

  - How many Users with logon Authorization are active/inactive during the Analysis Period?
  - Which Users never logged on despite having logon Authorization?
  - Who used critical Transactions or combinations
  - Which password and logon guidelines do exist
  - How many Users are assigned to which User Groups?
  - User (Additional Data)
  - Segregation of Duties
  - …
### Example: User Analysis – Validity and Activity

#### Table:

<table>
<thead>
<tr>
<th>Category</th>
<th>Existing</th>
<th>Valid</th>
<th>Active</th>
<th>% Active</th>
</tr>
</thead>
<tbody>
<tr>
<td>User - Total</td>
<td>6,236</td>
<td>3,992</td>
<td>1,943</td>
<td>48.7%</td>
</tr>
<tr>
<td>Dialog User</td>
<td>6,173</td>
<td>3,932</td>
<td>1,919</td>
<td>48.8%</td>
</tr>
<tr>
<td>System User</td>
<td>37</td>
<td>36</td>
<td>15</td>
<td>41.7%</td>
</tr>
<tr>
<td>Comm. User</td>
<td>23</td>
<td>21</td>
<td>8</td>
<td>38.1%</td>
</tr>
<tr>
<td>Reference User</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0.0%</td>
</tr>
<tr>
<td>Service User</td>
<td>3</td>
<td>3</td>
<td>1</td>
<td>33.3%</td>
</tr>
</tbody>
</table>

#### Dialog User:

<table>
<thead>
<tr>
<th>User</th>
<th>Existing</th>
<th>Valid</th>
<th>Active</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>User 1</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>User 2</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>User 3</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>User 4</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>User 5</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>User 6</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>User 7</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>User 8</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>User 9</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>User 10</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>User 11</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>User 12</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>User 13</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>User 14</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>User 15</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>User 16</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>User 17</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>User 18</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>User 19</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>User 20</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td></td>
</tr>
</tbody>
</table>
Example: Usage Analysis – Validity and log on

<table>
<thead>
<tr>
<th>User Name in User Master Record</th>
<th>Existing</th>
<th>Valid</th>
<th>Locked</th>
<th>Never logged on</th>
</tr>
</thead>
<tbody>
<tr>
<td>User 1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>User 2</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>User 3</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>User 4</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>User 5</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>User 6</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>User 7</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
</tbody>
</table>

**USER - VALIDITY**
- Dialog Users: 6,173
- thereof valid: 63.7%
- thereof valid and not locked: 61.1%
- thereof valid, not locked and without logon: 17.7%

**USER GROUP**
- Existing: 58
  - thereof assigned for individual maintenance: 91.4%
  - thereof assigned for mass maintenance: 6.2%
  - Groups without user assignment: 6.9%

**USER - LOGON**
- Valid, not locked dialog user: 3,769
  - thereof with logon before 20091101: 19.2%
  - thereof with logon within 20091101 - 20100430: 17.9%
  - thereof without logon after 20100131: 33.9%

**SYSTEM USAGE**
- Dialog Users: 6,173
  - thereof with transaction and/or report usage: 31.0%
  - thereof with transaction usage: 30.8%
  - thereof without usage: 31.0%
Example: Security Checks - Critical Transactions

- Example diagram showing user authentication and activity.
- Table listing user names and activities.
Example: Security Checks - Segregation of Duties

Over 500 critical combinations of transactions

### Invoice Verification: Outgoing Payments + Invoice Verification

<table>
<thead>
<tr>
<th>UserGroup</th>
<th>UserAccount</th>
<th>TCode</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Group</td>
<td>User 1</td>
<td>FB60</td>
<td>53</td>
</tr>
<tr>
<td></td>
<td>User 2</td>
<td>FB65</td>
<td>244</td>
</tr>
<tr>
<td></td>
<td>User 3</td>
<td>MIRO</td>
<td>4,545</td>
</tr>
<tr>
<td></td>
<td>User 2</td>
<td>F-07</td>
<td>452</td>
</tr>
<tr>
<td></td>
<td>User 3</td>
<td>F-43</td>
<td>1,225</td>
</tr>
<tr>
<td></td>
<td>User 4</td>
<td>F-44</td>
<td>445</td>
</tr>
<tr>
<td></td>
<td>User 5</td>
<td>FB60</td>
<td>125</td>
</tr>
<tr>
<td></td>
<td>User 6</td>
<td>FB65</td>
<td>1,212</td>
</tr>
<tr>
<td></td>
<td>User 7</td>
<td>MIRO</td>
<td>1,687</td>
</tr>
</tbody>
</table>

