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/* Freek Keijzer, myBrand, 20.03.2020
Cube-view for financial analysis Actuals + Plan + Commitments.
Source tables:
ACDOCA - "Universal Journal Entry Line Items"
ACDOCP - "Plan Data Line Items"
COOI   - "Commitments Management: Line Items"
EKKN   - "Account Assignment in Purchasing Document"

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Enrichments:
- Attributes of G/L Account as separate dimension
- Attributes of Purchasing Document as separate dimension
- Conversion of WBS_ElementInternalID to CHAR-8 to switch off output
  conversion routine "Conversion Internal > External WBS Element Number"
  (CONVERSION_EXIT_ABPSP_OUTPUT).
- Various fields renamed to facilitate "Jump To" functions,
  e.g. acdoca.belnr -> AccountingDocument

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Layered structure of CDS-views (CDS-views only delivering attributes or texts are not shown):

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ZC_FI_ACDOCAPCOOI           - Cube-view
|- ZP_FI_ACDOCAPCOOI        - Enrichment view
|  |- ZP_FI_ACDOCAPCOOI_UN  - Union
|  |  |- ZB_FIGL_ACDOCA     - Basic view Actuals
|  |  |  |- acdoca
|  |  |  |- ZB_FIGL_ACDOCP   - Basic view Plan
|  |  |  |  |- acdocp
|  |  |  |  |- ZB_PUR_COOI   - Basic view Commitments
|  |  |  |  |  |- cooi
|  |  |  |  |  |- ekkn
|  |  |  |  |  |- tka01
|  |- I_WBSElementBasicData - Master data of WBS-element
|  |  |- prps, proj
|  |- I_CalendarDate         - Time characteristics based on Posting Date
|  |  |- scal_tt_date
|  |- ZB_PS_AFVC_CAUFV       - Description and WBS-el.of Network Activity
|  |  |- afvc
|  |  |- caufv
|  |  |- prps
|  |- ZA_FI_RACCT_HIER_PAR    - Flattened Hierarchy G/L Account
|  |  |- ...
|  |  |  |- skal
|  |  |  |  |- fagl_011zc
|  |  |  |  |- fagl_011pc
|- I_GLAccountInChartOfAccounts - Attributes of G/L Account
|  |- skal
|- I_PurchasingDocument       - Attributes of Purchasing Document
|  |- ekko

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Change-log:

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@EndUserText.label: 'FI: Fin.Analysis Actuals+Plan+Committm.'
@AbapCatalog.sqlViewName: 'ZCFIACDOCAPCOOI'

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@Analytics: { dataCategory: #CUBE, dataExtraction.enabled: true }
@VDM.viewType: #COMPOSITE
@AbapCatalog.compiler.compareFilter: true
@AbapCatalog.preserveKey: true
@AccessControl.authorizationCheck: #CHECK

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define view ZC_FI_ACDOCAPCOOI as select from ZP_FI_ACDOCAPCOOI
/--Associations to SAP-delivered master data views
association[0..1] to I_CompanyCode as _CompanyCode on $projection.CompanyCode = _CompanyCode.CompanyCode
association[0..1] to I_ControllingArea as _ControllingArea on $projection.ControllingArea = _ControllingArea.ControllingArea
association[0..*] to I_CostCenter as _CostCenter on $projection.ControllingArea = _CostCenter.ControllingArea and
$projection.CostCenter = _CostCenter.CostCenter
association[0..*] to I_ProfitCenter as _ProfitCenter on $projection.ControllingArea = _ProfitCenter.ControllingArea and
$projection.ProfitCenter = _ProfitCenter.ProfitCenter
association[0..1] to I_InternalOrder as _Order on $projection.InternalOrder = _Order.InternalOrder
association[0..*] to I_DebitCreditCodeText as _DebitCreditText on $projection.drcrk = _DebitCreditText.DebitCreditCode
association[0..*] to I_AccountingDocumentTypeText as _AccDocTypeText on $projection.AccountingDocumentType =
_AccDocTypeText.AccountingDocumentType
association[0..*] to I_AssetClassText as _AssetClassText on $projection.anlkl = _AssetClassText.AssetClass
association[0..*] to I_LedgerText as _LedgerText on $projection.Ledger = _LedgerText.Ledger
association[0..*] to I_FinancialTransactionTypeText as _FinTransTypeText on $projection.rmvct =
_FinTransTypeText.FinancialTransactionType
association[0..1] to I_Supplier as _Supplier on $projection.lifnr = _Supplier.Supplier
association[0..1] to I_Customer as _Customer on $projection.kunnr = _Customer.Customer
association[0..1] to I_Plant as _Plant on $projection.werks = _Plant.Plant
association[0..1] to I_Material as _Material on $projection.matnr = _Material.Material
association[0..1] to I_WBSElement as _WBSElement on $projection.WBSElement = _WBSElement.WBSElement
association[0..1] to I_CompanyCode as _CompCodeWBS on $projection.WBSElement_CompanyCode = _CompCodeWBS.CompanyCode
association[0..*] to I_ProjectTypeText as _ProjectTypeText on $projection.ProjectType = _ProjectTypeText.ProjectType
association[0..1] to I_Project as _Project on $projection.Project = _Project.Project
association[0..1] to I_WBSElement as _WBSElementNwa on $projection.WBSElementNwa = _WBSElementNwa.WBSElement
association[0..1] to I_GLAccountInChartOfAccounts as _GLAccount on $projection.ChartOfAccounts = _GLAccount.ChartOfAccounts and
$projection.GLAccount = _GLAccount.GLAccount

