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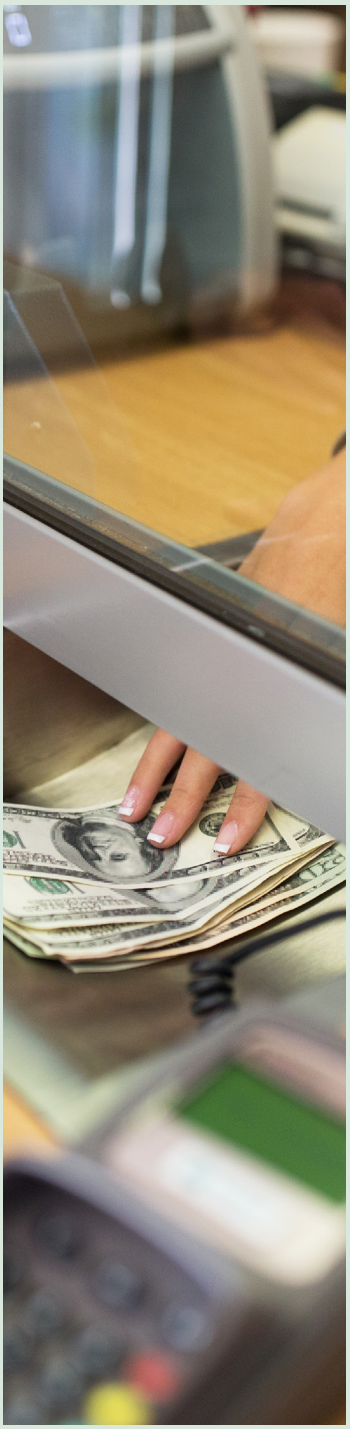

UPGRADING SAP CENTRAL FINANCE: VALUE CASE AND SUCCESS CRITERIA

Abstract

Upgrading SAP Central Finance comes with IT and business challenges that must be considered before embarking on a full-scale transformation. While there could be ramifications for existing data and systems, the upgrade yields several benefits through the latest functionalities. This paper looks at the costs and benefits involved in upgrading SAP Central Finance. It also provides a planning roadmap along with best practices gleaned from recent Infosys CFIN upgrade implementations.

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Introduction

The maturing wave of 'early adopter' SAP Central Finance (CFIN) process implementations since 2017 now confronts IT, business, and consulting partners with the need to adapt, upgrade, and tweak the CFIN process and system landscapes vis-a-vis new SAP functionalities, releases, and lessons learned from the past few years of live operations. The business and IT outcomes largely depend on how convincing the business and process value case mix is for CFOs and their corporate finance and IT teams.

Infosys Global Consulting supports organizations through this journey, as we have demonstrated through our recent successful implementations of CFIN upgrades to 1909. We offer a comprehensive consulting approach to address the challenges of assessing and leveraging the potential of re-launching CFIN.

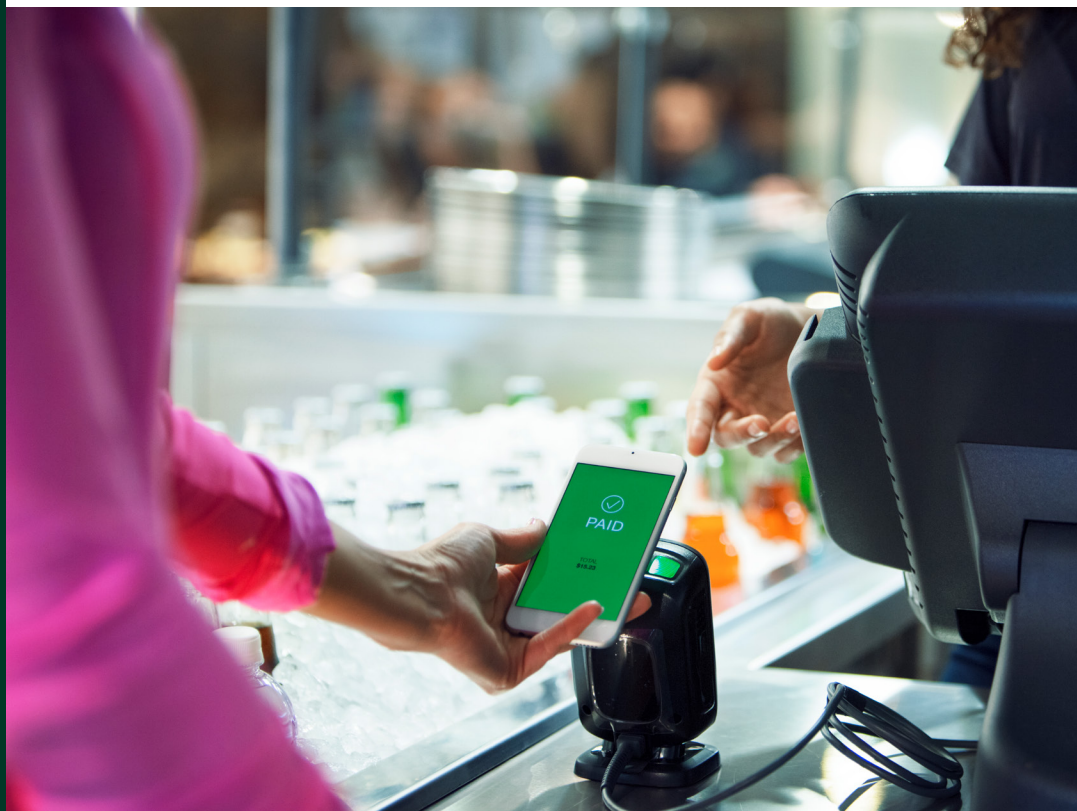
When do Companies Need a CFIN Upgrade?

