



A Technical Introduction to the Latest SAP NetWeaver BI Application and Data Security Capabilities — Appendix

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This document contains the appendix for the following sessions:

<http://scn.sap.com/docs/DOC-13818> (presentation)

<http://scn.sap.com/docs/DOC-35814> (e-class)

<http://scn.sap.com/docs/DOC-9424> (video recording of TechEd session)

Appendix A - New and Changed Standard Authorizations

Appendix B - Detailed Comparison of 3.x and 7.x Authorizations

Appendix C - DataSources for Authorizations in SAP ERP

Appendix D - ABAP Coding for Authorization Variables

Appendix E - Important SAP Notes



Appendix A New and Changed Standard Authorizations in BW

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Authorization Objects for Working with Data Warehousing Workbench

- **S_RS_DS: DataSources and their sub objects**
- **S_RS_ISNEW: New InfoSources and their sub objects**
- **S_RS_DTP: Data transfer processes and their sub objects**
- **S_RS_TR: Transformation rules and their sub objects**
- **S_RS_CTT: Currency translation types**
- **S_RS_UOM: Quantity conversion types**
- **S_RS_THJT: Key date derivation types**
- **S_RS_PLENQ: Lock settings for Integrated Planning (and BPS)**
- **S_RS_RST: RS trace tool (transaction RSTT)**
- **S_RS_PC: Process chains**
- **S_RS_OHDEST: Open hub destination**

Authorization Objects for Working with Data Warehousing Workbench

■ **S_RS_ADMWB: Data Warehousing Workbench Objects**

– **New sub objects**

- **CONT_ACT** **Installing Business Content**
- **USE_DND** **Drag & Drop to InfoAreas and Application Components**
- **CNG_RUN** **Attribute/Hierarchy Change Run**

– **New activities**

- **Installing Business Content (63)**
- **Managing Business Content (23)**
- **Drag & Drop to InfoAreas and Application Components (16)**
- **Execute Attribute/Hierarchy Change Run (16)**

Authorization Objects for Working with Data Warehousing Workbench

■ **S_DEVELOP: Display and Change of ABAP Routines**

- **Activities**
 - Display (03), change (02)
- **Packages**
 - BWROUT_UPDR: Routines for update rules
 - BWROUT_ISTS: Routines for transfer rules
 - BWROUT_IOBJ: Routines for InfoObjects
 - BWROUT_TRFN: Routines for transformations
 - BWROUT_ISIP: Routines for InfoPackages
 - BWROUT_DTPA: Routines for DTPs
 - Or BWROUT_* for all routines
- **Object Name: GP***
- **Object Type: PROG**
- **Authorization Group: \$BWROUT**

Authorization Objects for Working with Business Explorer

- **S_RS_DAS: Data Access Services**
- **S_RS_BTMP: BEx Web Templates**
- **S_RS_BEXTX: Maintenance of BEx Texts**

Authorization Objects for Administration of Analysis Authorizations

- **S_RSEC: Assignment and Administration of Analysis Authorizations**
- **S_RS_AUTH: Authorization to Include Analysis Authorizations in Roles**

New Role Templates

- **S_RS_NEW_NW04S: New Authorizations for SAP NetWeaver 7.0 (2004s)**
- **S_DEVELOP: Display and Change of ABAP Routines**
- **S_RS_ADMWB: Install Business Content, Manage Content, Drag & Drop to InfoAreas and Application Components, Execute Attribute Change Run**
- **S_RS_PC: All Authorizations for Process Chains**
- **S_RS_OHDEST: All Authorizations for Open Hub Destinations**

Changed Role Templates

- **Existing Role Templates: Enhanced With New Authorization Objects**
- **Deleted Role Templates: None**



Appendix B

Detailed Comparison of 3.x and 7.x Authorizations

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SAP BW 3.x

- **Based on standard authorization objects and authorizations**
- **Many limitations since standard authorizations were never designed to handle OLAP scenarios**
- **Maintenance via transactions RSSM and PFCG**