association[0..1] to I_PurchasingDocument as _PurchasingDocument on $projection.PurchasingDocument =
_PurchasingDocument.PurchasingDocument

/--Associations to custom master data views
association[0..*] to ZT_CA_PartnerCompany as _PartnerCompanyText on $projection.rassc = _PartnerCompanyText.PartnerCompany
association[0..*] to ZT_FI_FISCPER as _FiscPerText on $projection.FiscalPeriod = _FiscPerText.FiscPer
association[0..*] to ZT_FI_CATEGORY as _CategoryText on $projection.category = _CategoryText.Category
association[0..*] to ZT_CA_USRID as _UsnamText on $projection.usnam = _UsnamText.Usrid
association[0..*] to ZT_PS_Network as _NetworkText on $projection.nplnr = _NetworkText.Network
association[0..*] to ZT_FI_AWTYP as _AwtypText on $projection.awtyp = _AwtypText.Awtyp
association[0..*] to ZT_FI_ERGSL_NS00 as _Ergsl01Text on $projection.ergsl_lev01 = _Ergsl01Text.Ergsl
association[0..*] to ZT_FI_ERGSL_NS00 as _Ergsl02Text on $projection.ergsl_lev02 = _Ergsl02Text.Ergsl
association[0..*] to ZT_FI_ERGSL_NS00 as _Ergsl03Text on $projection.ergsl_lev03 = _Ergsl03Text.Ergsl
association[0..*] to ZT_FI_ERGSL_NS00 as _Ergsl04Text on $projection.ergsl_lev04 = _Ergsl04Text.Ergsl
association[0..*] to ZT_FI_ERGSL_NS00 as _Ergsl05Text on $projection.ergsl_lev05 = _Ergsl05Text.Ergsl

{
//Key figures, currencies, units

/--Amount Actual/Plan
// @Semantics.amount.currencyCode: 'rkcur' //--use this line to display currency with amount
@DefaultAggregation: #SUM
@EndUserText.label: 'Amount Act/Pln'
ksl, //Amount in Global Currency (acdoca/acdocp.ksl)
@EndUserText.label: 'Curr.Act/Pln'
rkcur, //Global Currency (acdoca/acdocp.rkcur)

/--Quantity Actual/Plan
@Semantics.quantity.unitOfMeasure: 'quant_ap_unit'
@DefaultAggregation: #SUM
@EndUserText.label: 'Qty Act/Pln'
quant_ap, //Quantity (acdoca.msl/acdocp.vmsl -> quant_ap)

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@EndUserText.label: 'UoM Qty Act/Pln'
quant_ap_unit,                                     //UoM for Quantity (acdoca.runit/acdocp.rvunit -> quant_ap_unit)

/--Amount Commitment Actual/Plan
//  @Semantics.amount.currencyCode: 'tka01_cur'  //--use this line to display currency with amount
@DefaultAggregation: #SUM
@EndUserText.label: 'Amount Com'
wkgbtr,                                           //Total Value (cooi.wkgbtr)
//  @Semantics.amount.currencyCode: 'tka01_cur'  //--use this line to display currency with amount
@DefaultAggregation: #SUM
@EndUserText.label: 'Amount Com Pln'
orgwtk,                                           //Planned Value (cooi.orgwtk)
@EndUserText.label: 'Curr.Com (Pln)'
tka01_cur,                                       //Currency Key (tka01.waers)