Structure:

1. Invoice verification: outgoing payments + invoice verification
2. Invoice verification: post automatic payment + run invoice verification
3. Invoice verification: pay with printed document + run invoice verification
4. Invoice verification: post outgoing payments + run invoice verification
5. Invoice verification: post vendor down payment + run invoice verification
6. Invoice verification: post incoming payments + run invoice verification
7. Invoice verification: post outgoing payments + run invoice verification
   invoice verification: release line items + run invoice verification
   invoice verification: print forms for payment document + run invoice verification
   invoice verification: create check information + run invoice verification
   depreciation + void unused checks
   depreciation + renumber checks
   depreciation + create check information
   depreciation + change check information / cash checks
   depreciation + depreciation + reprint checks
   depreciation + reverse a check payment
   depreciation + void issued checks
   depreciation + deleting check information for payment run
   depreciation + manual cashed checks
   depreciation + change the assignment of checks for payment
   depreciation + creating a check extract
   depreciation + post and clear
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License Analysis

- Analysis of existing license assignments, compared with relevant assignments and real activities in order to adapt the license management to the real situation.

  - Which users of which user types with which license entries do exist?
  - Which license assignments are correct or obsolete?
  - Which user with which license types are active in which business areas and use which transactions, reports or create which documents and/or change them?
  - ...


Example: Classification Analysis – Relevance

<table>
<thead>
<tr>
<th>User Type</th>
<th>Existing</th>
<th>Valid</th>
<th>License Entry</th>
<th>Relevance</th>
</tr>
</thead>
<tbody>
<tr>
<td>User - Total</td>
<td>6,236</td>
<td>3,992</td>
<td>3,969</td>
<td>3,987</td>
</tr>
<tr>
<td>Dialog User</td>
<td>6,173</td>
<td>3,932</td>
<td>3,909</td>
<td>3,930</td>
</tr>
<tr>
<td>System User</td>
<td>37</td>
<td>36</td>
<td>36</td>
<td>-</td>
</tr>
<tr>
<td>Comm. User</td>
<td>23</td>
<td>21</td>
<td>21</td>
<td>-</td>
</tr>
<tr>
<td>Reference User</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Service User</td>
<td>3</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

### Dialog User

<table>
<thead>
<tr>
<th>User</th>
<th>Existing</th>
<th>Valid</th>
<th>License</th>
<th>Relevant</th>
</tr>
</thead>
<tbody>
<tr>
<td>User 1</td>
<td>1</td>
<td>1</td>
<td>mySAP Professional (Cat. II)</td>
<td>1</td>
</tr>
<tr>
<td>User 2</td>
<td>1</td>
<td>1</td>
<td>mySAP Professional (Cat. II)</td>
<td>1</td>
</tr>
<tr>
<td>User 3</td>
<td>1</td>
<td>1</td>
<td>mySAP Professional (Cat. II)</td>
<td>1</td>
</tr>
<tr>
<td>User 4</td>
<td>1</td>
<td>1</td>
<td>mySAP Limited Prof. (Cat III)</td>
<td>0</td>
</tr>
<tr>
<td>User 5</td>
<td>1</td>
<td>1</td>
<td>mySAP Professional (Cat. II)</td>
<td>0</td>
</tr>
<tr>
<td>User 6</td>
<td>1</td>
<td>1</td>
<td>mySAP Limited Prof. (Cat III)</td>
<td>0</td>
</tr>
<tr>
<td>User 7</td>
<td>1</td>
<td>1</td>
<td>mySAP Professional (Cat. II)</td>
<td>1</td>
</tr>
<tr>
<td>User 8</td>
<td>1</td>
<td>0</td>
<td>mySAP Limited Prof. (Cat III)</td>
<td>1</td>
</tr>
<tr>
<td>User 9</td>
<td>1</td>
<td>0</td>
<td>mySAP Limited Prof. (Cat III)</td>
<td>1</td>
</tr>
<tr>
<td>User 10</td>
<td>1</td>
<td>0</td>
<td>mySAP Limited Prof. (Cat III)</td>
<td>1</td>
</tr>
</tbody>
</table>
## Example: Activity Analysis – Active Users

