Fachhochschule Frankfurt am Main
Fachbereich 2: Informatik
SS 2008

IT Project Management

Lecture 5:

PRINCE2

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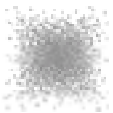
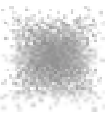


PRINCE2 - Projects in Controlled Environments (Version 2)

- While we have discussed Projects to happen in *Phases*, those are referenced in PRINCE2 terminology as *Stages*:
  - Project Specification and Design
  - Project Execution (IT: Development/Coding + Testing)
  - Project Roll-Out (IT: Release Management, Operation support)

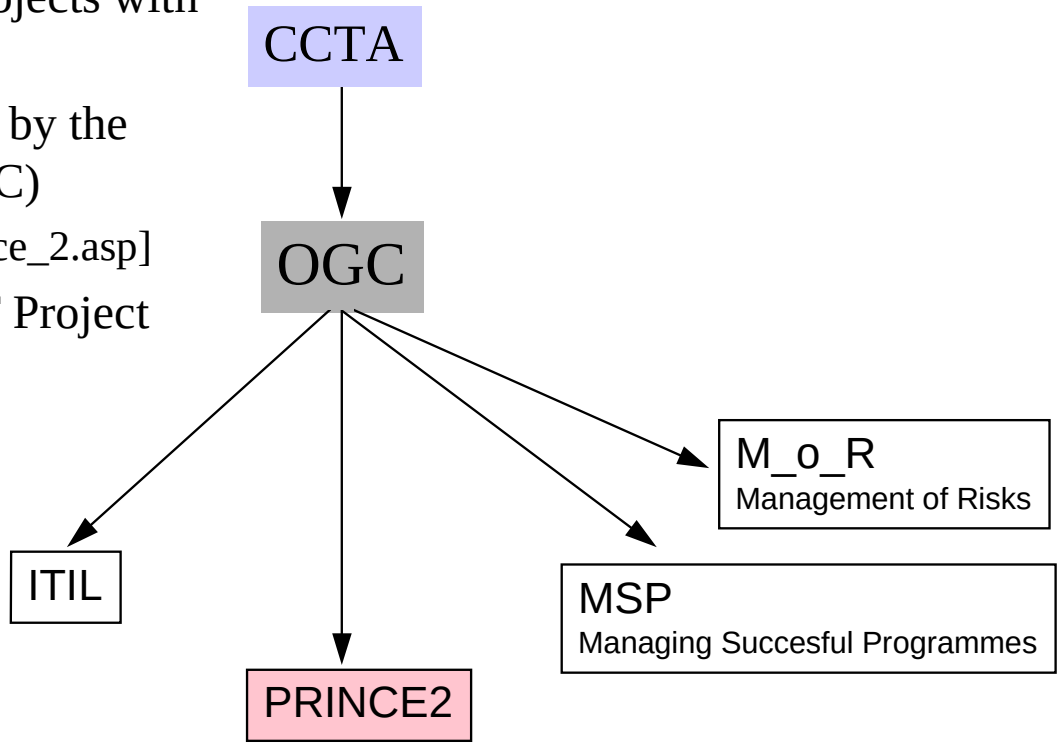
- The British PM de-facto standard PRINCE2 actually widens this view and complements it with the *Product Lifecycle*:
  - Product Initiation: Idea, Trigger, Feasibility
  - Product Design: Study, Layout
  - Product Realisation: Implementation
  - Product Operation: Use the Product
  - Product Termination: Scrap the Product



Origin of PRINCE2

- PRINCE has been developed as project management method in 1989 by the British Central Computer and Technology Agency (CCTA).
  - The current PRINCE standard was published in 1996 as book 'Managing Successful Projects with PRINCE2'.
  - PRINCE2 official home-page is hosted by the Office of Government Commerce (OGC)

    [http://www.ogc.gov.uk/methods_prince_2.asp]
  - In order to fully apply PRINCE2 for IT Project Management, the organisation running the project should follow the ITIL (IT Infrastructure Library) approach, also defined and provided by the OGC.

