



APM / INCOSE UK Systems Thinking Specific Interest Group

Fusion Point Guidance – Transition to Operations

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1. Who Is This Guidance For

This guide is aimed at Programme/ Project Managers, Systems Engineers and Business Change Managers who will be planning and managing the transition of programme and project Outputs to operation.

The guide also provides information about the issues associated with transition and the benefits of better integrated Systems Engineering, Project Management and Business Change for to project Sponsors¹ and Operations Management in terms of how the transition into operations should be executed. It is also intended to be useful to other PM, SE and Operational Management staff and others who work in projects to understand why transition activities are carried out as they are and the impact these have on the overall approach and structure of the project.

2. What Is Transition

'Transition' is the term used to define the activities associated with taking integrated and functionally tested Outputs from a projects and putting them into operational use in order to realise the Benefits described in the project's Business Case. Other terms are used; for example the APM BOK [Ref a] defines 'The point in the life-cycle where deliverables are handed over to the sponsor and users' as 'Handover'.

Although transition takes place at towards the end of a programme tranche or of a project, the approach should be defined in at least general terms at the start to support business case development as the transition approach defines when and in what order the Benefits from the project will start to be realised. Potential transition approaches include

- 'Big Bang' Transition: where all the Outputs are put into operation through a single transition.
- Staged Transition; where Outputs are introduced such that they provide an initial operational capability (IOC) that gives (some) benefit. The transition of further outputs then builds on this until a full operational capability (FOC) is realised.

Target Audience:

Primarily aimed at:

- *Project Managers.*
- *Systems Engineers.*
- *Business Change Managers.*

Also provides useful information to:

- *Project Sponsors.*
- *Other Programme and Project Management professionals.*
- *Other Systems Engineering professionals.*
- *Operations Management.*

Transition comprises:

1. *Transitioning project outputs from design and development into Operation.*
2. *The transition approach is documented in the Transition Plan.*
3. *The transition approach must be closely aligned with the Integration & Test and Business Change approaches.*

¹ The role of Project Sponsor is defined in the SEPM Roles and Responsibilities document, Issue 1.0, June, 2016.

- Phased Transition; where Outputs are transitioned in a phased manner across the organisation. Users regarded as 'more capable' are transitioned first, with their experience used to inform and improve the transition approach for successive user transition phases.

The approach to transition adopted is documented in the Programme/ Project Transition Plan. This plan defines the overall approach to transition and must be closely aligned with the following:

- The Integration, Test & Acceptance approach to ensure that only Outputs with known sufficient quality are transitioned into operation.
- The Business Change approach to ensure the organisation is ready, able and supported to receive the Outputs transitioned.
- Benefits Measurement to ensure measurement of benefits realised from Outputs starts during transition (i.e. when these benefits start to be realised).

3. Why Is Transition and Transition Planning Important

There are many examples of programmes and projects that focussed solely on the development of project Outputs and gave little, if any, consideration of how these would be transitioned into operation. Although these programmes and projects successfully developed their Outputs, they failed overall because their lack of consideration of transition meant they did not fully realise their Business Case benefits.

Consideration of how Outputs are to be transitioned (at a conceptual level at least) should be made at the start of the programme/ project to support development of the business case. As a minimum, development of the Return On Investment (ROI) element of the business case is driven both by the benefits realised from the specific Outputs put into operation and their sequencing. In some cases, the requirement to realise either specific benefits or levels of benefits in defined time-frames may drive definition of the technical approach adopted by the programme/ project.

The transition approach is documented in the Transition Plan, the first version of which is developed during programme/ project definition and refined as the programme/ project progresses.

Transition planning is intended to support:

- Development of a robust and accurate Business Case that takes a pragmatic view of the resources and time-scales associated with transition.
- Definition of the overall project development approach and life-cycle selection. This is particularly important if the programme/ project includes development of new technologies because confirmation of technology maturity and provision of user training are vital elements of transition into operation.
- Detailed planning both at the start of the programme/ project and during its execution. If the transition approach defines a phased transition of capabilities to operation because this minimises disruption to the organisation, a life-cycle based on development phases is necessary to support this and minimise costs.
- Mobilisation of new staff as they join the programme/ project throughout its life by explaining the end-to-end approach.
- Securing the organisational resources (staff, facilities and budget) necessary to put Outputs into operation; particularly those outside the direct control of the programme/ project.
- Definition of the final Acceptance criteria for Outputs.