SAP NetWeaver 7.0

- **Based on analysis authorizations**
- **No authorization objects required**
- **Link to roles is still possible**
- **Maintenance via transaction RSECADMIN**

SAP BW 3.x

- **Once a reporting authorization object is saved and used it can not be changed anymore (for example, it's not possible to add new fields)**
- **Changes to authorizations require a new log-on to become effective**

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- **Authorizations are changeable at all times (fields can be added and removed any time)**
- **Changes to authorizations can be done on the fly and become effective immediately with saving**

SAP BW 3.x

- **Standard authorizations are limited to 10 fields**
- **Therefore very detailed authorizations are not possible**

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- **Unlimited number of InfoObjects**
- **Very detailed authorizations are possible**
- **Also special InfoObjects can be added to authorizations**

SAP BW 3.x

- **Navigational attributes can be assigned only on global basis**
- **Complicated mapping (compatibility modes)**
- **Example**
 - **Authorization object based on attribute 0COUNTRY of 0CUSTOMER will also give access to characteristic 0COUNTRY**

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- **Navigational attributes can be assigned individually**
- **Attributes can be marked as “authorization-relevant”**
- **Example**
 - **Separate authorizations for 0CUSTOMER, 0CUSTOMER__0COUNTRY, and 0COUNTRY**

SAP BW 3.x

- Realized using globally unique identifiers (GUIDs) for hierarchy nodes and authorization field 0TCTAUTHH

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- Hierarchy authorizations work the same way as value authorizations
- No need to maintain GUIDs
- New maintenance dialog for selecting hierarchy nodes

SAP BW 3.x

- User needs authorization for each relevant authorization object
- Only the intersection of authorizations is permitted
- Does not work as expected
- Example
 - Authorization object 1: BLUE, ORANGE, BLACK
 - Authorization object 2: ORANGE, GRAY
 - User has access only to ORANGE!

SAP NetWeaver 7.0

- There are no authorization objects required
- Authorizations open a 'window' to the union of values
- Example
 - Authorization 1: BLUE, ORANGE, BLACK
 - Authorization 2: ORANGE, GRAY
 - User has access to BLUE, ORANGE, BLACK, and GRAY

SAP BW 3.x

- Authorization objects are turned on or off per individual InfoProvider
- Cumbersome and confusing maintenance
- Automatic blocking of new InfoProviders

SAP NetWeaver 7.0

- Only the InfoObject settings are relevant
- No additional flag per InfoProvider
- InfoProviders can be selected within the authorization (recommended)

Switch On/Off InfoProvider Check

Authorization Object ZMB_AUTH Test Authorization

Switched on	InfoProvider	Description
<input type="checkbox"/>	T_ABAP_VT	ABAP Topics - Virtual Key Figures
<input type="checkbox"/>	T_BW37011	T_BW37011
<input checked="" type="checkbox"/>	T_BW37012	T_BW37012
<input checked="" type="checkbox"/>	T_CO_JST	T_CO_JST
<input type="checkbox"/>	T_CO_PLAN	T_CO_PLAN
<input type="checkbox"/>	T_GR00SOR	T_GR00SOR
<input checked="" type="checkbox"/>	T_M_CO	T_M_CO
<input type="checkbox"/>	T_SD03	Billing Details
<input type="checkbox"/>	T_VT_DAT	ABAP Topics - Virtual Key Figures - Data

SAP BW 3.x

- **Validity has to be controlled via role assignment**
- **Authorizations “expire” when the role is not valid anymore**
- **Not granular enough and requires constant security changes**

SAP NetWeaver 7.0

- **Validity is defined as dates or date ranges within the authorization**
- **Include and exclude of dates possible**
- **Even patterns can be used**
- **Example**
 - **++/01/2006 to ++/07/2006 to grant access for the first 7 days of every month**

SAP BW 3.x

- Authorization objects S_RS_ICUBE, S_RS_MPRO, S_RS_ISET and S_RS_ODSO are checked during query processing
- S_RS_HIER is checked for any hierarchy that's part of query