<table>
<thead>
<tr>
<th></th>
<th>Basis 20091101 - 20100131</th>
<th>Logistics 20091101 - 20100131</th>
<th>Accounting 20091101 - 20100131</th>
<th>HCM 20091101 - 20100131</th>
</tr>
</thead>
<tbody>
<tr>
<td>Active valid user</td>
<td>781</td>
<td>1,410</td>
<td>1,267</td>
<td>132</td>
</tr>
<tr>
<td>total</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Active valid dialog</td>
<td>759</td>
<td>1,396</td>
<td>1,257</td>
<td>129</td>
</tr>
<tr>
<td>user</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Active valid</td>
<td>13</td>
<td>12</td>
<td>8</td>
<td>2</td>
</tr>
<tr>
<td>system user</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Active valid</td>
<td>8</td>
<td>2</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>comm. user</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Active valid</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>reference user</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Active valid</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>service user</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Usage of transactions 20091101 - 20100131</th>
<th>Usage of reports 20091101 - 20100131</th>
<th>Creation of documents 20091101 - 20100131</th>
<th>Change of documents 20091101 - 20100131</th>
</tr>
</thead>
<tbody>
<tr>
<td>Active valid user</td>
<td>1,919</td>
<td>758</td>
<td>1,044</td>
<td>833</td>
</tr>
<tr>
<td>total</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Active valid dialog</td>
<td>1,904</td>
<td>737</td>
<td>1,032</td>
<td>824</td>
</tr>
<tr>
<td>user</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Active valid</td>
<td>12</td>
<td>12</td>
<td>11</td>
<td>9</td>
</tr>
<tr>
<td>system user</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Active valid</td>
<td>3</td>
<td>8</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>comm. user</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Active valid</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>reference user</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Active valid</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>service user</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
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Role Analysis

Quantitative and qualitative evaluation of assignment and use of single and composite Roles

- To what degree are Roles used?
- How effective is the tailoring of Roles?
- Which Roles are assigned to which inactive Users?
- Which Users have been assigned critical Authorization Profiles?
- Which Single Roles are how many Users (directly/indirectly) and Transactions (directly) assigned to?
- Which derived Single Roles are which inactive Users assigned to?
- Which User is in how many Single Roles inactive?
- Which Users have been assigned Roles containing outgoing payment Transactions in the general ledger?
- Which Users have been assigned Roles allowing access to customer Master Data?
- Which Users have been assigned Roles containing account Authorization for customers?
- Which Users have been assigned Roles enabling access to Cash Journals?
- ...