Transition provides the framework to:

- *Develop a robust & accurate Business Case.*
- *Define how & in what order programme/ project Outputs will be transitioned so this can be communicated.*
- *Define the organisational resources, both inside & outside the programme/ project, necessary to transition Outputs into operation.*
- *Define the final Acceptance criteria.*
- *Align the transition of Outputs from this programme/ project with those from others so the organisation can ensure it can transition all effectively.*
- *Enable benefits realised from Outputs to be measured & tied back to the Business Case.*

- Alignment of the transition of Outputs from this programme/ project with those from others to ensure the organisation is able to receive and use these Outputs effectively.
- Communication with Stakeholders within the programme/ project and across the organisation about how and in what order project Outputs will be put into operation.
- Communication of the specific of the transition approach to operational management and staff who will receive Outputs. This communication is often invaluable to elicit feedback to reduce risks and improve/ refine the transition approach and plan.
- Reporting to organisational Senior Management to give confidence that the benefits defined in the business case will be realised both in full and in the time-scale forecast.
- Establishment of the Benefits Measurement approach to ensure measurement of the benefits realised from Outputs starts as benefits start to be realised.

4. What Makes Transition Successful?

Transition moves Outputs into operation in order to start realising the benefits anticipated from the programme/ project. It is therefore a key fusion point between not only Project Managers and Systems Engineers, but also the receiving business.

From the Systems Engineering and Project Management viewpoint, transition is likely to be different in nature from solution design and development because:

- A broader set of individuals are involved from across the organisation, many of whom have not been involved with the programme/ project to date.
- SE and PM management behaviour is intended to support users taking the outputs from the programme/ project and putting them into operation in order to realise business benefits [Ref b].

The key issues to be addressed are:

Transition approach

Options include:

- 'Big Bang' transition; where the whole organisation is transitioned at the same time. This approach involves significant risk and does not have a record of success. However, there are circumstances where the approach must be used. Risk can be reduced by running pilot operations in parts of the organisation to confirm that the solution will operate as expected ahead of full transition.
- Staged Transition; where project outputs are introduced to provide and initial operational capability (IOC) that gives benefit. The transition of further Outputs then builds on this until a full operational capability (FOC) is realised. This approach is often used by MOD. An example is given at ref [c].
- Phased Transition; where Outputs are transitioned in a phased manner across the organisation. Users regarded as 'more capable' are transitioned first, with their experience used to inform and improve the transition approach for successive user transitions. This enables lessons learned from earlier transitions to be applied to later ones. An example is given in the 'Reducing risks through phasing' section of ref [d].

Clearly, the transition approach selected must be compatible with the programme/ project life-cycle: e.g. adoption of a Big Bang approach for transition is incompatible with the tranche-driven life-cycle. In some cases, transition approach considerations will define the life-cycle adopted.

Transition Planning

Many organisations have a standard process and associated document set for transition (for example, the MoD Defence Lines of Development and associated Capability Integration Working Group to provide governance and

Key To A Successful Transition:

- *Transition approach.*
- *Transition planning.*
- *Business Change approach.*
- *Transition support.*
- *Evaluation & Acceptance of project Outputs.*
- *Governance of transition activities.*
- *Link to Benefits Realisation measurement approach.*

co-ordination) and these should form the starting point for transition planning. However, all transitions have unique features and a specific Transition Plan is always required.

The Transition Plan must be realistic both in terms of the transition associated with this programme/ project (e.g. staff training needs and the time this will take) and transitions scheduled by others in the same time-frame as organisations have a finite capacity to absorb change.

Establishment of the Transition Plan is the responsibility of the Business Change Manager, with active support from the Project Management, Systems Engineering and Business Operations communities.

Business Change Approach

Definition of the Business Change approach should start early in the project to inform transition planning. The business change approach will be determined by a combination of the nature and extent of the changes Outputs require and the culture of the organisation to which they are being transitioned. Kotter and Schlesinger [Ref e] identify six potential approaches:

- **Education & Communication:** Where there is a lack of accurate information and analysis, staff should be educated about the change before transition. Up-front communication and education helps staff see the logic for the change and unfounded/ incorrect rumours are reduced.
- **Participation & Involvement:** Staff should be involved in the change effort so they are more likely to buy into change. This approach lowers resistance from those who merely acquiesce to change.
- **Facilitation & Support:** Where staff resist change due to adjustment problems. Potential resistance can be reduced by providing support to help staff deal with anxiety during a transition period. The basis of resistance to change is likely to be a perception of some detrimental effect from the change on the organisation.
- **Negotiation & Agreement:** Where some staff may lose out due to a change and where they have power to resist, managers can combat resistance by offering incentives not to resist change. This can be done by allowing staff to veto elements of change that are threatening, or they can be offered incentives to leave the company. This approach will be appropriate where those resisting change are in a position of power.
- **Manipulation & Co-option:** Where other tactics will not work or are too expensive, staff resisting the change can be co-opted into the change management planning group.
- **Explicit & Implicit Coercion:** Where speed is essential and to be used only as last resort, staff can be explicitly or implicitly forced to accept the change by making clear that resisting to the change can lead to losing jobs, transferring or not promoting staff.