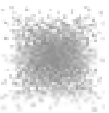


Scope of PRINCE2

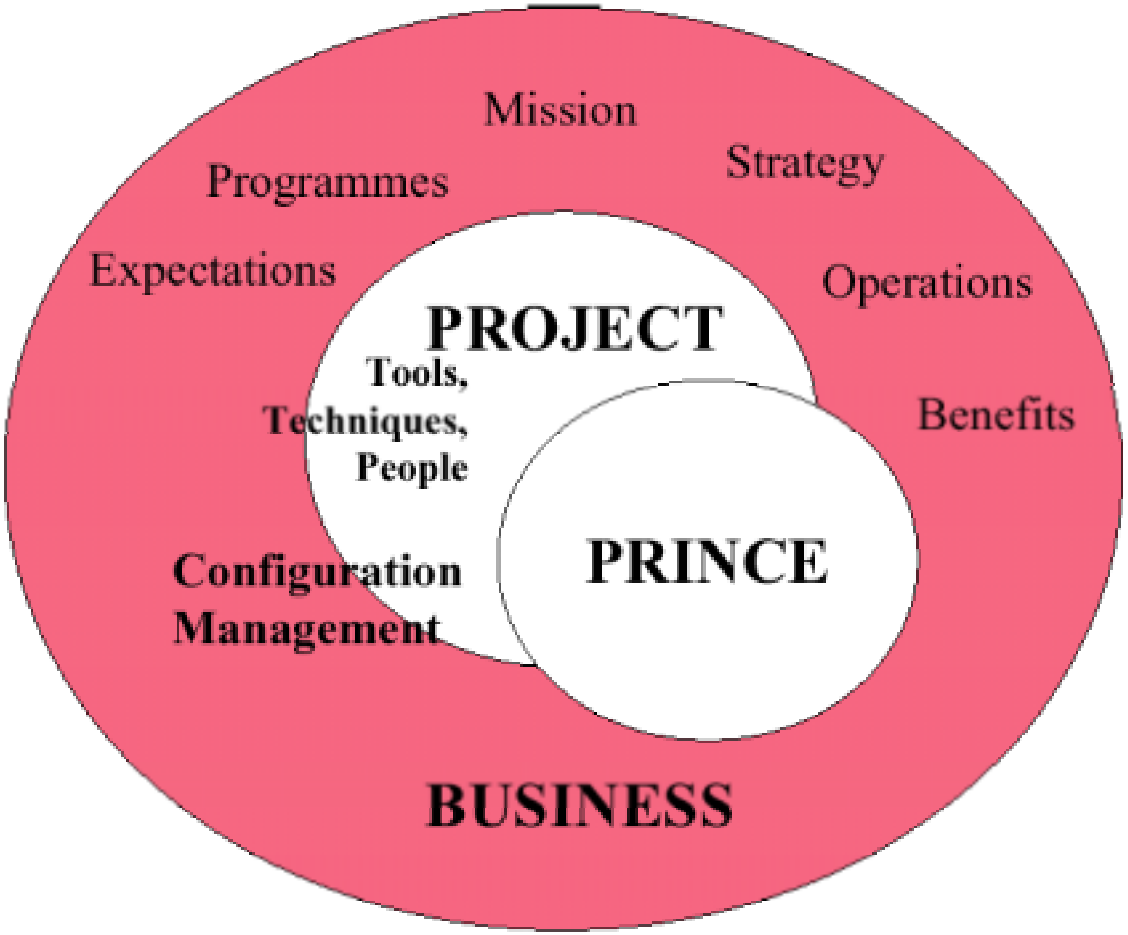
- PRINCE2 has the following scope:
  - "PRINCE2 is a process approach to project management, fitting each process into a framework of essential components which need to be applied throughout the project.
  - PRINCE2 helps you work out what roles should be involved in your projects, what they will be responsible for and when they are likely to be needed.
  - The set of processes and controls provided give you the structure that will support the life of the project, and explains what information you should be gathering along the way.
  - The PRINCE2 method demonstrates how your project can be divided into manageable chunks or stages, allowing you to plan ahead more realistically, and to call on your resources at the time they are most needed."
  - "PRINCE2 acts as a common language between all of customers, users and suppliers, bringing these parties together on the Project Board.
  - And although PRINCE2 doesn't include contract management as such, it provides the necessary controls and boundaries needed for everybody to work together within the limits of any relevant contracts.
  - In addition, the Project Board provides support to the project manager in making key decisions."

Benefits of PRINCE2

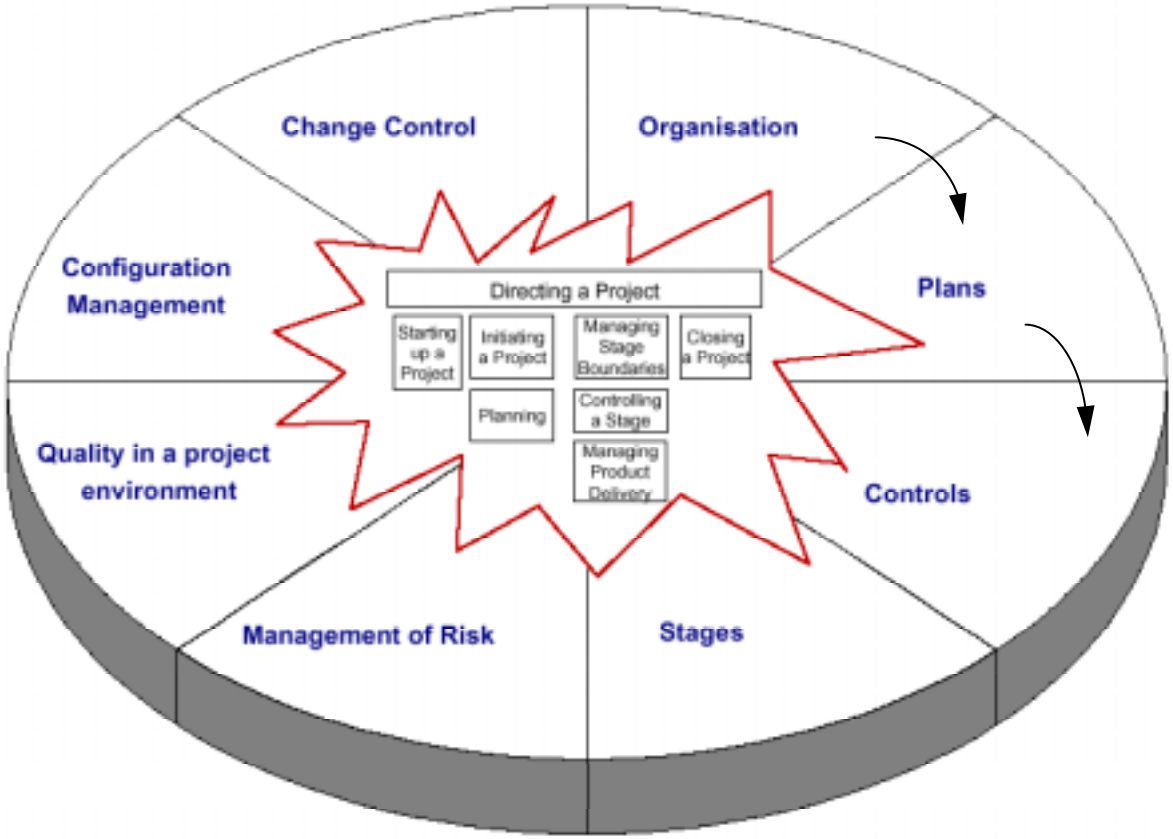
- "PRINCE2's formal recognition of responsibilities within a project, together with its focus on what a project is to deliver (the why, when and for whom) provides your organisation's projects with:
  - A common, consistent approach
  - A controlled and organised start, middle and end
  - Regular reviews of progress against plan
  - Assurance that the project continues to have a business justification
  - Flexible decision points- Management control of any deviations from the plan- The involvement of management and stakeholders at the right time and place during the project
  - Good communication channels between the project, project management, and the rest of the organisation
  - A means of capturing and sharing lessons learned
  - A route to increasing the project management skills and competences of the organisation's staff at all levels."