# Example: Role Analysis - Streamline Roles

<table>
<thead>
<tr>
<th>Composite Roles with Single Roles</th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Existing</td>
<td>412</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>with assigned Users</td>
<td>346</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>with assigned Transactions</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>thereof active 20001101 - 20100131</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SAP Composite Roles with Single Roles</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Existing</td>
<td>40</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>with assigned Users</td>
<td>0</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>with assigned Transactions</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>thereof active 20001101 - 20100131</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cust. Composite Roles with Single Roles</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Existing</td>
<td>372</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>with assigned Users</td>
<td>346</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>with assigned Transactions</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>thereof active 20001101 - 20100131</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Single Roles</td>
<td>6,591</td>
<td>3,455</td>
<td>6,065</td>
<td>2,405</td>
</tr>
<tr>
<td>SAP Single Roles</td>
<td>1,683</td>
<td>2</td>
<td>1,523</td>
<td>2</td>
</tr>
<tr>
<td>Custom Single Roles</td>
<td>4,908</td>
<td>3,453</td>
<td>4,542</td>
<td>2,403</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Single Roles - Total</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>thereof assigned to Users</td>
<td>206</td>
<td>12%</td>
<td></td>
</tr>
<tr>
<td>thereof assigned directly</td>
<td>206</td>
<td>12%</td>
<td></td>
</tr>
<tr>
<td>thereof assigned indirectly</td>
<td>0</td>
<td>0%</td>
<td></td>
</tr>
<tr>
<td>thereof assigned directly and indirectly</td>
<td>0</td>
<td>0%</td>
<td></td>
</tr>
<tr>
<td>thereof with assigned Transactions</td>
<td>252</td>
<td>15%</td>
<td></td>
</tr>
<tr>
<td>thereof active (i.e. Transactions are used)</td>
<td>155</td>
<td>9%</td>
<td></td>
</tr>
<tr>
<td>thereof inactive (i.e. Transactions are not used)</td>
<td>97</td>
<td>6%</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Role</th>
<th>Assigned to Users</th>
<th>Indirect assigned user</th>
<th>Assigned Transactions</th>
<th>Used Transactions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Role 1</td>
<td>15</td>
<td>16</td>
<td>16</td>
<td>9</td>
</tr>
<tr>
<td>Role 10</td>
<td>15</td>
<td>23</td>
<td>9</td>
<td></td>
</tr>
<tr>
<td>Role 11</td>
<td>15</td>
<td>20</td>
<td>8</td>
<td></td>
</tr>
<tr>
<td>Role 12</td>
<td>15</td>
<td>12</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Role 13</td>
<td>15</td>
<td>5</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Role 14</td>
<td>15</td>
<td>29</td>
<td>7</td>
<td></td>
</tr>
<tr>
<td>Role 15</td>
<td>15</td>
<td>21</td>
<td>12</td>
<td></td>
</tr>
<tr>
<td>Role 16</td>
<td>15</td>
<td>31</td>
<td>12</td>
<td></td>
</tr>
<tr>
<td>Role 17</td>
<td>15</td>
<td>20</td>
<td>11</td>
<td></td>
</tr>
<tr>
<td>Role 18</td>
<td>15</td>
<td>9</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Role 19</td>
<td>15</td>
<td>1</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Role 20</td>
<td>15</td>
<td>14</td>
<td>7</td>
<td></td>
</tr>
<tr>
<td>Role 21</td>
<td>15</td>
<td>8</td>
<td>7</td>
<td></td>
</tr>
<tr>
<td>Role 22</td>
<td>15</td>
<td>8</td>
<td>7</td>
<td></td>
</tr>
<tr>
<td>Role 23</td>
<td>2</td>
<td>2</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Role 24</td>
<td>54</td>
<td>32</td>
<td>6</td>
<td></td>
</tr>
</tbody>
</table>
Example: Role Usage – Assignment of Roles and Profiles

<table>
<thead>
<tr>
<th>Profile name</th>
<th>generated from Custom Single Roles</th>
<th>assigned to user</th>
</tr>
</thead>
<tbody>
<tr>
<td>Profile 1</td>
<td>1</td>
<td>10</td>
</tr>
<tr>
<td>Profile 2</td>
<td>1</td>
<td>12</td>
</tr>
<tr>
<td>Profile 3</td>
<td>0</td>
<td>13</td>
</tr>
<tr>
<td>Profile 4</td>
<td>0</td>
<td>15</td>
</tr>
<tr>
<td>Profile 5</td>
<td>0</td>
<td>16</td>
</tr>
<tr>
<td>Profile 6</td>
<td>1</td>
<td>17</td>
</tr>
<tr>
<td>Profile 7</td>
<td>1</td>
<td>14</td>
</tr>
<tr>
<td>Profile 8</td>
<td>1</td>
<td>13</td>
</tr>
<tr>
<td>Profile 9</td>
<td>1</td>
<td>13</td>
</tr>
</tbody>
</table>

### ROLES
- Existing: 7,003
  - thereof with changes within analysis period: 0.1%
  - thereof with Custom Authorization Objects: 11.0%
  - thereof without user assignment: 45.7%

### AUTHORIZATION PROFILES
- Existing: 7,520
  - thereof not assigned via roles: 0.8%
  - thereof without User assignment: 56.8%

### CUSTOM ROLES
- Custom Single Roles: 4,908
  - thereof assigned to Composite Roles: 23.9%
  - thereof without trans. and user assignment: 18.5%
- Ratio: Custom Single Roles/Valid Users: 1.2

### COMPOSITE ROLES
- Existing: 412
  - thereof with assigned Single Roles: 100.0%
  - thereof without user assignment: 16.0%

### SINGLE ROLES
- Existing: 6,591
  - thereof Template Roles (Deriving Roles): 4.6%
  - thereof Derived Roles: 28.2%
  - thereof without trans. and user assignment: 16.4%
### Example: Role Usage - Streamline Single Roles