Definition of the business change approach is the responsibility of the Business Change Manager, with active support from the senior management of the organisation. Business change considerations may define or influence the life-cycle that the project adopts.

Transition Support

There may be a need for specific support mechanisms to operational users during transition. The type and level of this support should be defined in the Transition Plan. Potential support approaches are: operation of a transition specific Help Desk, a web-site with FAQs and/ or discussion group and/ or programme/ project staff available locally to users providing 'floor walking' support.

This can also form the basis for on-going support where this is part of programme/ project scope.

Evaluation and Acceptance of Project Outputs

Outputs must be integrated and tested to assess whether they are of sufficient quality before they can be considered for transition. There are typically three levels of assessment:

- **Functional Acceptance Test (FAT):** Outputs are tested against their project requirements. This is normally the responsibility of the programme/ project.
- **Verification/ User Acceptance Test (UAT):** Outputs (integrated as necessary) are tested against the operational context to confirm they are suitable to achieve the operational concept. This is typically the responsibility of the programme/ project overall and managed by the BCM or programme/ Project Test

Manager. Testing is often undertaken by selected operational users using test scenarios/ scripts defined by the programme/ project in association with these users.

- Validation/ Business Acceptance Test (BAT): Outputs are tested against the business context to confirm they are suitable to realise the business case for the programme/ project. This is typically the responsibility of the programme/ project overall, managed by the BCM, and in association with the Project Sponsor. Testing is often undertaken by selected operational users to undertake their normal operation activities.

Final Acceptance is the point at which programme/ project responsibility for the Outputs ceases. This point and the acceptance criteria may be defined in the Transition Plan or a separate Project Acceptance Plan. Final Acceptance of the Outputs by the Project Sponsor can occur either at a defined point during transition (possibly IOC), at the end of transition (FOC) or after a defined period of operation following transition provided there are no significant issues.

The Transition Plan should define the test and Acceptance approach to be adopted (or call-up existing organisational policies and standards) together with definition of any 'concessions' allowed.

Governance of Transition Activities

The results from Project Management and System Engineering activities come together during transition to meet the needs of the organisation. While overall responsibility remains with the Project Manager, transition involves staff from outside the PM and SE communities. To clarify responsibilities, a specific transition organisation definition and associated R&Rs should be established.

Transition requires staff, facilities and a budget. Transition funding needs to be estimated, allocated and its management approach established before transition is undertaken.

One individual (the Business Change Manager (BCM)) should be responsible for management of Transition activities. The BCM should come from the part of the organisation that will operationally use the Outputs. Further detail of the responsibilities of the BCM can be found in the SEPM Joint Working Group Roles & Responsibilities document [Ref b].

Link to Benefits Realisation

The start of transition should also be the start of benefits realisation as defined in the business case. The Transition Plan should identify how benefits realisation and measurement will start.

5. How can a Fusion between SE & PM help Transition to Operations

In practice, the schedule for transition activities is often squeezed because earlier activities run late and transition following these (by definition). Fusing SE and PM activities as described in the other Fusion Point Guides should result on projects running closer to schedule so the impact on transition is reduced. In addition, by fusing PM and SE to consider transition from the start of the project can help project transition to realise the following benefits:

- Better aligned programme/ project life-cycle and organisational benefit realisation due to early consideration and definition of the transition approach.
- Reduced risk of business change failure by:
 - Better and broader application of SE tools and techniques establishes a common understanding across the SE, PM and Business communities of the context of the business operations (e.g. People, Processes, Information, Technology, Facilities). This provides a firmer context for the change being developed and introduced by the programme/ project.
 - Smoother transition resulting in earlier and fuller benefits realisation as a result of coherently identifying and communicating with Stakeholders in a way that makes sense to them.

Benefits

- *Project approach aligned with organisational benefit realisation.*
- *Lower risk of failed business change initiatives through better application of SE tools & techniques.*
- *Smoother transition resulting in earlier and fuller benefits realisation.*
- *PM & SE activities more focussed on the required organisation Outcomes.*
- *Increased organisational capacity for change/ improvement.*
- *Better linkage between project Outputs & business change.*

- The definition and application of a common language and processes across projects provided by fused SE and PM also improves communication.
- Reduced risk through the definition, publication and adoption of common standards and re-use of generic flexible products and common services wherever possible.
- Better linkage between Outputs and business change as a result of a common understanding of the systems being developed and consideration of all relevant elements (i.e. not just operational assets, technical systems, processes & people, but also the business change approach and provision of appropriate supporting services).
- Project Management and System Engineering activities more focused on the required organisation Outcomes as a result of establishing a common understanding of project boundaries and alignment of the programme/ project to the part of the organisation that will receive Outputs.
- Increased organisational capacity for change/ improvement as a result of coherence of transitions across all its programmes and projects. In particular, better identification of dependencies and/ or interfaces.