PRINCE2 = Marrying PM with Business



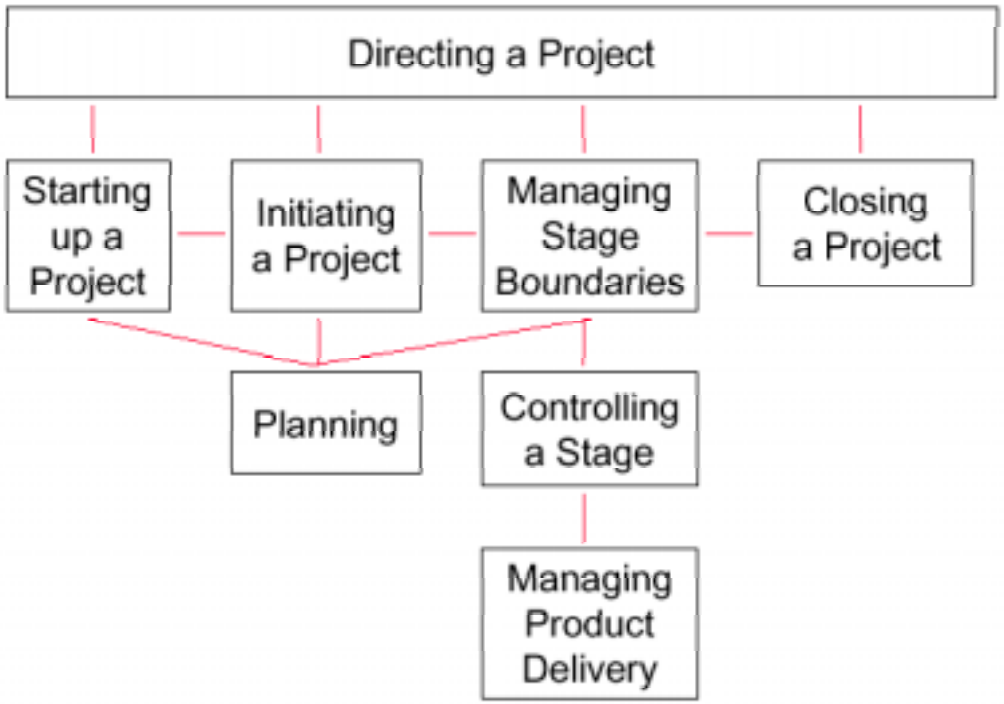
PRINCE2 Management Components



Organisation

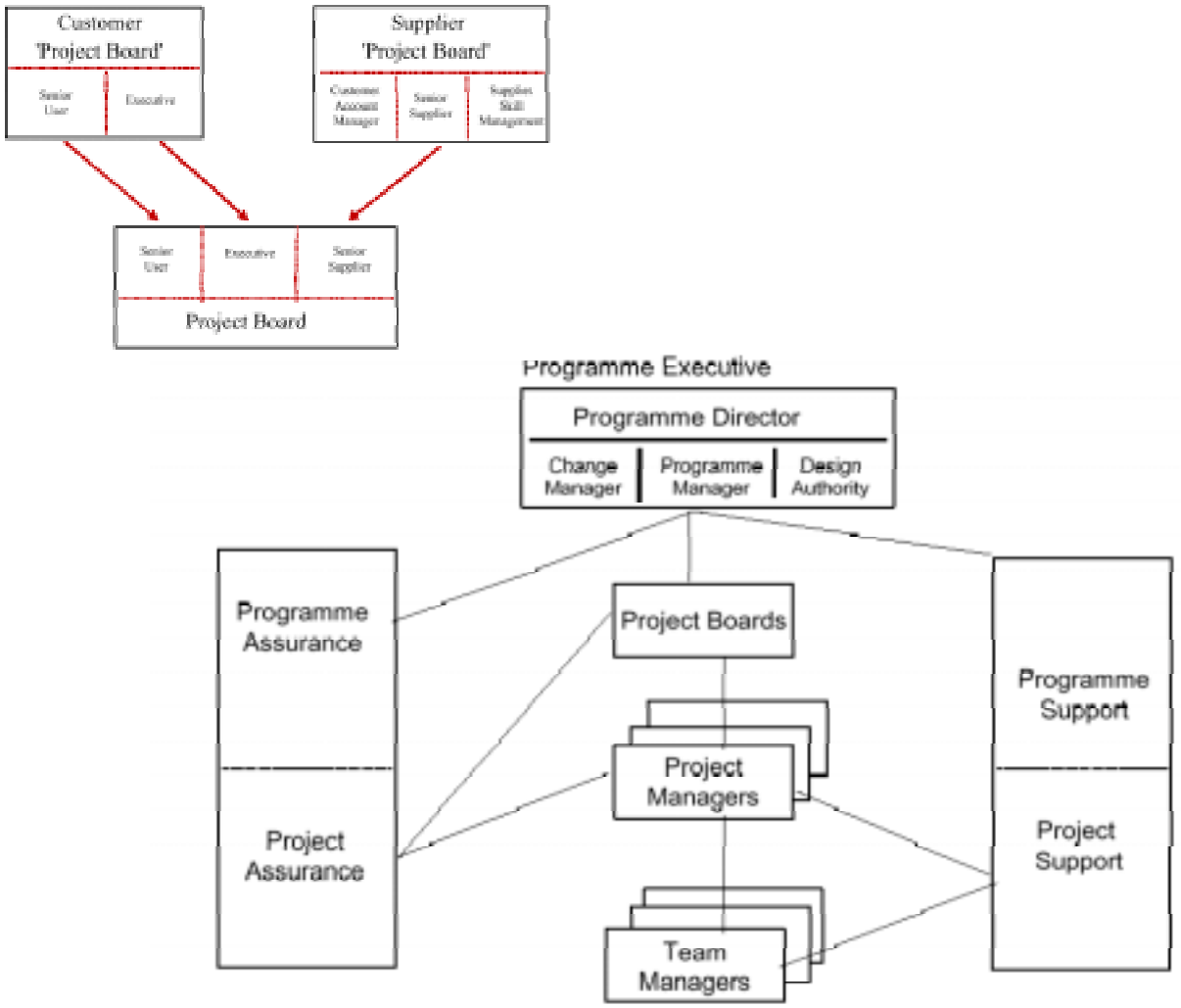
- The Project Organisation (PO) describes in the PRINCE2 approach a Customer/Supplier relationship, independent whether they are part of the same organisation or not:
  - The Customer will define the project's outcome and it's quality, while
  - the Supplier provides the resources and skills to generate the outcome.
- Within this model, four management layers are defined :
  - Direction of the project (Supervision)
  - Day-to-day management of the project (Execution)