#### Top List of Users, which are inactive in most assigned Single Roles

<table>
<thead>
<tr>
<th>User</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>JLIPSMIRE</td>
<td>46</td>
</tr>
<tr>
<td>REICKHOFF</td>
<td>46</td>
</tr>
<tr>
<td>SHOFFMEIS</td>
<td>44</td>
</tr>
<tr>
<td>KMULLINS</td>
<td>21</td>
</tr>
<tr>
<td>RBUSH</td>
<td>20</td>
</tr>
<tr>
<td>MROBINS2</td>
<td>19</td>
</tr>
<tr>
<td>TSCHRAPP</td>
<td>18</td>
</tr>
<tr>
<td>TSTEWMAN</td>
<td>16</td>
</tr>
<tr>
<td>CCARLON</td>
<td>15</td>
</tr>
<tr>
<td>AMURRAY</td>
<td>14</td>
</tr>
</tbody>
</table>

#### Top List of Single Roles with the greatest difference between assigned and used Transactions

<table>
<thead>
<tr>
<th>Single Role</th>
<th>Difference</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>T_500000200_LPCDSPO</td>
<td>229</td>
<td>54%</td>
</tr>
<tr>
<td>T_50000068_PUBUYPLN</td>
<td>223</td>
<td>75%</td>
</tr>
<tr>
<td>T_50000067_PUAGENT</td>
<td>214</td>
<td>88%</td>
</tr>
<tr>
<td>T_50000675_MPROCOORD</td>
<td>200</td>
<td>100%</td>
</tr>
<tr>
<td>T_50000016_CMPVCLRK</td>
<td>141</td>
<td>100%</td>
</tr>
<tr>
<td>T_50000008_APSRCLRK</td>
<td>129</td>
<td>68%</td>
</tr>
<tr>
<td>T_50000013_CMPVCLRK</td>
<td>123</td>
<td>58%</td>
</tr>
</tbody>
</table>

#### Top List of Single Roles with most inactive Users

<table>
<thead>
<tr>
<th>Single Role</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>LPCTOOLS</td>
<td>148</td>
</tr>
<tr>
<td>T_50000200_LPCDSPO</td>
<td>77</td>
</tr>
<tr>
<td>ZFSP_REPORT</td>
<td>53</td>
</tr>
<tr>
<td>QIHOTLOST</td>
<td>38</td>
</tr>
<tr>
<td>T_50000625PURELR</td>
<td>25</td>
</tr>
<tr>
<td>T_50001252CRYSTALALL</td>
<td>25</td>
</tr>
<tr>
<td>ZMMSO CI</td>
<td>24</td>
</tr>
<tr>
<td>T_50000084_QSRMSAMP</td>
<td>23</td>
</tr>
<tr>
<td>SPECINSTRUCT</td>
<td>22</td>
</tr>
<tr>
<td>WMZSTO</td>
<td>22</td>
</tr>
</tbody>
</table>

---

Details on "List of Single Roles with most inactive Users"
Example: Security Checks – Profiles

<table>
<thead>
<tr>
<th>User</th>
<th>Critical Profile</th>
<th>SAP_ALL</th>
<th>SAP_NEW</th>
</tr>
</thead>
<tbody>
<tr>
<td>User 1</td>
<td>1</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>User 2</td>
<td>1</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>User 3</td>
<td>1</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>User 4</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>User 5</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>User 6</td>
<td>1</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>User 7</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>User 8</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>User 9</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>
Role Query Database

- RBE Plus results regarding Transactions, Users and Roles are processed in an Analysis Database and furnished for use in standard or individualized Reports

- Additional filter functions for the customer
- Additional Reporting functions for experts
- SAP Role reference model (4.6c, 4.7, 5.0 and 6.0)
- Sarbanes-Oxley-Act-Analysis
- ...
Technical Solution

- RBE Plus results regarding Transactions, Users and Roles are processed in an Analysis Database and furnished for use in standard or individualized Reports.
- The RBE Plus Role Analysis examines Authorization Objects based on the Transactions and Reports used.

Transaction Analysis

<table>
<thead>
<tr>
<th>Transaction</th>
<th>Description</th>
<th>Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>SE11_OLO</td>
<td>AS-Data-Dictionary Pflege</td>
<td>20180</td>
</tr>
<tr>
<td>SE16</td>
<td>Data Browser</td>
<td>2047</td>
</tr>
<tr>
<td>SESSION</td>
<td>Session Manager Menuebaumenke</td>
<td>2020</td>
</tr>
<tr>
<td>SE84</td>
<td>Repository-Filter</td>
<td>2240</td>
</tr>
</tbody>
</table>

Role Analysis based on Database

Individualized Reports and Analysis possible!
Role Query Database

- Number of SAP-Tables: 17
- Number of Inquiries: 114
- Form of Distribution: flexible, based on Database
Roles with User Assignment