The answer to why companies should upgrade from an existing live S/4HANA CFIN landscape is not self-evident. While SAP does recommend regularly updates on S/4HANA on-premises installations, most customers find it difficult to follow a 'cloud-like' upgrade strategy due to the high risk and impact from a complete stack rebuild during the SAP-standard technical upgrade process. These processes often impact data, custom code, and existing and well-tested processes.

The underlying need for a CFIN system or process update depends on the envisioned strategy and lifecycle of the existing CFIN instance. There are three ways of approaching this:

1. If the CFIN is supposed to transition or grow into a complete S/4HANA stack over time, with Finance being the first stepping stone, a release upgrade will be required anyway. Therefore, this must be timed and planned before the existing SAP Enterprise Central Component (ECC) non-finance or logistics components and data are migrated onto the system.
2. If the CFIN is only an interim stage until SAP ECC retires, the need for an upgrade depends on the ECC sunset timeline and roadmap.
3. If the aim is to completely replace the CFIN with a new and separate S/4HANA system in the short-term (say in two to three years), an upgrade is not necessary to sustain the Finance function. However, if a long-term journey to S/4HANA is planned (say in five to seven years), the upgrade becomes increasingly important for value preservation. It also serves as a pilot of up-to-date S/4HANA functionality trial for the complete ERP project in the future (especially in the Fiori area, where new apps can safely be 'tried out').

An optional upgrade in S/4HANA, particularly in the CFIN context, where multiple source and satellite systems are tightly connected, requires a thorough business case to justify the additional effort spent on technical steps, testing and project management across multiple stakeholders such as IT, business and third party providers for the systems and support services affected. This effort, however, compounds as the upgrade is postponed. For example, upgrading from S/4HANA 1709 to 2020 may have far more adverse repercussions whereas an upgrade from 1909 to 2020 would be less critical.



Cost and Benefit: Building a Value Case for a CFIN Upgrade

The value case for a CFIN upgrade is usually very specific to each organization. It helps to build a cost-benefit analysis using certain building blocks, as described below, to arrive at a project decision. The following examples are based on recent upgrades Infosys executed for leading manufacturing companies:

1. Evaluating Cost

- **Enable internal and third-party project infrastructure and staffing for S/4HANA** – This includes SAP Project Management Office, SAP Basis, SAP Delta, and regression testing along with training and support transition. Additional SME support should be provided for Delta work in Fiori (User Interface - UI) and analytics (Business Intelligence - BI).
- **Requirement for temporary system landscape during the project** – SAP recommends to use production-copied 'Sandbox' environments for initial trials. In addition, a separate support landscape on the old release is required for Transport Management purposes in steady-state support process until Go-Live of the new release. One can also leverage the old release 'N+1' quality assurance (QA) instance for various comparison/testing purposes until go-live.
- **Upgrade the source ECC** – This usually involves the steady-state SAP Basis team. The team can upgrade the complete service pack to the most recent level. However, this is usually not an option if the ECC landscape is at the end of its lifecycle. Another option is to do a 'surgical' or spot upgrade using individual SAP notes for CFIN code lines and SAP Update Manager for the SAP Landscape Transformation Data Migration Server (SLT DMIS) component. This option requires a broad regression test cycle.
- **Provide SAP Support or SAP MaxAttention services for quality assurance and complex/urgent defect support** – These vendor services are highly recommended for unknown technical and product issues. The requirements must be tailored with SAP Representatives and IT leadership for functionalities such as Upgrade Planning Workshop (UPW), Technical Integration Check (TIC), Expert on Demand (EoD), and Go Live Services (GLS).