/--Quantity Commitment Actual/Plan
@Semantics.quantity.unitOfMeasure: 'meinh_cooi'
@DefaultAggregation: #SUM
@EndUserText.label: 'Qty Com'
megbtr,                                           //Total Quantity (cooi.megbtr)
@Semantics.quantity.unitOfMeasure: 'meinh_cooi'
@DefaultAggregation: #SUM
@EndUserText.label: 'Qty Com Pln'
gesmng,                                           //Planned Quantity (cooi.gesmng)
@EndUserText.label: 'UoM Qty Com (Pln)'
meinh_cooi,                                       //Unit of Measure (cooi.meinh)

/--Generic counter
@DefaultAggregation: #SUM
@EndUserText.label: 'No.Records'
Counter,                                         //Generic counter for records in table/view

//Characteristics
@EndUserText.label: 'Source (ACDOCA/ACDOCP/COOI)'
Source,                                         //Source = 'ACDOCA', 'ACDOCP' or 'COOI'

/--Fields from table Actuals ACDOCA
@ObjectModel.text.association: '_LedgerText'
rldnr as Ledger,                               //Ledger in General Ledger Accounting (acdoca/acdocp.rldnr)
@ObjectModel.foreignKey.association: '_CompanyCode'
rbukrs as CompanyCode,                         //Company Code (acdoca/acdocp.rbukrs, cooi.bukrs)
gjahr as FiscalYear,                           //Fiscal Year (acdoca/acdocp/cooi.gjahr)
belnr as AccountingDocument,                   //Accounting Document (acdoca.belnr)
docln as AccountingDocumentItem,               //Accounting Document Item (acdoca.docln)
@ObjectModel.text.association: '_FinTransTypeText'
rmvct,                                          //Transaction type (acdoca/acdocp.rmvct)
@ObjectModel.text.association: '_AwtypText'
awtyp,                                         //Reference procedure (acdoca/acdocp.awtyp, cooi.rftyp)
@ObjectModel.foreignKey.association: '_GLAccount'
racct as GLAccount,                           //G/L Account (acdoca/acdocp.racct/cooi.sakto)
@ObjectModel.foreignKey.association: '_CostCenter'
rcntr as CostCenter,                           //Cost Center (acdoca/acdocp.rcntr, ekkn.kostl)
@ObjectModel.foreignKey.association: '_ProfitCenter'
prctr as ProfitCenter,                         //Profit Center (acdoca/acdocp/ekkn.prctr)
rbusa,                                         //Business Area (acdoca/acdocp.rbusa)
@ObjectModel.foreignKey.association: '_ControllingArea'
kokrs as ControllingArea,                     //Controlling Area (acdoca/acdocp/cooi.kokrs)
@ObjectModel.text.association: '_PartnerCompanyText'
rassc,                                         //Company ID of trading partner (acdoca/acdocp.rassc, cooi.vbund)