- **All existing Roles**
  - distinguished according to single and composite Roles
- **Roles**
  - indirectly (via collective Roles) or
  - directly assigned to Users
- **Assigned User not specified** -> aggregated view
- **User Assignment**
- **“Clean-up” potential of unused single and composite Roles**
Degree to which Role Transactions are utilized

- Overview of Roles used in Transactions via User Role Assignment
- Unused Role Transactions that could be deleted
- Categorization into single, composite and derived Roles

- 2.1 Which single role transactions are used?
- 2.2 Which single role report transactions are used?
- 2.3 Which composite role transactions are used?
- 2.4 Which single role transactions with user assignment are not used?
- 2.5 Which composite role transactions with user assignment are not used?
- 2.6.1 Which derived single role transactions are used?
- 2.6.2 Which derived single role report transactions are used?
- 2.6.3 Which derived single role transactions with user assignment are not used?
- 2.6.4 Which parent role transactions are used?
- 2.6.5 Which parent role report transactions are used?
- 2.6.6 Which parent role transactions with user assignment are not used?
Potential SAP Roles

- Use of Transactions from SAP reference Roles
  - SAP reference model:
    - 4.6c
    - 4.7
    - ECC 5.0 and
    - ECC 6.0

- Potential “copy Templates” for individual Roles
  - Adjustment of Authorization Objects required
Users with Role Assignments and Additional SAP Authorizations

- Wavering Role Concept by Assigning additional SAP Authorizations

- SAP Authorization Objects not subject to customer-specific Requirements and Concepts

4.1 Which users with assigned roles have which SAP authorizations?
4.2 Which users with assigned roles have which authorizations?
Security-Analysis (Basis Data)

- Look at:
  - Authorization Objects of Roles,
  - Organization Objects of Roles and
  - Assigned User
  - Active and inactive User
  - Customer Authorization Objects

- 5.1 Basic Data: User and Authorization Data
- 5.2 Which transactions and authorization data are used?
- 5.3 Authorization Objects

- 5.1.1 Which authorization objects do single roles have?
- 5.1.2 Which organization elements do authorization objects use?
- 5.1.3 Which roles are assigned to users?
- 5.1.4 Which users are active/inactive?
- 5.1.5 Which default parameter (set/get user parameters) do users have?
- 5.1.6 Which object/values of last authorization check failed?
- 5.1.7 Which transactions and reports have users executed in the analysis period?

- 5.3.1 Which authorization objects are used in roles?
- 5.3.2 Which authorization objects are not used in roles?
- 5.3.3 Which customer authorization objects are used in roles?
- 5.3.4 Which customer authorization objects are not used in roles?
Security-Analysis (with Transaction)

- Executed Transactions per User, incl. additional User Attributes (caution: Data Protection!)
- Shows Role Authorization values and org. Levels for the Transactions executed
  - i.e. tracking User’s Transactions enables monitoring of User Role Assignments, Authorization and org.Levels
The RBE Plus Solution enables Inquiries to be done as part of the User and Role Analysis. Pre-defined Queries are used to discover answers to various questions concerning Roles, Transactions and Authorization.

- Users are provided additional Options for filtering existing Evaluations at User, Role, Transaction Code or Authorization Object Level
- Query Restrictions can be made via List Import or manual entry
- ...
Scope of Services

- **11 pre-defined Queries in the User and Role Inquiries**
  - Assignment of single/composite Roles to Users
  - Used Transactions in single/composite Roles and derived Roles
  - Usage of Transactions with Authorization Objects

- **Detailed Evaluations of Workloads**
User Interface Layout

Selecting Queries

Setting Restrictions

Restrictions Selection

List Import

pre-defined Queries

manual Restrictions

linking Restrictions

Which single/composite roles have users assigned to them?
And/Or Restrictions

Display all Roles assigned to User1, and
Display all Users assigned Role1

Display a Dataset in which both Restrictions apply, i.e. here:
Display if User1 is also assigned Role1
### Role Layout

#### User & Role Inquiries

<table>
<thead>
<tr>
<th>Role</th>
<th>Transaction</th>
<th>Authorization</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Which single/composite roles have users assigned to them?</td>
</tr>
</tbody>
</table>

#### Restrictions

- **Restrictions Value(s)**
  - **User**: [ ]
  - **Role**: [ ]

