Introduction to SAP S/4HANA

- SAP S/4HANA is a Business software or Business suite, developed by SAP SE
- SAP SE is a software company that owns and develops enterprise software applications along with its software support to the businesses of all sizes globally
- It was initially started in 1972 by 5 former IBM employees
- Its headquarter is in Walldorf, Germany but its subsidiaries are located all around the world

Introduction to SAP S/4HANA

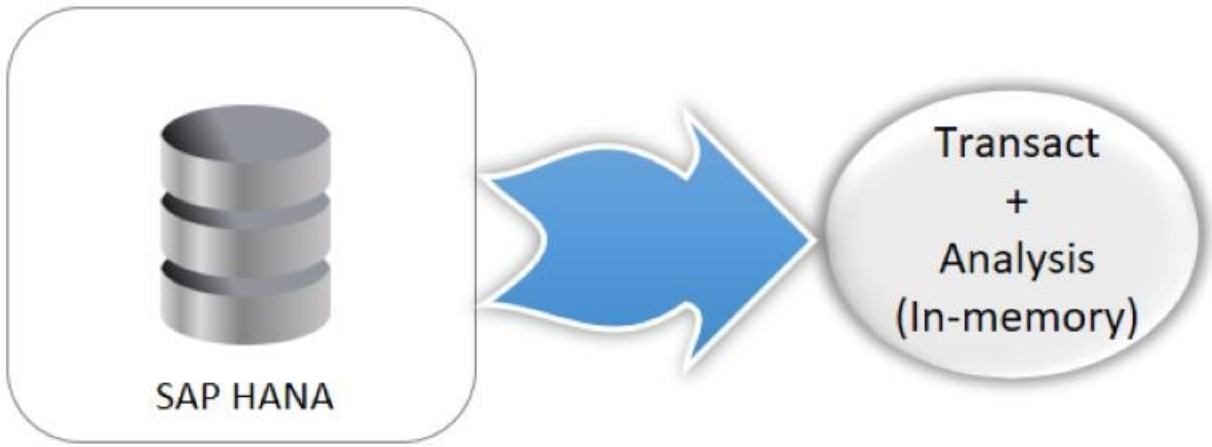
- **SAP S/4HANA** is the 4th major release made by SAP SE, in **2015**
- **S/4** represents 4th generation and HANA represents HANA database; that's why it is called SAP S/4HANA
- Before SAP S/4HANA release, there were the following major releases:
  - SAP R/2 – 1979 – used to run on Mainframe
  - SAP R/3 – 1992 – introduction of 3-tier architecture i.e., client, application and database
  - SAP ERP – 2004 – Became the part of a larger ERP family i.e., SAP Business Suite
  - SAP S/4HANA – 2015 – Back-end application layer runs on SAP HANA database while the front-end application runs on SAP Fiori which is developed with SAP UI5

OLTP and OLAP
- Traditional Database



- 3 copies of data in different data models
- Inherent data latency
- Poor innovation leading to wastage

OLTP and OLAP
- Vision of SAP HANA Database



- Eliminate unnecessary complexity and latency
- Less hardware to manage
- Accelerate through innovation, simplification + in-memory

SAP S/4HANA Choice of Deployment - On-Premise Deployment

- As its name suggests, SAP S4HANA is deployed in an organization's own data centre in one or more of its sites
- It will have full control over the system, its implementation, configuration and the ability to make modifications and can also license the software
- The internal IT Team in the Organization can manage security and governance and can maintain the software with any applicable enhancement packs and hot fixes and most importantly can choose the timing of implementing any upgrades
- It is also possible for the organization to be remained on the same database if it does not want SAP HANA database which is the requirement of SAP S/4HANA Business Suite but this needs an evaluation as that Organization will not be able to take much advantage of the new development which relies on the in-memory capabilities of SAP HANA

SAP S/4HANA Choice of Deployment - Cloud Deployment

- In the cloud deployment option, an organization is now able to run its software or entire enterprise in the cloud with a digital core that includes, finance, controlling, sales, procurement, manufacturing etc.
- The cloud edition of SAP S/4HANA can be adopted by the existing and new organizations via a simple subscription model
- As a full SaaS model, the pricing of the software varies as it follows a subscription model. What features an Organization requires and what features it do not require, the price of the software license depends on that
- There are two types of Cloud deployment:
  - Private Cloud deployment
  - Public Cloud deployment

SAP S/4HANA Choice of Deployment - Cloud Deployment (Private vs Public)

