

A Deep Dive into Cutover Strategy Formulation, Planning and Execution for an SAP Implementation Project

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Abstract: *Executing an expansive business transformation and transition to a new Enterprise resource planning (ERP) system requires an effective, well-structured cutover strategy and plan. This article explores the cutover strategy, planning and execution for a SAP greenfield implementation. This may also serve as a planning guide for project cutover activities for an SAP implementation project with a wide scope involving multiple business functions across an organization.*

Keywords: ERP, SAP, Cutover, Blackout period

1. Introduction

In an IT context, a 'project specific cutover' is defined as the transition of a project to a production environment where live business operations take place [1]. In the context of SAP implementations, a cutover is the process of transitioning from a legacy system (which may be an older version of SAP or a non-SAP system or even a non-ERP system) to a new SAP system. This involves all the necessary steps required in the migration of business processes and the underlying system configuration and business critical data to support those end-to-end business processes. The cutover period (window) is the actual timeframe associated with a cutover and marks a critical point where the new system takes over as the system of record and the legacy system is either retired or loses much of its functionality. Another transitioning aspect associated with a cutover is a 'go-live' date which usually marks the end of the cutover window and the start of 'live' operations in the production environment.

2. Cutover strategy

A cutover strategy for any SAP implementation is highly tailored to the project's specific needs and the overall business/ IT landscape. Factors such as the project scale and scope, availability of resources, risk appetite, feasibility of downtime windows, IT landscape etc. play a role in the overall cutover strategy design.

Over the course of an SAP implementation project multiple cutovers may be baked into the overall project plan. A typical sequence of cutovers is captured below with multiple mock cycles with requirements for progressively higher configuration and data quality, and lower number of defects associated with testing end-to-end business processes.

- a) Mock cutovers
 - Practice cutover tasks for system build, manual configuration, and data conversions in lower SAP environments (QA systems).
 - Capture planned and actual durations of all cutover tasks.
 - Consistently revise cutover plan based on feedback received from various stakeholders.
 - Solution design may evolve as the project goes through mock cutovers.
- b) Simulation cutover before final production cutover (final dress rehearsal)
 - Cutover execution simulating final production cutover typically performed in a user acceptance testing (UAT) SAP environment.
 - Includes proper simulation of business cutover tasks including those with third parties such as 3PL/4PL partners, customers, vendors etc.
 - Typically executed in a 24x7 execution timing to truly simulate final production cutover.
- c) Final production cutover
 - Execution of cutover tasks in a live business environment typically during a pre-planned business downtime.
 - Business continuity and contingency plans are on standby and executed as required.

Each mock/ simulation cutover is typically followed by an integration test cycle which involves execution of end-to-end test scripts simulating real time business scenarios. These integrated test scripts bring together the system functionalities across multiple business work streams and therefore require heavy cross functional collaboration for both business stakeholders and the system implementation partner teams.