  - Team Management (Staff)
  - Team Members (work force)

The first three layers define the PRINCE Project Management Team.



PRINCE2 Project Board & Complex Projects

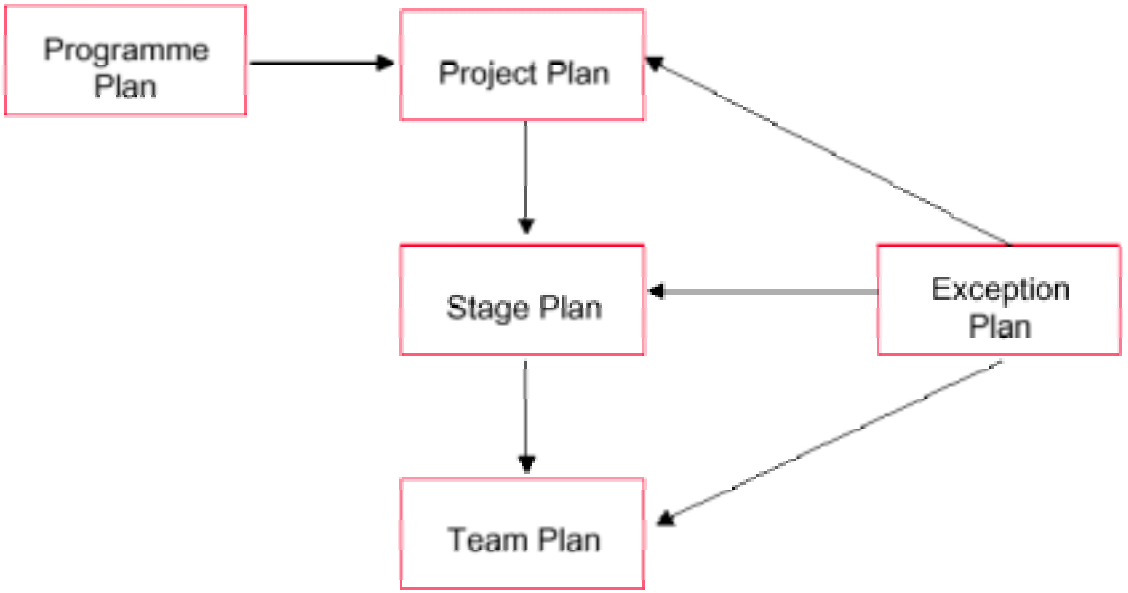
- Complex projects may be grouped together in a *Programme*. PRINCE2 defines a Programme as:
  - ‘A portfolio of projects selected, planned and managed in a co-ordinated way and which together achieve a set of defined business objectives.
  - Programme management methods and techniques may also be applied to a set of otherwise unrelated projects bounded by a business cycle.’