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@ObjectModel.text.association: '_DebitCreditText'
drckr, //Debit/Credit Indicator (acdoca.drckr, acdopc.co_belkz/cooi.beknz -> drckr)
@endUserText.label: 'Fiscal Period (SAP)'
poper, //Posting period (acdoca/acdopc.poper, cooi.perio)
@ObjectModel.text.association: '_FiscPerText'
@endUserText.label: 'Fiscal Period'
FiscPer as FiscalPeriod, //Posting period (acdoca/acdopc.poper, cooi.perio) as CHAR-3
periv as FiscalYearVariant, //Fiscal Year Variant (acdoca/acdopc.periv)
fiscyearper as FiscalyearPeriod, //Period/year (acdoca/acdopc.fiscyearper, cooi.gjahr+perio)
budat as PostingDate, //Posting Date (acdoca/acdopc.budat), Expected Debit Date (cooi.budat)
bldat, //Document Date (acdoca/cooi.bldat)
@ObjectModel.text.association: '_AccDocTypeText'
blart as AccountingDocumentType, //Document type (acdoca.blart)
zuonr, //Assignment number (acdoca.zuonr)
bschl, //Posting Key (acdoca.bschl)
@ObjectModel.text.association: '_UsnamText'
usnam, //User Name (acdoca/acdopc.usnam)
timestamp, //UTC-timestamp (acdoca/cooi.timestamp)
ktopl as ChartOfAccounts, //Chart of Accounts (acdoca/acdopc.ktopl)
@endUserText.label: 'Pur.doc.'
ebeln as PurchasingDocument, //Purchasing Document (acdoca.ebeln, cooi.refbn = ebeln)
@endUserText.label: 'Pur.doc.pos'
ebelp, //Purchasing Document Item (acdoca.ebelp, cooi.rfpos = ebelp)
@endUserText.label: 'Pur.doc.pos.text'
sgtxt, //Item Text (acdoca/acdopc/cooi.sgtxt)
@ObjectModel.foreignKey.association: '_Material'
matnr, //Material (acdoca/acdopc/cooi.matnr)
@ObjectModel.foreignKey.association: '_Plant'
werks, //Plant (acdoca/acdopc.werks)
@ObjectModel.foreignKey.association: '_Supplier'
lifnr, //Vendor (acdoca/cooi.lifnr)
@ObjectModel.foreignKey.association: '_Customer'
kunnr, //Customer (acdoca/acdopc.kunnr)
koart, //Account Type (acdoca.koart)
mwszk, //Tax on sales/purchases code (acdoca.mwszk)
hbkid, //Short key for a house bank (acdoca.hbkid)
hktid, //ID for account details (acdoca.hktid)
xopvw, //Indicator: Open Item Management? (acdoca.xopvw)
augdt, //Clearing Date (acdoca.augdt)
augbl, //Document Number of the Clearing Document (acdoca.augbl)
auggj, //Fiscal Year of Clearing Document (acdoca.auggj)
anln1, //Main Asset Number (acdoca.anln1)
anln2, //Asset Subnumber (acdoca.anln2)
anlgr, //Group Asset (acdoca.anlgr)
anlgr2, //Subnumber of Group Asset (acdoca.anlgr2)
@ObjectModel.text.association: '_AssetClassText'
anlkl, //Asset Class (acdoca.anlkl)
bwtar, //Valuation Type (acdoca.bwtar)
bwkey, //Valuation area (acdoca.bwkey)
objnr, //Object number (acdoca/acdopc/cooi.objnr)
accas, //Account Assignment (acdoca.accas)
accasty, //Object Type (acdoca/acdopc.accasty)
lstar, //Activity Type (acdoca/acdopc.lstar)
@ObjectModel.foreignKey.association: '_Order'
aufnr as InternalOrder, //Order Number (acdoca/acdopc/ekkn.aufnr)
autyp, //Order category (acdoca.autyp)
@endUserText.label: 'WBS-element (number)'
cast(WBSElementInternalID as abap.char(8)) as WBSElementInternalID, //WBS-element, NUMC-8 (acdoca/acdopc/ekkn.ps_psp_pnr)
@ObjectModel.text.association: '_NetworkText'

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nplnr,                                //Network Number (acdoca.nplnr)
nplnr_vorgn,                          //Network Activity (acdoca.nplnr_vorgn)
paccas,                              //Partner Account Assignment (acdoca.paccas)
paccasty,                            //Partner Object Type (acdoca/acdosp.paccasty)
matkl,                               //Product Sold Group (acdoca/acdosp/cooi.matkl)

/--Fields only in table Plan ACDOCP
reqtsn,                              //Request Transaction Sequence Number (acdosp.reqtsn)
datapakid,                          //Data packet number (acdosp.datapakid)
record,                             //Data record number (acdosp.record)
@ObjectModel.text.association: '_CategoryText'
@EndUserText.label: 'Plan Category'
category,                            //Category (acdosp.category)

/--Fields from view Commitments ZB_PUR_COOI
@EndUserText.label: 'Del.ind.pur.doc'
loekz_cooi,                          //Deletion indicator in purchasing document (cooi.loekz)

/--Creation Date determined via different methods
@EndUserText.label: 'Creation Date'
zcpudt,                             //Creation Date (acdoca.timestamp/acdosp.reqtsn/cooi.bldat)

/--Time characteristics from view I_CalendarDate based on Posting Date (acdoca/acdosp.budat) and Expected Debit Date (cooi.budat)
@EndUserText.label: 'Cal.Week w/ Year'
YearWeek,                           //Year Week (scal_tt_date.yearweek)
@EndUserText.label: 'Cal.Month w/ Year'
YearMonth,                          //Year Month (scal_tt_date.yearmonth)
@EndUserText.label: 'Cal.Quarter w/ Year'
YearQuarter,                       //Year Quarter (scal_tt_date.yearquarter)
@EndUserText.label: 'Cal.Year'
CalendarYear,                      //Calendar Year (scal_tt_date.calendaryear)
@EndUserText.label: 'Cal.Month w/o Year'
CalendarMonth,                     //Calendar Month (scal_tt_date.calendarmonth)