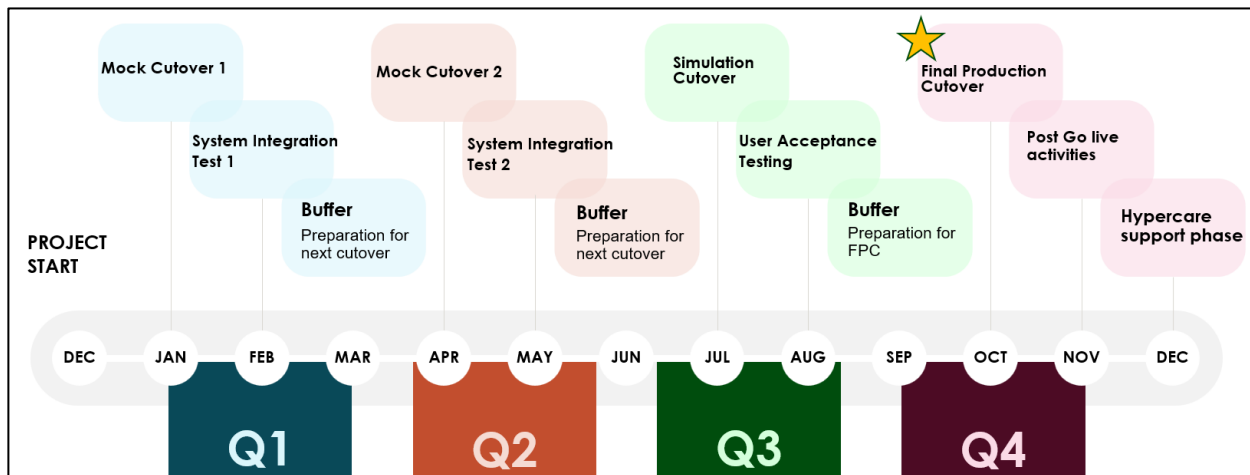


Figure 1: High level overview of Cutover cycles and sequencing

A typical cutover period consists of a ‘ramp down’ period followed by a business/system downtime period. The below figure helps us understand the approach towards Go-live

readiness that involves a ramp down period and ‘Blackout’ windows.

MARCH																															APR						
Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon									
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	1	2	3	4	5		
4 - 5 WEEK RAMP DOWN PERIOD																															BLACKOUT WINDOW					★	GO-LIVE!

Figure 2: Sample ramp down period and blackout window period with no previous SAP

If implementing SAP for the first time (no current SAP production environment exists)

- The start of the ramp down (stub) period means that most transactions and business functions in the legacy systems will remain accessible but with a reduced volume of transactions processing. During this critical time, the cutover plan will be executed to perform tasks related to master data conversions, manual loads, data/configuration verifications etc.
- A blackout period just before Go-Live implies that most of the legacy systems will be taken offline while legacy

transactional data such as open purchase orders, sales orders, batches and associated inventory etc. is extracted, transformed and loaded into SAP along with system configuration.

However, If the project is planning for a cutover into a live SAP production environment (from a previous release), there may be a slight alteration in the cutover plan as depicted below.

FEB		MARCH																															APR						
Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon									
27	28	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	1	2	3	4	5		
BLACKOUT WINDOW #1		4 - 5 WEEK RAMP DOWN PERIOD																															BLACKOUT WINDOW #2					★	GO-LIVE!

Figure 3: Sample ramp down period and blackout window periods with existing SAP

- The first blackout window marks the beginning of a cutover cycle and provides an opportunity for the project team to commence cutover activities. During this time, any Transport Requests (TRs) that do not affect live business operations in the production environment may be moved to SAP production. This may include some master data and any system config that does not impact live business functionality.
- This is followed by the ramp down period and a second blackout window as described previously.

Over the course of the project, the cutover planning team is required to develop a deep understanding of business processes, organizational setup, IT landscape, external parties and associated systems, and data. Here are just some important aspects that need to be addressed in preparation of a detailed cutover plan:

- Multiple cadence sessions with business teams from all impacted functions, project steering and executive committees to finalize the cutover plan w.r.t timelines of all cycles (including Go-Live date), cutover tasks and respective times/durations, align ramp down and blackout window timelines with business dependencies such as finance month end close, critical shipments etc.
- Finalize change management and cutover timelines communication plan
- Establish a command center for the duration of the cutover to enable effective cross functional integration across workstreams

Cutover planning

A cutover plan or schedule is a list of tasks that are required to be performed sequentially for a successful transition to the production environment. The cutover plan is typically a subset of the overall project schedule as it is specifically focused on activities to be performed only during the cutover window [1]. This plan is usually very project specific and depends on the specific business scenarios being transformed.

- Identify tasks that may be ‘critical’ to the ‘Go/No Go’ decisions from project steering committees.
- Identify a detailed business readiness plan for both legacy system shutdown and new SAP system ramp up.

The goal of the cutover planning exercise is to assemble a high-level cutover plan to start with. A sample high-level cutover plan structure is depicted in the figure below.