Plans

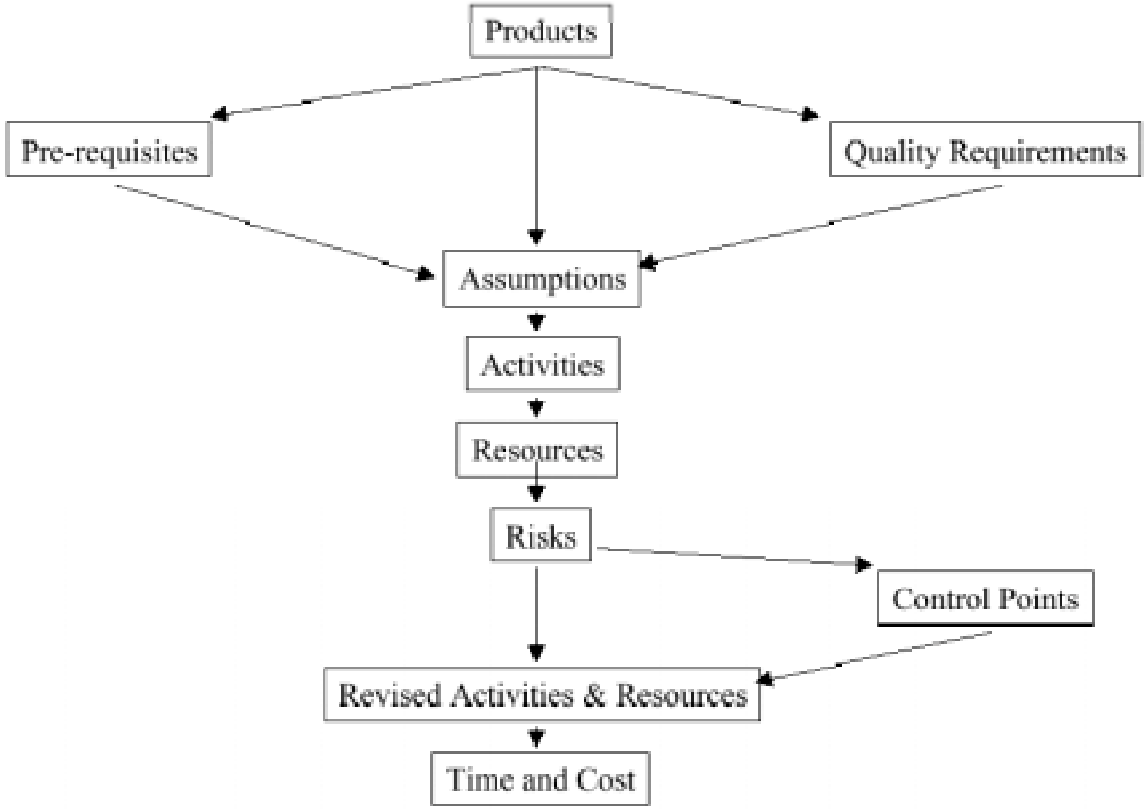
- In the PRINCE2 framework, a plan is a structured document, describing
  - how, when, and by whom

  a specific target or sets of targets are achieved, including timescales, costs, and quality for a deliverable and need approval and commitment by the Project Management Team and additional approval by the Project Board.
  - Plans are presented as management reports.
  - Plans are realised on different Project Levels:



Componentes of a Plan

- The plan should include the following components :
  - Produced products (deliverables)
  - Activities to create deliverables
  - Activities to validate the deliverable's quality
  - Required resources and time for the above activities, staffing and skills
  - Dependencies between activities
  - External dependencies regarding information, products, and/or services needed
  - Time schedule for the activities
  - Monitoring points for the activities' progress