Private Cloud Deployment

- Dedicated Server
- Application and Governance rules can be managed by the Organization
- Business processes can be configured, however, the modifications are not allowed
- Different Release Timing – just like On-premise deployment option

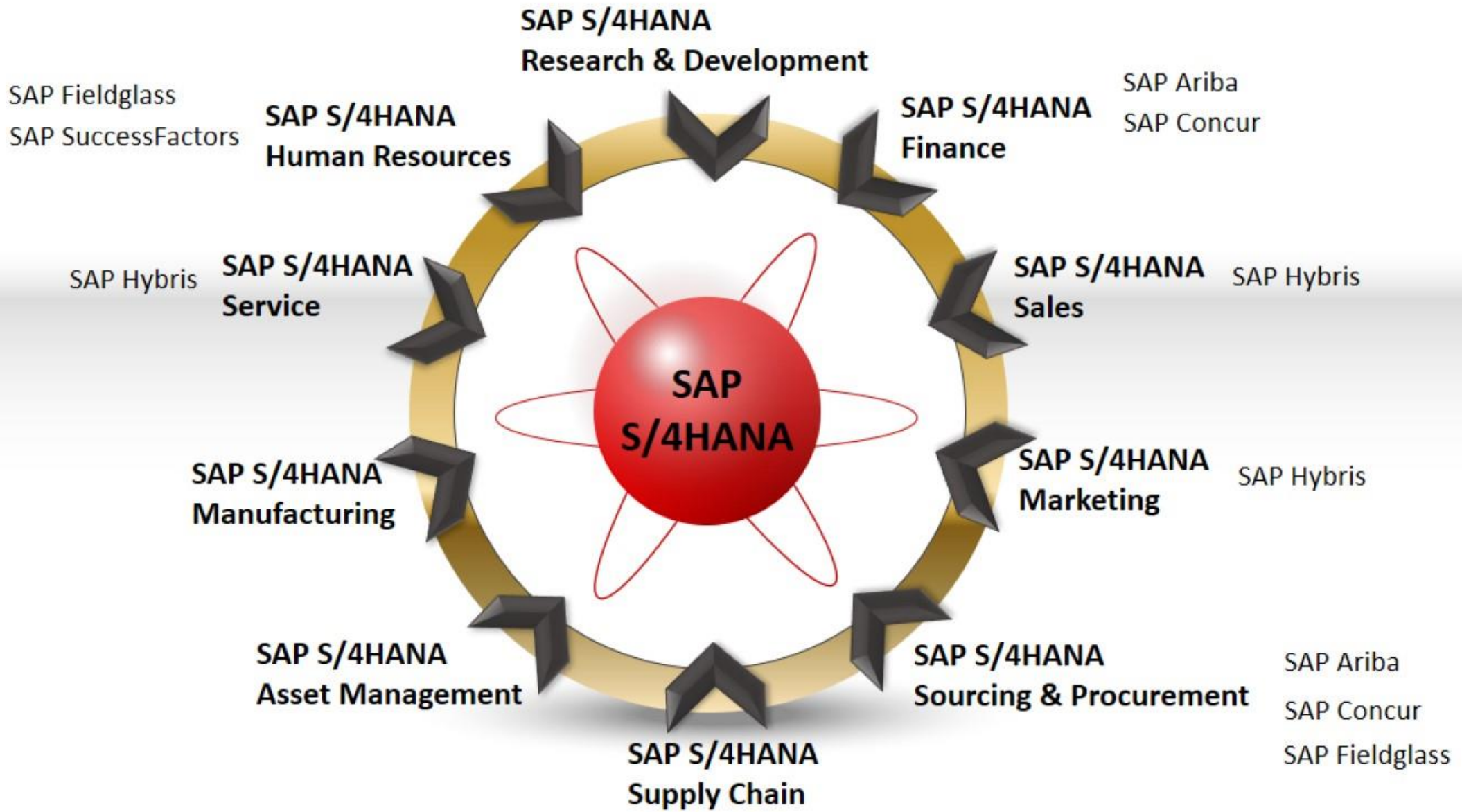
Public Cloud Deployment

- Shared Server
- SaaS model – SAP manages both the application and infrastructure
- There is a standard configuration and modifications are not allowed
- Fixed Release Timing – Updated on the latest innovations and lower overall TCO

SAP S/4HANA Choice of Deployment - Hybrid Deployment

- The hybrid deployment option is basically the combination of both on-premise and Cloud deployment options
- The example can be an Organization which has on-premise deployment for its software and it is also running remote sales offices, subsidiaries or mergers & acquisitions in the cloud with an integration into his on-premise system for consolidated reporting purposes
- The existing SAP Customers can have both choices of On-Premise and Cloud deployment with SAP S/4HANA