/--Fields from view I_WBSElementBasicData
@ObjectModel.foreignKey.association: '_WBSElement'
@EndUserText.label: 'WBS-element'
WBSElement,                       //WBS-element, CHAR-24 (prps.posid)
@ObjectModel.foreignKey.association: '_Project'
Project,                           //Project, CHAR-24 (proj.pspid)
WBSDescription,                    //WBS-element description (prps.post1)
@ObjectModel.foreignKey.association: '_CompCodeWBS'
@EndUserText.label: 'CoCode WBS-el.'
WBSElement_CompanyCode,           //Company Code of WBS-element (prps.pbukr)
@ObjectModel.text.association: '_ProjectTypeText'
ProjectType,                       //Project Type (prps.prart)

/--Fields from view ZB_PS_AFVC_CAUFV
@EndUserText.label: 'Network activity descr.'
NplnrVorgnText,                    //Network Activity description (afvc.ltxa1)
@ObjectModel.foreignKey.association: '_WBSElementNwa'
@EndUserText.label: 'WBS-element NWA'
WBSElementNwa,                    //WBS-element of Network Activity (prps.posid <- afvc.projn)

/--Fields from view ZA_FI_RACCT_HIER_PAR, hierarchy 'NS00'
@EndUserText.label: 'G/L Acc.hier.level'
ergsl_stufe,                       //Financial Statement Item Hierarchy Level (fagl_011pc.stufe)
@EndUserText.label: 'G/L Acc.hier.lev.0'
ergsl_lev00,                       //Financial Statement Item (fagl_011zc.ergsl) level 0

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@ObjectModel.text.association: '_Ergsl01Text'
@EndUserText.label: 'G/L Acc.hier.lev.1'
ergsl_lev01,                               //Financial Statement Item (fagl_011zc.ergsl) level 1
@ObjectModel.text.association: '_Ergsl02Text'
@EndUserText.label: 'G/L Acc.hier.lev.2'
ergsl_lev02,                               //Financial Statement Item (fagl_011zc.ergsl) level 2
@ObjectModel.text.association: '_Ergsl03Text'
@EndUserText.label: 'G/L Acc.hier.lev.3'
ergsl_lev03,                               //Financial Statement Item (fagl_011zc.ergsl) level 3
@ObjectModel.text.association: '_Ergsl04Text'
@EndUserText.label: 'G/L Acc.hier.lev.4'
ergsl_lev04,                               //Financial Statement Item (fagl_011zc.ergsl) level 4
@ObjectModel.text.association: '_Ergsl05Text'
@EndUserText.label: 'G/L Acc.hier.lev.5'
ergsl_lev05,                               //Financial Statement Item (fagl_011zc.ergsl) level 5

/--Fields from view I_GLAccountInChartOfAccounts
_GLAccount.ChartOfAccounts as ChartOfAccountsGLAcc, //(included in selection list for technical reasons)
@EndUserText.label: 'Balance Accounts?'
_GLAccount.IsBalanceSheetAccount,          //Indicator: Account is a balance sheet account? (skal.xbilk)
_GLAccount.GLAccountGroup,                //G/L Account Group (skal.ktoks)
_GLAccount.GLAccountType,                 //Type of a General Ledger Account (skal.glaccount_type)
@EndUserText.label: 'Profit&Loss Accounts?'
_GLAccount.IsProfitLossAccount,           //(skal.xbilk)-> Indicator: Account is a profit & loss account?

/--Fields from view I_PurchasingDocument
_PurchasingDocument.PurchasingDocumentCategory, //Purchasing Document Category (ekko.bstyp)
_PurchasingDocument.PurchasingDocumentType,     //Purchasing Document Type (ekko.bsart)

//Associations to be passed on to the queries
_CompanyCode,
_ControllingArea,
_CostCenter,
_ProfitCenter,
_Order,
_DebitCreditText,
_AccDocTypeText,
_AssetClassText,
_LedgerText,
_FinTransTypeText,
_Supplier,
_Customer,
_Plant,
_Material,
_WBSElement,
_CompCodeWBS,
_ProjectTypeText,
_Project,
_WBSElementNwa,
_GLAccount,
_GLAccount._GLAccountType,
_GLAccount._GLAccountGroup,
_PurchasingDocument,
_PurchasingDocument._PurchasingDocumentCategory,
_PurchasingDocument._PurchasingDocumentType,

_PartnerCompanyText,
_FiscPerText,
_CategoryText,

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```
_UsnamText,  
_NetworkText,  
_AwtypText,  
_Ergsl01Text,  
_Ergsl02Text,  
_Ergsl03Text,  
_Ergsl04Text,  
_Ergsl05Text  
}
```