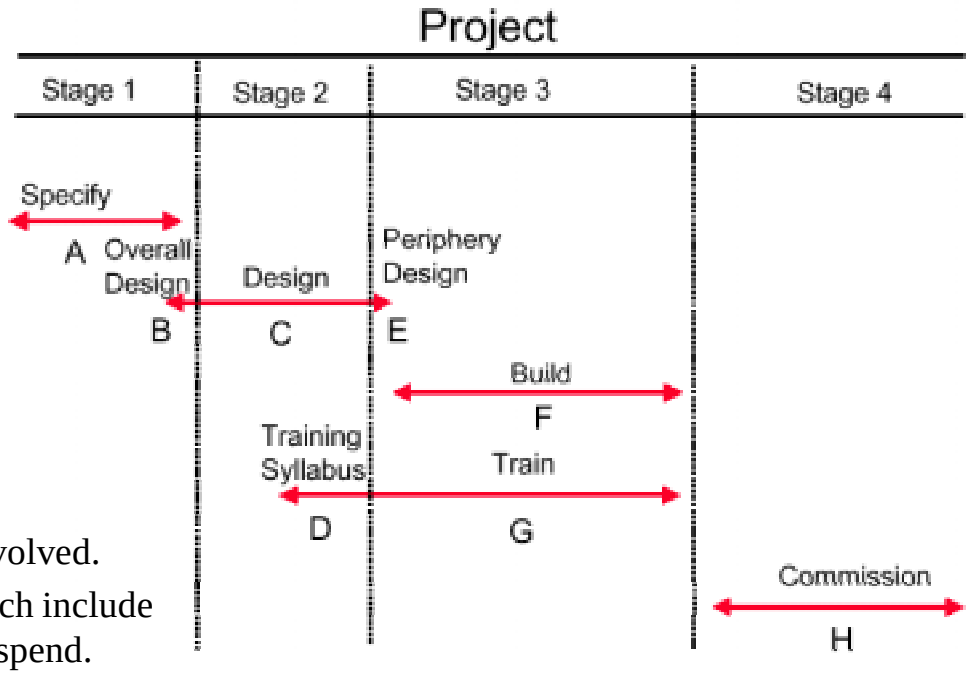
Controls

- Controlling in the PRINCE2 framework means essentially to
  - ensure that the project generates a product which meets the defined acceptance criteria
  - ensures, that the project progress happens in time and within the resource and costs limits
  - allow the project to be viable against the Business Case.
- According to the layered management model, Control is responsible to the upper level, in order to
  - monitor progress,
  - compare the achievements with the plan,
  - reviewing the plans,
  - detect problems,
  - initiate corrective actions,
  - authorise additional work.

Project Initation
Should the project be started?
End Stage Assessment
Has the stage been successfully completed?
Is the Business Case still valid?
Risks under control?
Highlight Reports
Regular progress reports.
Exception Reports
Early warnings in case of problems and new substantial risks.
Mid Stage Assessment
Standard correction actions in case of forecast deviation.
Project Closure
Project finished as expected?
Follow-on actions?
Lessons-learned sessions?

Stages

- PRINCE2 defines a stage as 'a collection of activities and products whose delivery is managed as a unit' and is effectively a 'unit of work' carried out by the project team. In this respect, a stage is a partition of the project, unlike a phase which characterises a partition of the product lifecycle.
- Stage are an indispensable part of any project, since they allow to
  - define the decision and review points
  - adjust the precision of the forthcoming planning, and to
  - improve scalability of the project.



Technical stages are defined by a particular technical (production) method involved.

Management stages identify intervals, which include commitments of resources and authority to spend.

Management of Risk

- PRINCE2 defines as risk as

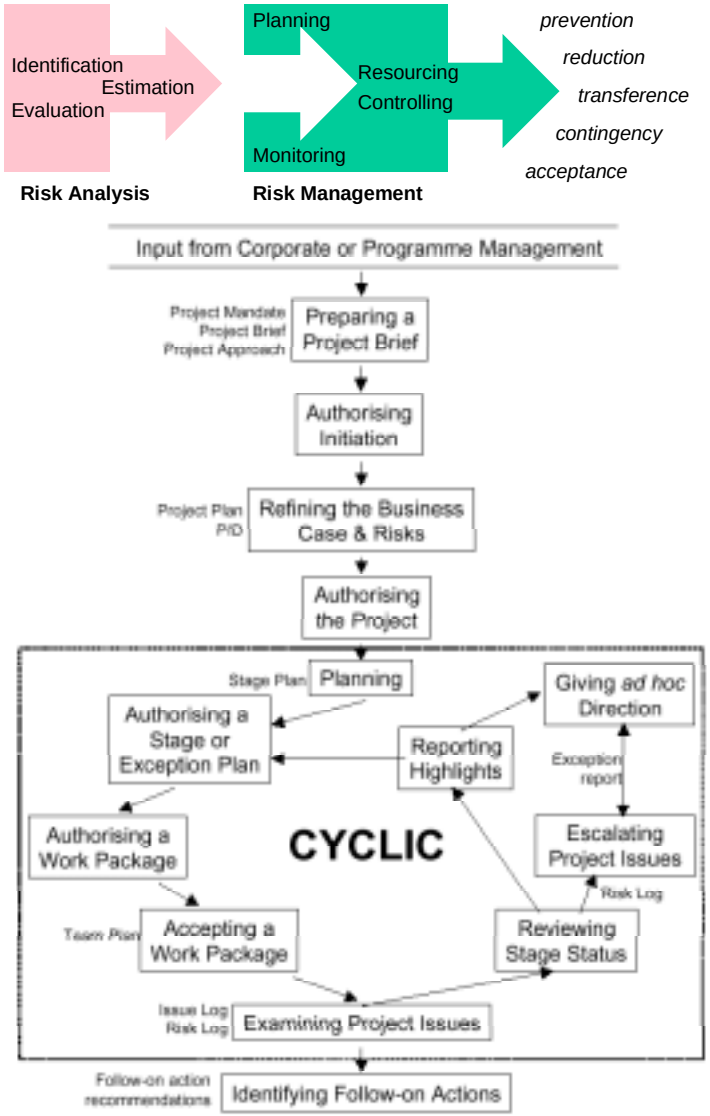
  'The chance of exposure to the adverse consequences of future events'.

  and treats risks a major factor to be considered in the management of a project. From the point of PRINCE2, risks can be categorised mainly into two types:

  – *Business risks* like validity and viability of the Business Case, alignment with future business strategies, political and legislative changes/requirements and environmental issues, customer acceptance and others.