6. When can a Fusion between SE & PM help

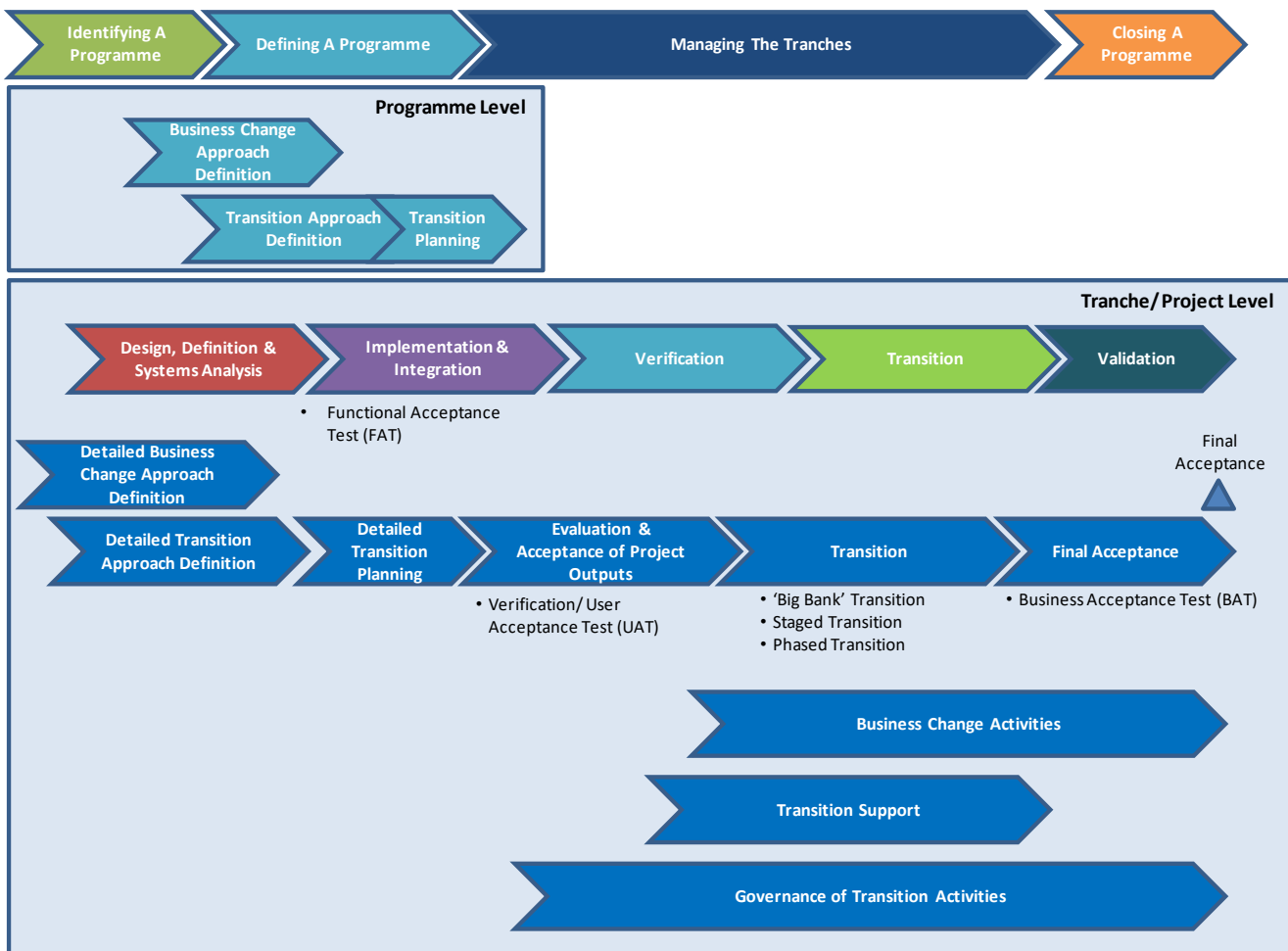


Figure 1: Transition Activities

7. References

- [a] APM Body Of Knowledge 6th Ed.
- [b] SEPM Joint Working Group Roles & Responsibilities document, v1.0, June 2016.



- [c] MoD Announces Investment In Upgrading Helicopter Fleet, www.defense-aerospace.com/articles-view/release/3/161758/uk-mod-shows-off-new,-upgraded-helicopter-fleet.html , 2015.
- [d] Welfare reform – lessons learned, <https://www.nao.org.uk/report/welfare-reform-lessons-learned/> , 2015.
- [e] Kotter and Schlesinger (1979).