SAP NetWeaver 7.0

- Authorization objects S_RS_ICUBE, S_RS_MPRO, S_RS_ISET and S_RS_ODSO are not checked anymore during query processing
- S_RS_HIER is not required anymore
- Those authorization objects are still used for BI administrator and BI developer roles



Appendix C

DataSources for Authorizations in SAP ERP

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Human Resources, Organizational Management (PA-OS)

- **Technical Name:** 0HR_PA_2, 0HR_PA_3
- **Available From OLTP Release:** 4.0B
- **Available From Plug-In Release:** PI 2001.2
- http://help.sap.com/saphelp_nw70/helpdata/en/49/02b43947f80c74e10000000a114084/frameset.htm

Cost Center Accounting (CO-OM-CCA)

- **Technical Name:** 0CO_OM_CCA_USER_1
- **Available From OLTP Release:** 4.0B
- **Available From Plug-In Release:** PI 2002.2
- http://help.sap.com/saphelp_nw2004s/helpdata/en/43/31c63b0fc93fe1e10000000a11466f/frameset.htm

Profit Center Accounting (EC-PCA)

- **Technical Name:** 0EC_PCA_USER_1
- **Available From OLTP Release:** SAP ERP 6.0 (2005)
- http://help.sap.com/saphelp_nw2004s/helpdata/en/43/31c63b0fc93fe1e10000000a11466f/frameset.htm



Appendix D

ABAP Coding for Authorization Variables

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ABAP Coding for Authorization Variables – 1 –

```
*&-----*
*&  Include          ZXRSRU01
*&-----*

CONSTANTS:
  c_tcai prov      TYPE rsi obj nm VALUE 'OTCAI PROV'.

DATA:
  l_s_range       TYPE rrrangesi d,
  l_username      TYPE syuname,
  l_s_auth        TYPE rsec_s_auth,
  l_t_auths       TYPE rsec_t_auths,
  l_cubdi m       TYPE rsec_sx_di ms,
  l_s_fl at       TYPE rrrange,
  l_s_hi er       TYPE rsec_s_tri angl e,
  l_s_rsecval     TYPE rsecval ,
  l_t_rsecval     TYPE TABLE OF rsecval WI TH DEFAULT KEY,
  l_s_rsechi e    TYPE rsechi e,
  l_t_rsechi e    TYPE TABLE OF rsechi e WI TH DEFAULT KEY.

CASE i_vnam.
  WHEN 'TMB_CO_AREA_EXIT' OR 'TMB_COUNTRY_EXIT' .    " <<< Add all exit variables here

  CLEAR e_t_range.

* Get user ID (in case of tracing)
  PERFORM set_username IN PROGRAM sapl rsec_checks
    USING   sy-uname
    CHANGI NG l_username.

* Get all assigned authorizations
  CALL FUNCTI ON 'RSEC_GET_AUTHS'
    EXPORTI NG
      i_username      = l_username
      i_authcheck     = abap_fal se
      i_wi th_texts   = abap_fal se
      i_wi th_generated = abap_true
      i_wi th_roles   = abap_true
    IMPORTI NG
      e_t_auths       = l_t_auths
  EXCEPTI ONS
    nothi ng_found   = 1
    i nval i d_params = 2
    OTHERS           = 3.
```