  – *Project risks* supplier issues regarding third party components, organisational and inter-human factors, project-special issues including it's complexity and challenge.

    Risk management is the responsibility of the *Project Board* and the *Project Manager*. In generals risk management following a detailed risk analysis.



Quality Management

- PRINCE2 picks up the quality definition from ISO 8402

  > "Quality is the totality of characteristics of an entity which bear on its ability to satisfy stated and implied needs."

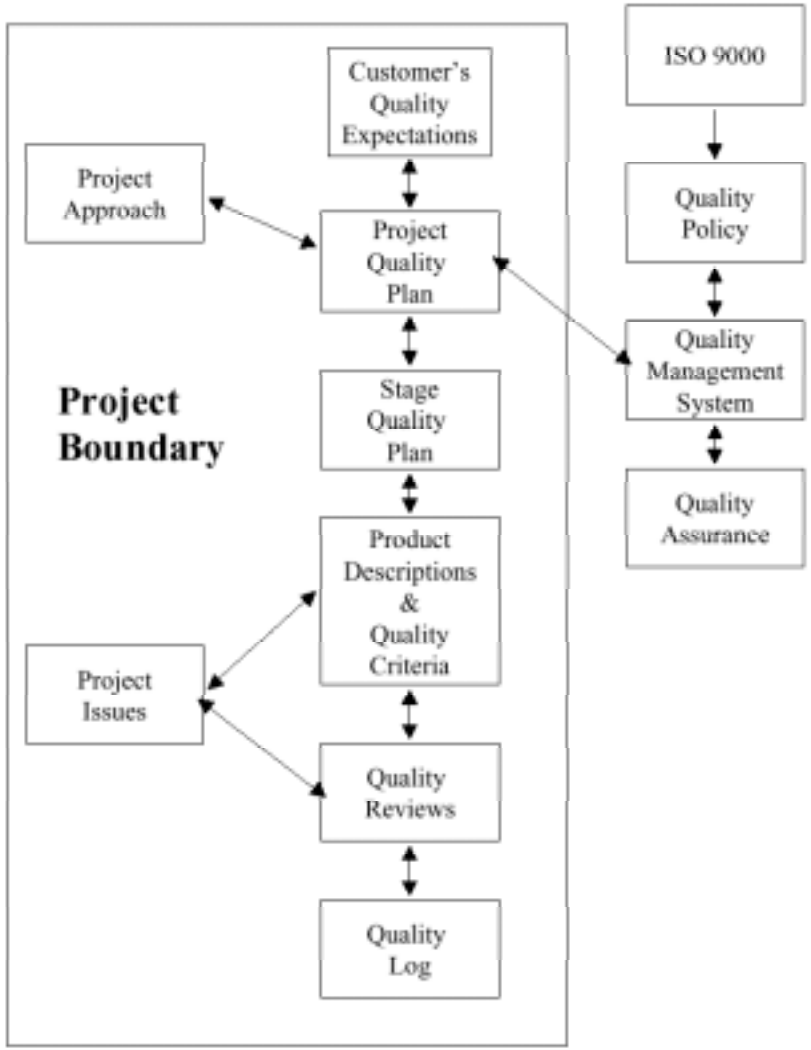
  and requires the following Quality Management elements:

  – *Quality System* (QS) This is an organisation structure, the procedures and processes to implement quality management, either provided by the supplier or by the customer or both.

  – *Quality Assurance* (QA) An organisational unit setting up the QS, operating, auditing and maintaining it. QA can be realised within the project team or outside, e.g. commonly used in a programme.

  – *Quality Planing* (QP) Here, the objectives, requirements, and actions for the QS are defined. In the Project Initiation Document is should be explicitly provided as Project Quality Plan.

  – *Quality Control* (QC) Defines the process of controlling, i.e. examing a product whether it meets the defined quality objectives.



Configuration Management

- Configuration Management has to take about all the project's deliverables and the documentation, thus it has to identify, track, and protect the project's products and the responsibility of a Librarian.
- Configuration Management consists of the basic functions:
  - *Planning*
    Defining the level of coverage for Configuration Management and how it can be achieved.
  - *Identification*
    Detailing the components which are subject for Configuration Management.
  - *Control*
    Ability to freeze a state of a product. After a freeze a certain authorisation is required to change the product.
  - *Status Accounting*
    Records the status of the products.
  - *Verification*
    Reviewing the actual state of a product wrt. the Configuration Management records.