Product portfolio of sap s/4HANA (industry-specific)



SAP S/4HANA Key Benefits

- The key benefits for SAP S/4HANA Business Suite are
  - **Fast/Accelerated Performance** - Due to SAP HANA database and its in-memory technology, in-column oriented tables and multi-core processors
  - **Single Source of Truth –** Introduction of Universal Journal and Compatibility Views and SAP HANA database combines both OLTP and OLAP from a single data to make SAP S/4HANA one single source of truth. The vision of SAP S/4HANA is that Transactions, Analysis and Acceleration are combined
  - **Simplification** - Removal of Redundancy by eliminating index and aggregate tables. It is simply recording all business transactions as they happen and everything else is being calculated on the fly by algorithms on the data
  - **User-friendly interface –** SAP Fiori as new User Experience to process and analyse day to day business transactions. It also allows to access information remotely through mobile or iPad
  - **Cost Effectiveness** - Businesses can subscribe to those cloud capabilities and services which they need in order to reduce their license fee
  - **Innovation** - The businesses which use SAP S/4HANA can get the benefit of rapidly changing technology and future innovation. This will increase its chances to increase its revenues by adopting the latest technologies and staying ahead of their competitors
  - **Choice of Deployment –** On- Premise, Cloud and Hybrid

Introduction to SAP S/4HANA Finance

- SAP S/4HANA Finance is the first business application developed for the SAP S/4HANA Business suite
- It was previously known as “SAP Simple Finance”. This term is no longer an official brand
- It is available in both On-premise & Cloud versions
- SAP S/4HANA Finance as “SAP Simple Finance” was first released On-premise in March 2015 as version 1503
- The first Cloud version of SAP S/4HANA Finance was released in Mar 2016 as 1603 and with this release “SAP Simple Finance” is known as “SAP S/4HANA Finance”

SAP S/4HANA Finance Innovation

- There are the following key areas of innovation in SAP S/4HANA Finance:
  - Accounting
  - SAP Cash Management Powered by SAP HANA
  - Integrated Business Planning
  - Business Cockpits
  - Continuous Processes
  - Central Finance

Introduction to SAP S/4HANA Fiori

- SAP Fiori is the cloud-based latest interface which was specifically developed for SAP S/4HANA
- It is now a new User experience or UX to process or analyse day to day business transactions
- The word “Fiori” means “Flowers” in Italian. When you open the SAP Fiori home page application, you will see a picture of the flowers
- SAP Fiori apps are developed by SAP UI5 which is the development tool and uses web technologies like HTML, CSS and JavaScript
- SAP has released numerous versions of SAP Fiori till date. The first version 1.0 was released in 2013
- SAP Fiori is the replacement of previous blue screen of SAP ERP which is SAP Gui-based
- SAP Fiori Front-end Server Release 6.0 will be used in this training

Requirements to learn SAP Fiori

- The following knowledge is required to learn SAP Fiori apps implementation, customization and creation from scratch:
  - SAP UI5
  - HTML5
  - JavaScript
  - ABAP Program & Objects
  - OData and SAP NetWeaver Gateway
  - SAP FIORI Launchpad for accessing the FIORI Apps
  - ERP Implementation experience and
  - Knowledge of SAP HANA

SAP S/4HANA Fiori Application Types

- **Transactional Apps:**
  - Sap Fiori transactional apps, as its name suggests, enable Users to perform transactional activities such as to create/change/approve/reject a GL document, Purchase order, Sales order, Fill time sheet etc.
  - Transaction Apps can be created and extended
- **Analytical Apps:**
  - SAP Fiori analytical apps enable Users to analyse and monitor financial data, operational data and other business-related data through KPIs in real-time to control and manage the enterprise
  - Sap Smart Business is another name for analytical apps of SAP Fiori
  - Analytical apps run only on SAP HANA database and use VDM (virtual data models)
  - Analytical apps can be created and extended
- **Fact sheet Apps:**
  - SAP Fiori Fact sheet Apps give you a quick view and immediate information such as related objects if you search and explore any transactional data or master data
  - It displays essential information about an object and contextual navigation between related objects
  - In other words, Fact Sheets allow us to explore from one fact sheet to another like Analytical Apps by using one app to another app navigation in FIORI LAUNCHPAD.
  - Fact sheet Apps can be created and extended just like transactional and analytical apps