2. Evaluating Benefits

New functionalities – The newly published SAP releases provide companies with several new functions and capabilities that can be adopted based on the business fit as 'delta' scope. Some examples are:

- **ECC side panels:** These display CFIN details directly in source ECC NetWeaver business client.
- **ECC process controls:** These controls suppress CFIN-non-compliant SD processes such as reversals for centrally paid/cleared documents in the source upstream application.
- **Data flow validation or recon tools:** These tools compare source and target data header items and counts via RFC (Remote Function Call), and display deviations in real-time.
- **Sales, purchase orders, and price details replication:** Additional logistics content is made available in separate 'dummy' tables for analytics such as reporting on incoming order flashes.
- **Commitment replication:** A budget view on expected outlays is enabled with SAP Material Management (MM) commitments for cost objects. This function supports new Fiori apps for the 'New Cost center Commitment' component developed by SAP that allows cost center and internal order active budget control.
- **Project replication:** Work Breakdown Structure (WBS) master data and accounting actuals can be replicated as-is in ECC, incl. down payments noted items.
- **Document splitting:** SAP now allows split data from ECC to be replicated (GL View). It also supports document splitting only in the target system (2020 release).
- **Central credit management integration:** A central credit check is enabled with advanced analytics capabilities across multiple systems.
- **Central payments/treasury:** This allows central cash management, cash pooling (with SAP In House Cash – IHC), and outgoing and incoming payments to be directly triggered and posted in S/4HANA, this may include central Dispute & Collections Management.
- **Tax consistency checks:** Tax settings can be enforced for identity with ECC.
- Central Consolidation with inbuilt S/4HANA Group Reporting on inbound data, incl. Transfer Pricing, Interco Recon, Accruals Engine, Universal Allocations for rollups within group books, Disclosure Management and e-Filing processes.
- Central Fixed Asset Management (released with restrictions).
- **Advanced reporting:** Since the 1709 release, over 60 country-specific reports have been added by SAP to enable statutory and tax reports directly from CFIN. This allows a potential transfer of the official reports to S/4HANA.
- **Risk and compliance integration:** The classic SAP Governance, Risk and Compliance (GRC) functionality can be based on the incoming CFIN for post-mortem compliance monitoring and real-time notifications.
- **SAP Application Interface Framework (AIF) housekeeping tools:** Staging tables in ECC and AIF XML data can be physically deleted in order to reduce the memory footprint in source and target systems. In addition, the CFIN "Operations Monitor" provides better IT status insight.
- Better integration of non-SAP source ERP systems with 3rd party applications like Magnitude SourceConnect.
- Better planning and forecasting integration with SAP Analytics Cloud (SAC) connectors (Plan data can still not be replicated from ECC, except Activity Prices and Material Cost Estimates).

Reduced system complexity – Organizations should check if the old architecture can be simplified and refurbished through various change initiatives tied to the upgrade project. Several options are available for this:

- Merge or simplify CFIN SLT with other SLT use cases in the company (COPA sidecar). Retire old SAP/ Business Objects Data Services (BODS) if newer SAP technology is available and a good fit as in the case of DTM (Distributed Transaction Management) or master data management (MDM) components in S/4HANA.
- Migrate the existing Fiori Hub into an embedded Fiori or deploy S/4HANA 2020 Fiori Central Launchpad across multiple core systems.
- Retire the separate instances of data warehouses (BI/BW/BOBJ/Design Studio) and move to SAP Analytics Cloud (SAC) or embedded design studio in Fiori with BW built into the core.
- Reduce the custom code footprint (e.g. custom ABAP BADIs) in cases where SAP now has standard functionality in areas such as document splitting, reconciliation, down payments, COPA secondary cost replication, and MM/SD views.

Latest system stack – The CFIN upgrade offers to switch to an up-to-date system stack, kernel, dictionary and code with fewer support issues as compared with older versions of the components. The newer components where we observed most improvements include Fiori, UI5, embedded business warehouse (BW), AIF framework for improved serialization and monitoring.