ABAP Coding for Authorization Variables – 2 –

```
IF sy-subrc <> 0.
  MESSAGE ID sy-msgid TYPE sy-msgty NUMBER sy-msgno
    WITH sy-msgv1 sy-msgv2 sy-msgv3 sy-msgv4.
ENDIF.

* Copy authorizations to variable selection
LOOP AT I_t_auths INTO I_s_auth.

* Get authorization values
REFRESH I_t_rsecval.
SELECT * FROM rsecval INTO TABLE I_t_rsecval
  WHERE tctauth = I_s_auth-authname.

REFRESH I_t_rsechie.
SELECT * FROM rsechie INTO TABLE I_t_rsechie
  WHERE tctauth = I_s_auth-authname.

CLEAR I_cubdim.
I_cubdim-dimension = c_tcaiprov.
LOOP AT I_t_rsecval INTO I_s_rsecval WHERE tctobjnm = c_tcaiprov.
  CLEAR I_s_flat.
  I_s_flat-sign = I_s_rsecval-tctsign.
  I_s_flat-opt = I_s_rsecval-tctoption.
  I_s_flat-low = I_s_rsecval-tctlow.
  I_s_flat-high = I_s_rsecval-tcthigh.
  APPEND I_s_flat TO I_cubdim-t_flat.
ENDLOOP.
LOOP AT I_t_rsechie INTO I_s_rsechie WHERE tctobjnm = c_tcaiprov.
  CLEAR I_s_hier.
  I_s_hier-hiesid = I_s_rsechie-hiesid.
  I_s_hier-hieid = I_s_rsechie-hieid.
  I_s_hier-hienm = I_s_rsechie-tcthiem.
  I_s_hier-version = I_s_rsechie-tcthiem.
  I_s_hier-dateto = I_s_rsechie-tcthiem.
  I_s_hier-nodename = I_s_rsechie-tctnode.
  I_s_hier-nobjnm = I_s_rsechie-tctnobjnm.
  I_s_hier-tlevel = I_s_rsechie-tcttlevel.
  I_s_hier-authtype = I_s_rsechie-tctatype.
  I_s_hier-compmode = I_s_rsechie-tctacomp.
  I_s_hier-hdate = I_s_rsechie-tcthdate.
  APPEND I_s_hier TO I_cubdim-t_hier.
ENDLOOP.
```

ABAP Coding for Authorization Variables – 3 –

```
* Check if authorization is relevant for this InfoProvider
CALL FUNCTION 'RSEC_CHECK_IPROV'
  EXPORTING
    i_authname = l_s_auth-authname
    i_uname     = l_uname
    i_infocube  = i_s_rkb1d-infocube
    i_cubdim   = l_cubdim
  EXCEPTIONS
    not_valid = 1
    OTHERS    = 2.
IF sy-subrc = 0 OR ( l_cubdim-t_flat IS INITIAL AND l_cubdim-t_high IS INITIAL ).
  LOOP AT l_t_rsecval INTO l_s_rsecval WHERE tctobjnm = i_objnm.
    CLEAR l_s_range.
    l_s_range-sign = l_s_rsecval -tctsign.
    l_s_range-opt  = l_s_rsecval -tctoption.
    l_s_range-low  = l_s_rsecval -tctlow.
    l_s_range-high = l_s_rsecval -tcthigh.
    APPEND l_s_range TO e_t_range.
  ENDLOOP.
ENDIF.

ENDLOOP.

* Clean-up
DELETE e_t_range WHERE low(1) = '$'.
SORT e_t_range.
DELETE ADJACENT DUPLICATES FROM e_t_range.

ENDCASE.
```




Appendix E

Important SAP Notes

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Notes for new authorization concept

- **820183** New authorization concept in BI
- **955990** BI in SAP NetWeaver 7.0: Incompatibilities with SAP BW 3.x
- **1125108** Obsolete 3x

Notes for generating authorizations

- **964905** New concepts and generation of analysis authorizations
- **1052242** BI Analysis authorization: Generation

Notes for multi-dimensional authorizations

- **983846** Termination in SAPL RSEC CHECKS or long running queries
- **991602** Value help for authorizations from customer exit incomplete
- **1006827** Input help displays not enough values; incorrect msg EYE 007

General

- **846839** **Types of Authorizations**
- **967403** **Compounding**
- **1000004** **Merge and Optimize Authorizations**
- **1053989** **Intervals Patterns**
- **1070694** **Web and Portal**
- **1122407** **Prerequisites**
- **1140831** **Colon Authorization**

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