Introduction to SAP Gui

- **SAP GUI:**
  - Graphical user-interface client in SAP ERP's 3-tier architecture of database, application layer and client or presentation layer
  - It is software that runs on a Microsoft Windows, Apple Macintosh or Unix desktop, and allows a user to access SAP functionality in SAP applications such as SAP ERP and SAP Business Intelligence
  - It is the platform used for remote access to the SAP central server in a company network
  - Its current Windows version is 7.60 and its current Mac version is 7.50

SAP Gui Navigation

- There are **three ways** to navigate transactions through SAP GUI User-interface:
  - User or SAP Menu
  - Favorites
  - Fast Path / Transaction Code

SAP Gui
- Easy Access vs Display IMG

- **Easy Access:**
  - All the activities related to End Users, Super Users and Top Management are executed through this screen
- **Display IMG:**
  - All the activities related to configuration, implementation and enhancement of SAP are executed through this screen. In order to access this screen, we use the following transaction code or menu path:
    - **Transaction code:** SPRO
    - **Menu path**: SAP Easy Access -> Tools -> Customizing -> IMG -> Execute Project
  - We will directly use the **transaction code: SPRO** to do all our configuration in this training course

SAP S/4HANA Fiori Design Principles

- SAP Fiori interface provides the 5 following design principles:
  - Responsive
  - Simple
  - Coherent
  - Instant Value
  - Role-based

SAP S/4HANA Fiori Design Principles

- **Responsive:**
  - SAP FIORI is designed with the idea that it can be responsive, means that it can be easily accessible on your desktop, mobile, or tablet
  - The size of the interface is automatically adjusted as per device form factor
- **Simple:**
  - SAP FIORI interface is simple for the Users as it displays the relevant tools and information in order to reduce distraction and time spent searching
  - For example, 1 User to process 1 Use case can see the relevant information in 3 different screens on his/her dashboard such as the side bar, main screen and the bottom action buttons to approve / decline a task

SAP S/4HANA Fiori Design Principles

- **Coherent:**
  - Apps that speak the same language
  - SAP FIORI applications and form factors are coherent in design, means that they speak the same language with their familial resemblance
  - In other words, Users will learn the purpose of different applications quickly as the element of the applications' coherence or design ensures that tasks, language and controls have the same meaning within each application and from one application to another
- **Instant Value:**
  - There is a low barrier to adopt the user-friendly design of SAP FIORI as the Users can personalize it as per their requirements which give instant value to the business

SAP S/4HANA Fiori Design Principles

- **Role-based:**
  - SAP FIORI User-interface is role-based
  - It means that each User is assigned to a role as per his job functions e.g., Accounts Payable, Accounts Receivable, Accountant, Financial Controller etc.
  - Each User role has got permissions to a specific set of applications so that the User can use them for their day to day functions
  - There are more than 400 Role-based SAP FIORI apps and this number keeps increasing with the new releases of SAP S/4HANA

SAP Fiori Apps Library and SAP User Roles

- **SAP Fiori:**
  - **SAP Fiori Apps Library:**
    - https://fioriappslibrary.hana.ondemand.com/sap/fix/externalViewer/#
    - Example: Manage Customer Master Data – Role: SAP_BR_BUPA_MASTER_SPECIALIST
- **SAP User Roles:**
  - **Transaction code:** SU01
  - **Menu path:** SAP Easy Access -> SAP Menu -> Tools -> Administration -> User Maintenance -> Users
  - **Transaction code:** PFCG
  - **Menu path:** SAP Easy Access -> SAP Menu -> Tools -> Administration -> User Maintenance -> Role Administration -> Roles

SAP S/4HANA Fiori Key Benefits

- There are following key benefits to use SAP Fiori as new User Experience:
  - **Easy access** - Enables Users to easily access Overview pages, Work lists and List Reports
  - **Increase Productivity** - Increases productivity by faster and direct access to the relevant information and applications
  - **Embedded Analytics** – KPI Modelling Apps and Query Browser are the embedded reporting tools available in SAP Fiori
  - **Timely Notifications** - Provides timely notifications for transparency on items requires attention
  - Improves **Time to Value** by allowing Users to take quick and informed actions
  - Allows users to **access information remotely** through mobile or iPad
  - Allows businesses to evolve and eventually **drive new revenues**
  - Allows businesses to gain relevant insights and intelligence into any data **real-time** to make quick decision-making
  - Allows businesses to connect with their customers/vendor/employees at a deeper level with the **digital core technologies** of advanced analytics, IOT and Big data