1	Start Cutover
1.1	Ramp Down Summary
1.2	Validation activity
1.3	Technical Go-Live
1.4	Ramp Down Communication
1.5	Technical Build Activities (Pre Conversion)
1.6	Security and controls configuration
1.7	Pre-Conversion Functional configuration
1.8	Management of Open transactions
1.9	Legacy System Decommissioning activities
1.1	Master Data Conversions
2	Shut Down
2.1	Shut Down Communications
2.2	Transactional Data Conversions
2.3	System Outage Procedures
2.4	Technical Build Activities (Post Conversion)
2.5	Post-Conversion Functional configuration
2.6	Security Access to new system
2.7	Production Validation
3	Final Go/No-Go Decision Making
3.1	Ramp up
3.2	Ramp Up Communicaitons
3.3	Backlog Transactions processing
3.4	Legacy System Decommissioning activities

Figure 4: Sample high level Cutover plan structure

Eventually, with better understanding of project scope and business scenarios/dependencies, this high-level plan explodes into detailed plan. A detailed cutover plan typically comprises of duration based cutover steps or tasks assigned to

relevant project team members from business or system implementation partner teams. Each task has a unique ID, planned/ actual start and finish timestamp assigned to it along with other prerequisite tasks, backup resource names, and any other constraints associated with the task.

Here are some broad categories of cutover tasks:

- Data extraction, conversion, loading and validation.
- System configuration and code movement (Transport request import)
- Security & Controls.
- Infrastructure and System readiness for both SAP S4 Hana and other boundary systems
- Scheduling batch jobs.
- Business ramp down cutover tasks such as data freeze/ stub for master data, halt on system transactions such as goods receipts, purchase/ sales orders, invoice processing, manufacturing/consumption, intercompany transfers etc. The volume and the type of tasks depend on the scope of business processes being transformed.
- Pilot transactions and Smoke Testing – Technical and functional (after the system is live but before it is released for use for business).
- Ramp up activities including performing catchup transactions/ backlog processing.

The below figure depicts a sample cutover plan with tasks laid out in an intentional sequence as required by the project stakeholders.

Task ID	Status	Task description	Planned start time	Duration	Primary resource name	Team	Predecessor Task ID	Actual sent time	Actual Start	Actual Finish	Constraints
443	To be sent	3PL readiness - Check connectivity with Middleware	08/05/2023 0900	2 hours	Jane Doe	IT					
444	In Progress	Extract data for Material master	07/02/2023 0800	5 hours	John Doe	MM	101	07/02/2023 1000			
445	Issue	Perform transformation for Customer master	07/01/2023 1500	4 hours	John Smith	Data	233	07/01/2023 1500			
446	Complete	Check connectivity with SAP ATP	06/31/2023 1000	1 hour	Jane Doe	IT		06/31/2023 0900	06/31/2023 0930		
447	To be sent	Extract all open Sales Orders	07/31/2023 0900	4 hours	Fred Bloggs	SD					
448	To be sent	Last date for Goods Receipts	08/01/2023 0900	1 hour	John Q. Public	Business					
449	Complete	Load data template for Vendor master data	07/01/2023 0700	2 hours	Joe	STS		07/01/2023 0800	07/01/2023 1100		