- **Link restrictions with**
  - OR
  - AND

#### Description Excel Worksheet

| Ok | Close |
Role Queries

Overview of User Role Assignment

<table>
<thead>
<tr>
<th>Role</th>
<th>Transaction</th>
<th>Authorization</th>
</tr>
</thead>
<tbody>
<tr>
<td>Which single/composite roles have users assigned to them?</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Version:</th>
<th>DEMO</th>
</tr>
</thead>
<tbody>
<tr>
<td>Extract:</td>
<td>DEMO</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Single Role</th>
<th>USER</th>
<th>Assigned via Composite Role</th>
<th>Name</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Role Restrictions

- **User**: Display the assigned single/composite Roles contingent on User Selection
- **Role**: Display the assigned Users contingent on Role Selection
### Transaction Layout

<table>
<thead>
<tr>
<th>Role</th>
<th>Transaction</th>
<th>Authorization</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Which single/composite role transactions are used?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Which single/composite role transactions with user assignment are not used?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Which derived single role transactions are used?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Which derived single role transactions with user assignment are not used?</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### Restrictions

<table>
<thead>
<tr>
<th>Restrictions</th>
<th>Restrictions Value(s)</th>
<th>Link restrictions with</th>
</tr>
</thead>
<tbody>
<tr>
<td>- User</td>
<td></td>
<td>OR</td>
</tr>
<tr>
<td>- Role</td>
<td></td>
<td>AND</td>
</tr>
<tr>
<td>- TCode</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Description Excel Workbook**
### Transaction Queries

<table>
<thead>
<tr>
<th>Role</th>
<th>Transaction</th>
<th>Authorization</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>1. Which single/composite role transactions are used?</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2. Which single/composite role transactions with user assignment are not used?</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3. Which derived single role transactions are used?</td>
</tr>
<tr>
<td></td>
<td></td>
<td>4. Which derived single role transactions with user assignment are not used?</td>
</tr>
</tbody>
</table>

### Overview of Transaction Usage in Roles

<table>
<thead>
<tr>
<th>Version:</th>
<th>DEMO</th>
</tr>
</thead>
<tbody>
<tr>
<td>Extract:</td>
<td>DEMO</td>
</tr>
</tbody>
</table>

Which single/composite role transactions are used?

<table>
<thead>
<tr>
<th>USER</th>
<th>Role</th>
<th>Assigned via Composite Role</th>
<th>Transaction</th>
<th>Sum</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Transaction Restrictions

- **User**: Display the executed Transactions and pertinent Roles depending on the User Selection
- **Role**: Display the executed Transactions and Users depending on the Role Selection
- **TCode**: Display the Users and Roles depending on the Transaction Code Selection
## Authorization Layout

### User & Role Inquiries

**Role**

- Which transactions with authorization objects are used?
- Which transactions with authorization objects are used by users?
- Which transactions with authorization objects are not used?

### Restrictions

- **Restrictions Value(s)**
- **Link restrictions with**
  - OR
  - AND

### Description Excel/WorkSheet
## Authorization Queries

### Overview of Usage of Transactions with Authorization

<table>
<thead>
<tr>
<th>Role</th>
<th>Transaction</th>
<th>Authorization</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- Which transactions with authorization objects are used?
- Which transactions with authorization objects are used by users?
- Which transactions with authorization objects are not used?

<table>
<thead>
<tr>
<th>Role</th>
<th>Transaction</th>
<th>Authorization</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- Which transactions with authorization org. elements are used?
- Which transactions with authorization org. elements are used by users?
- Which transactions with authorization org. elements are not used?
Authorization Restrictions

- **Role**: Display the executed Transactions with Authorization Objects depending on the Role Selection
- **TCode**: Display the Users and Roles depending on the Transaction Code Selection
- **Authorization Object**: Display the executed Transactions depending on the Authorization Object
Workload Layout

Additional Display Options

- Task Type
- Time Frame
- User Account
- User Group

Top 20 Values

Restrictions

Restrictions Value(s)

- TCode
- User
- User Group

Description Excel-Worksheet
Workload Additional Display Options

Detailed Evaluations of Users and Transactions
Workload Restriction Values

- **TCode**: Display the Users or User Groups contingent on the Transaction Code Selection
- **Users**: Display the executed Transactions and pertinent User Groups contingent on the User Selection
- **User Groups**: Display the executed Transactions and Users contingent on the User Group Selection