SAP Activate

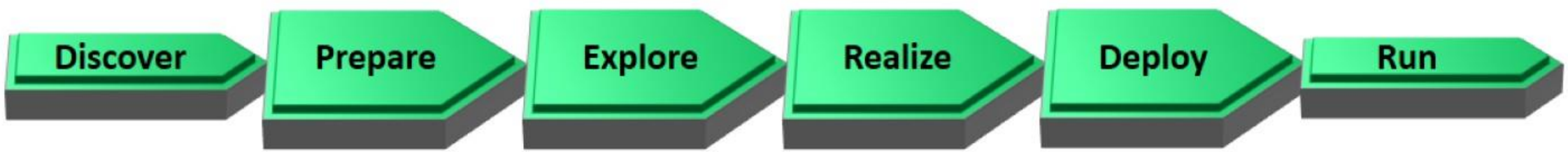
- SAP Activate is a methodology which is used in SAP S/4HANA implementation projects
- This methodology is a successor of ASAP (Accelerated SAP) Methodology which is used in SAP ERP implementation projects i.e., the business suite before SAP S/4HANA
- It is a combination of SAP Best Practices, Guided configuration, and methodology delivered with a reference solution and is optimized specifically for S/4HANA projects
- The key-noted improvements in this methodology are:
  - Agile project delivery
  - Reduced project lifecycle with 4 phases only (Prepare, Explore, Realize, Deploy)
  - Blueprint documentation activities replaced with solution fit/gap workshops

SAP Activate vs ASAP Methodology (Roadmap)

ASAP Methodology Roadmap



SAP Activate Roadmap



For more information, visit https://go.support.sap.com/roadmapviewer/

SAP Tables

- SAP Tables are the building blocks of the SAP environment which are created, displayed and maintained through SAP data dictionary by using the transaction codes: SE11 and SE80
- SAP Tables store all the data within your SAP system which are processed and accessed through SAP ABAP code
- The T-code: SE16N is mostly used to display general data information

Universal Journal – ACDOCA Table

- The Universal Journal was introduced with SAP S/4HANA Finance 1503 as the book of original entry for business transactions in SAP S/4HANA Finance and Controlling
- It is based on the new **Table: ACDOCA** which can be accessed through **T-code: SE16N**
- The Universal Journal is also referred as Single source of truth because it records all the line items of the business transactions along with the reference of header information that is normally recorded by the **Table: BKPF**
- The business transactions include FI documents, CO documents and AA documents, so no further reconciliation is needed between them to transfer the data and **OLTP (Online Transactional Processing) and OLAP (Online Analytical Processing)** can be run from the same table
- Before SAP S/4HANA, the data was stored into different tables, causing data redundancy and slow access of data, so those tables are no longer required because of the new architecture of Universal Journal table: ACDOCA

Universal Journal – ACDOCA Table

- The new journal entry consists of a header (table BKPF) and the respective items (table ACDOCA)
- The Universal Journal entry document is dependent on Fiscal year and Company code
- There are 6-digit field for line item numbering and 23 digits for currency fields in Universal Journal
- SAP offers a new transaction number for every 999 document lines
- All non-statistical items are updated as Universal Journal entries
- Data for COEP, FAGLFLEXA, ANEP, MLIT tables, and so on, is stored directly in ACDOCA.
- There are rare cases when there is no document header for the entries in ACDOCA e.g., balance carryforward, correction In migration
- The fast-multi-dimensional reporting is possible on the Universal Journal without replicating data to BI. If BI is in place, one single BI extractor is needed
- The Universal Journal can be extended with customer fields for enhanced reporting.
- Extensibility is available for all the components that use Universal Journal such as GL, CO, AA and ML

Other Tables besides Universal Journal – ACDOCA (Actual Data Line Items)

- There are some other isolated tables besides Universal Journal – ACDOCA according to their purposes and can be viewed through **Transaction code: SE16N**
  - ACDOCP – Plan Data Line Items
  - ACDOCU – Universal Consolidation Journal Entries
  - ACDOCC – Consolidation Journal
- **Through these line item tables, SAP HANA database architecture** improves system performance by organizing data in SAP S/4HANA Business Suite and can aggregate data from these line item tables at runtime

Simplification and Compatibility Views

- As the data is stored in one table (ACDOCA) now, so the data storage has been **simplified** and its access has also been quick and faster, additionally with **SAP HANA database In-memory technology and its columnar database structure**
- The old tables including **index and aggregate tables** have been eliminated in SAP S/4HANA Finance, and this removes data redundancy, reduces database footprint, increases the transaction throughput and derived data can be calculated on the fly from the accounting documents and line items instead of being physically stored in the database
- If an organisation wants to view data as per the eliminated tables, so those tables can still be accessed through **Compatibility views**