New Fiori apps from later SAP deployment scope – New Fiori apps must be reviewed by business stakeholders for potential value-addition. Some highlights include using the new AP/GL/AR overview pages with detailed sub-ledger KPI apps such as DPO and DSO, enabling new T-account views on journal entries, new management reporting apps for CO and profitability analysis, and a new journal entry Excel upload app for adjustments/ corrections.

Planning the Journey: Cost and Effort Drivers

On paper, the project plan for an upgrade has certain immovable elements like system set-up, scheduled downtime, basic testing cycles (UT, SIT, UAT) etc. (see Fig 1).

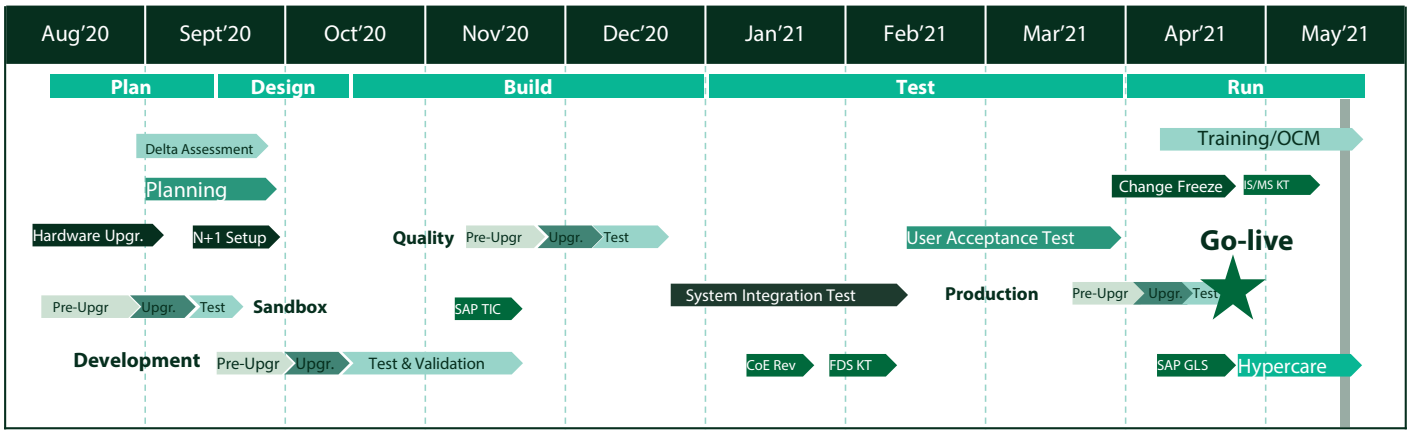
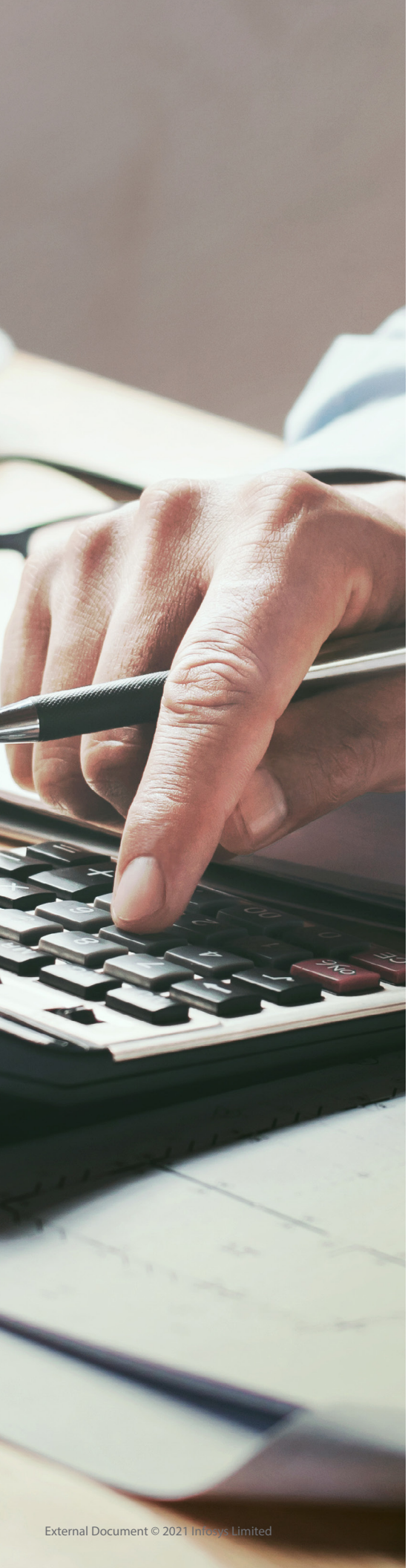