Figure 5: Sample high level cutover plan

Sample FPC High Level Data Conversion Plan		Week1							Week2							Week3							Week4						
Domain	Object	Day1	Day2	Day3	Day4	Day5	Day6	Day7	Day1	Day2	Day3	Day4	Day5	Day6	Day7	Day1	Day2	Day3	Day4	Day5	Day6	Day7	Day1	Day2	Day3	Day4	Day5	Day6	Day7
MM	Material Master																												
PP	Resources																												
PP	Bin's																												
PP	Recipes																												
PP	Production Versions																												
QM	Inspection Method																												
QM	Master Inspection characteristics																												
QM	Inspection Plan																												
QM	Batch Master																												
EWM	Product Master																												
EWM	Control Cycle																												
EWM	Staging Groups																												
EWM	Bin Master																												
EWM	Production Supply Area																												
HM	Inventory																												
SD	Customer Master																												
SD	Customer Hierarchy																												
SD	Output Condition																												
SD	Listings																												
SD	Contracts																												
SD	Accruals																												
SD	Price Lists																												
SD	Open Sales Orders																												
MM	Supplier Master																												
MM	Source Lists																												
MM	Purchase Info Record																												
MM	Carriers																												
MM	Indirect Pos																												
MM	Direct Pos																												
FICO	Lease																												
FICO	Local GL																												
FICO	Costing																												
FICO	Assets																												
FICO	Historical Balances																												

Figure 6: Sample high level Gantt chart overview of a data conversion plan as part of cutover

Cutover Execution

During the execution phase, there must be planned contingency for any delays and variances in the critical path of the cutover plan. Buffer/ weekend days may be required to be included in the plan in case of delays in critical tasks so that the overall project plan does not face extreme variance.

Cutover tasks are the basic building blocks of a cutover plan. During the cutover execution phase, the cutover tasks will be sent out to respective task owners by means of manual/automated emails. The project team must identify and build a mechanism to track each task from start to closure, identify dependencies, and escalate tasks in case of delays. The below figure depicts a sample communication flow for a cutover task.

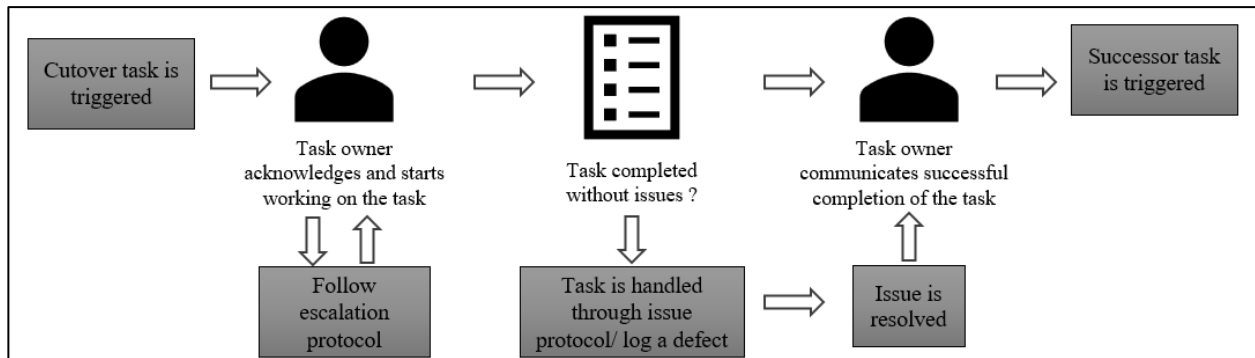


Figure 7: Sample communication flow for a cutover task

All through the cutover execution phase, the cutover team shall track actual vs planned task execution and, thus, be able to report task execution variance, issues, roadblocks and defects. Periodic stand-up calls for status reporting and discussions with cross functional participation from both project and business teams is a highly effective tool towards timely execution.

3. Conclusion

A detailed cutover plan followed by diligent cutover execution is a vital step to successfully close out an SAP implementation project. It ensures that all work done during the project solution design, build, integration and testing is moved to a live business environment in a controlled, sequenced method with minimal issues [2]. Effective cutover planning ensures that all steps required for this transition, risks, milestones and critical tasks have been included in the plan. Effective protocols to handle communication, issues, escalations are key to cutover execution. This requires all functions of an organization and project team to work together as a team.

References

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- [2] S. Sharma, "Project Cutover-A vital step in Project Go Live," Dec. 13, 2016. https://www.projectmanagement.com/blog-post/24655/project-cutover-a-vital-step-in-project-go-live-#_=_