Fig 1: Reference roadmap for a CFIN upgrade

In reality, however, the specific duration and staffing effort for this exercise differs widely between organizations. Based on our analysis and experience, there are certain recurring factors that usually affect project duration and cost. The CFIN team must be aware of these before planning their upgrade journey in more detail.

- How many prior releases are leapfrogged – The complexity of an upgrade grows as more releases are stacked up in the upgrade. SAP rolled out most of the changes to the fundamental data model and design between release 1610 and 1809. So, if an organization upgrades from version 1809 to 2020, the impact is less complex than an upgrade from 1610 to 2020.
- Adding of new functions versus an 'as-is upgrade' – As the number of newer functionalities introduced during an upgrade increases, so does the project effort. Greater resources of time, budget and staff are required to conduct the additional evaluation, testing, regression impact analysis, and training needed. On the other hand, an even or close value case can be improved if new functionality adds significant benefit or simplification potential. Here, the upgrade project infrastructure creates a window of opportunity for larger change in the existing system.
- Complexity of the custom solution assessment – Many CFIN customers have deployed custom ABAP code for various software gaps in previous releases, such as COPA, document splitting or taxes. These workarounds must be assessed in detail during the upgrade design phase to determine whether SAP has a standard solution. If so, the code can be retired. Otherwise, the code must be preserved in the new release and completely re-tested .
- Safety of upgrade trials – SAP strongly recommends sandbox try-out upgrade cycles based on copies from production before moving to development and quality assurance (QA) upgrades. If this step is not feasible, then it might be useful to plan for two QA cycles, sandwiched between a system refresh in source and target systems, to eliminate issues and defects before the code is pushed to production.
- Scope of testing and re-testing – In CFIN, it is almost impossible to catch all the special and specific posting scenarios via active testing. But during an upgrade, it is highly recommended to re-test all known and proven test scenarios from the original implementation in addition to other scenarios from live support issues and regression in ECC. This will help avoid costly defects in production environments, as post-mortem data fixes can be quite cumbersome. It is also highly recommended to enable test case execution automation to minimize manual testing effort across systems.

A simple upgrade with fewer functionalities, reduced re-testing scope, and no custom code may take only a couple of months, while a complex upgrade with regression impact, new function deployments, and various custom codes can take up to one year, at roughly double the cost.



Key Lessons from Recent Projects

Infosys has successfully executed several S/4HANA and CFIN upgrades for leading CPG (Consumer Packaged Goods) and manufacturing organizations. Here are some of the key takeaways and best-practices that ensure smooth upgrades scenarios at lower effort and complexity:

1. Ensure a detailed runbook documentation for the upgrade process

Activities during the SAP Basis upgrade encompass the actual Upgrade Manager along with adjacent tasks, such as web services, Fiori, modification handling (SPAU/SPDD tasks), etc. In order to have these documented, and therefore reusable for subsequent cycles, a runbook based on sandbox trials and the development cycle is highly recommended. The runbook should include inputs from all involved teams/parties and a complete documentation of the upgrade process.

2. Prepare for unexpected or undocumented SAP design changes that will impact data and custom code

Many of the changes implemented by SAP over the last couple years in how CFIN processes incoming staging data may be documented only in SAP KBA Notes and not in the release documentation. This can lead to unexpected anomalies in testing and subsequent delays due to the need for fresh custom code, a scenario that customers usually try to avoid, in order to rectify or accommodate the change from the standard code. It is wise to assume that SAP scope changes, due to sheer volume or customer-specific circumstances, are not always actively communicated by the project and service teams. Therefore, a close reading of all component FAQ/ KBA notes in addition to the release help documentation is essential to stay ahead of limitations, design changes and sunset decisions by SAP. A few examples of such scenarios during our recent upgrades are mentioned below:

- Currency decimal handling change – SAP recommended an enhancement class 'blank overwrite' method to allow decimal deviation between ECC and CFIN
- S/4 CFIN COPA code change disallowing ECC-costing-based GL, material or PC revenue split in S/4 accounting-based COPA – additional custom code was needed to keep the previous split logic afloat
- The CFIN clearing process was refurbished by SAP with a 'native' S/4 clearing in 1809, requiring a full account determination configuration for differences and discount
- Document splitting "no split flag" decommissioned by SAP – A late enhancement with static memory was required to turn off the GL Split in the core for non-compliant scenarios
- Referenced reversals from upstream non-SAP applications (e.g. Vistex) stopped with error in ECC or replicated without items – This required an enhancement in ECC to overcome and create 'inverse' staging data with full line items
- Classic Withholding Tax (WHT) attained sunset in 2021 – A conversion from classic to extended SAP WHT in both source and target systems is required for CFIN clearings to post in AiF.

3. Prepare infrastructure and processes for a high number of SAP incidents and for SAP notes to be implemented in source and target systems regarding CFIN defects during testing

One of our clients experienced a high volume of defects for missing code and notes on ECC and CFIN in the 1909 release. The submitted SAP incident messages can take weeks to process even with a high incident priority. Therefore, sufficient time should be dedicated for SIT (System Integration Test) and UAT (User Acceptance Test) to resolve those defects with SAP support. A comprehensive list of all required ECC CFIN notes depends on many factors, which is why SAP does not provide a full list. It also requires complex searches in SAP Marketplace in order to unearth CFIN-related corrections, which are usually marked as 'correction required in source system'.

In addition, SAP deploys all new ECC corrections only for the supported SAP Basis and Application Service packs in ECC. Hence, if the source systems are out of support for their components, it constitutes a high risk for any CFIN upgrade and needs be fixed or analyzed for impact.

Another high-volume defect area is S/4 Fiori/BW related data display, particularly in the early Service Pack (SP) levels of the BW (Business Warehouse) and UI (User Interface) components. As a preventive measure, it helps to perform the upgrade with higher (more recent) patch levels during the QA stage (to a later Service Pack than development), if the CFIN Basis team allows this change.

New Fiori apps may generate multiple defects due to incomplete Delta configuration for OData services, roles, target navigation, and other Fiori-specific technical settings, particularly if the configuration is based on custom catalogs and not SAP-pre-delivered content.

4. Maintain and improve test case inventory

It is a good practice to keep the testing repository updated and to continuously add new/odd/special test scenarios from ongoing defect resolution to allow easier regression from subsequent fixes in similar areas.

5. Effective systems integration management

Any changes in satellite or connected systems need to undergo a full technical regression check. This ensures that core processing in feeder systems is not impacted by changes, as some feeder systems are complex and long-running. It is also helpful to increase the scope of regression testing for legacy ECC systems including the roles and security settings in source and target systems.

It is also important to keep Basis and ABAP teams fully on board. During the 'realize' and 'deploy' stages, changes to Basis or ABAP settings can occur anytime from defects; thus, it is crucial to have these services available at short notice.

Another area of benefit is housekeeping processes. As later CFIN releases have highly improved staging and AIF processes, there is an opportunity to improve periodic error monitoring and the data housekeeping in source and target systems based on new cleanup tools in S/4 HANA.

Conclusion

Deciding on a CFIN upgrade depends on the organization's strategy for the existing instance. There are a few approaches to choose from, depending on whether the objective is to grow the CFIN to a complete S/4 HANA stack, use it intermediately until the ECC retires, or overhaul the entire CFIN. Based on this, companies will need to develop a well-defined business case that considers the costs and benefits of spending additional time and effort in testing, evaluating, and integrating new components. Having conducted several CFIN upgrades for clients, Infosys finds that being aware of certain recurring factors that affect project duration and cost is important when planning for such a project. We also recommend preparing well for design changes, incidents, and defects as well as taking steps to ensure proper test case inventory, documentation, and systems integration testing.

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Bahram has over 20 years of experience in SAP and Finance for US and global customers in Asia, Africa, and Europe. He focuses on SAP S/4HANA-based accounting functions, reporting and improvement for practitioners, users, and stakeholders across various industries (e.g. manufacturing, healthcare, public sector, and higher education). At the same time, he is also involved in the development of overall SAP integration strategy roadmaps with management stakeholders. He also sustains Infosys' SAP partner relationships and conducts studies and pilots, and recently contributed to SAP PRESS's reference book on Central Finance.

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