Change Control

Change Control within PRINCE2 has the following two main tasks:

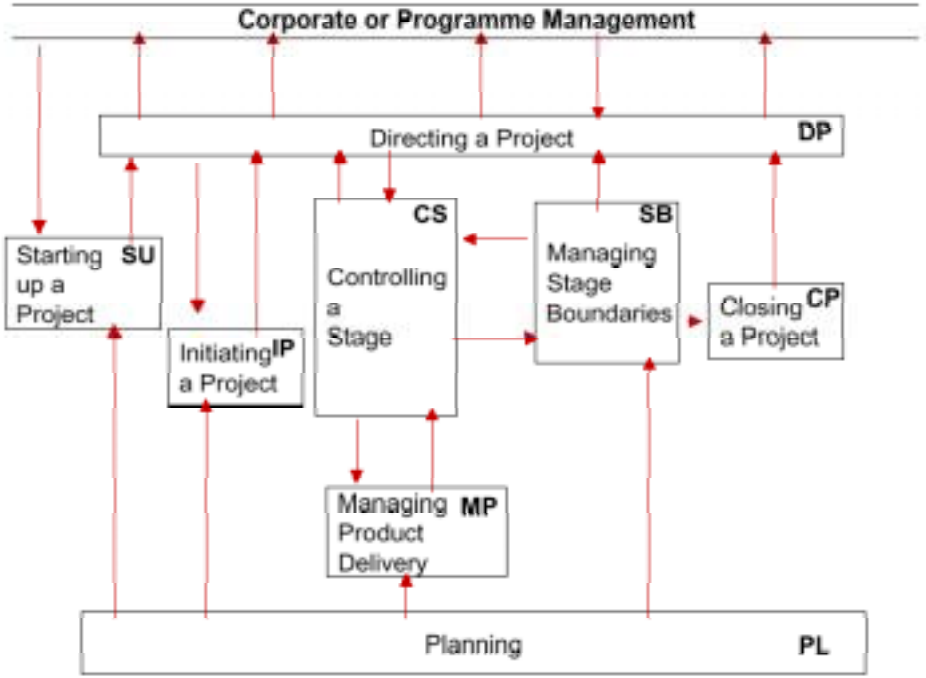
- Defining the level of Authority required to approve a particular change in the product.
- Verifying the Integrity of a Change:
  - Conformance with the Business Case and whether it is beneficial.
  - File a Risk Log.
  - Considering the balance of time/cost/risk wrt. the foreseen change.

Change Control and Configuration Management depend on each other, and it should use the established Configuration Management tools.

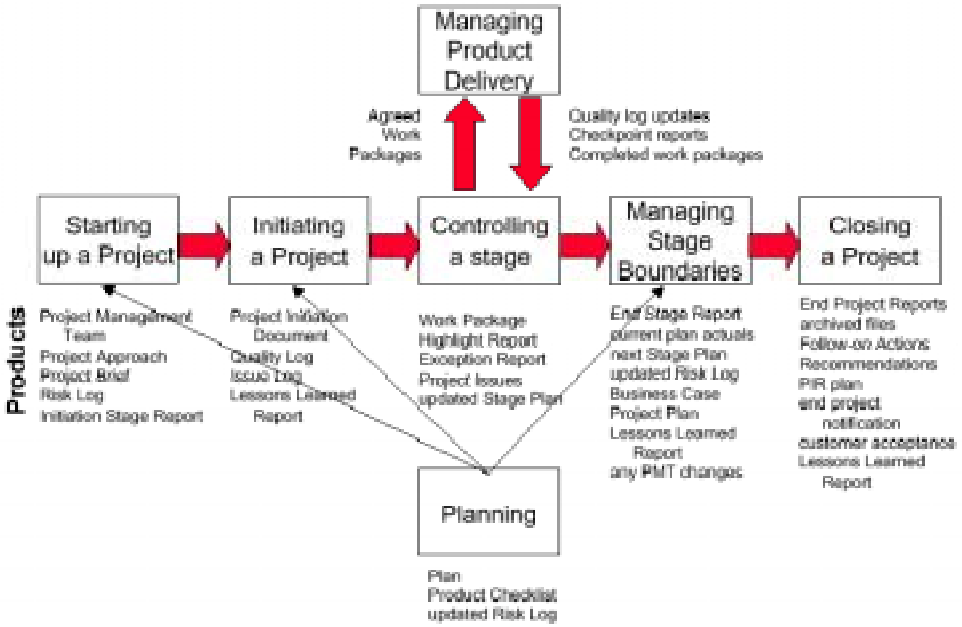
PRINCE2 Process Model

- PRINCE2 defines eight major processes , including each a collection of sub-processes:
  - Starting up a Project (SU)
    Gathering basic information
  - Initiating a Project (IP)
    Getting agreement that we know what we are doing
  - Controlling a Stage and Managing Product Delivery (CS)
    Controlling development
  - Managing Stage Boundaries (SB)
    Taking stock and getting ready for the next part of the project
  - Planning (PL)
    Common planning steps
  - Directing a Project (DP)
    Senior management taking decisions at key points of the project
  - Closing a Project (CP)
    Making sure the project has done the job.

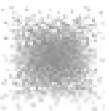
PRINCE2 Process Model (2)



Process relations under PRINCE2

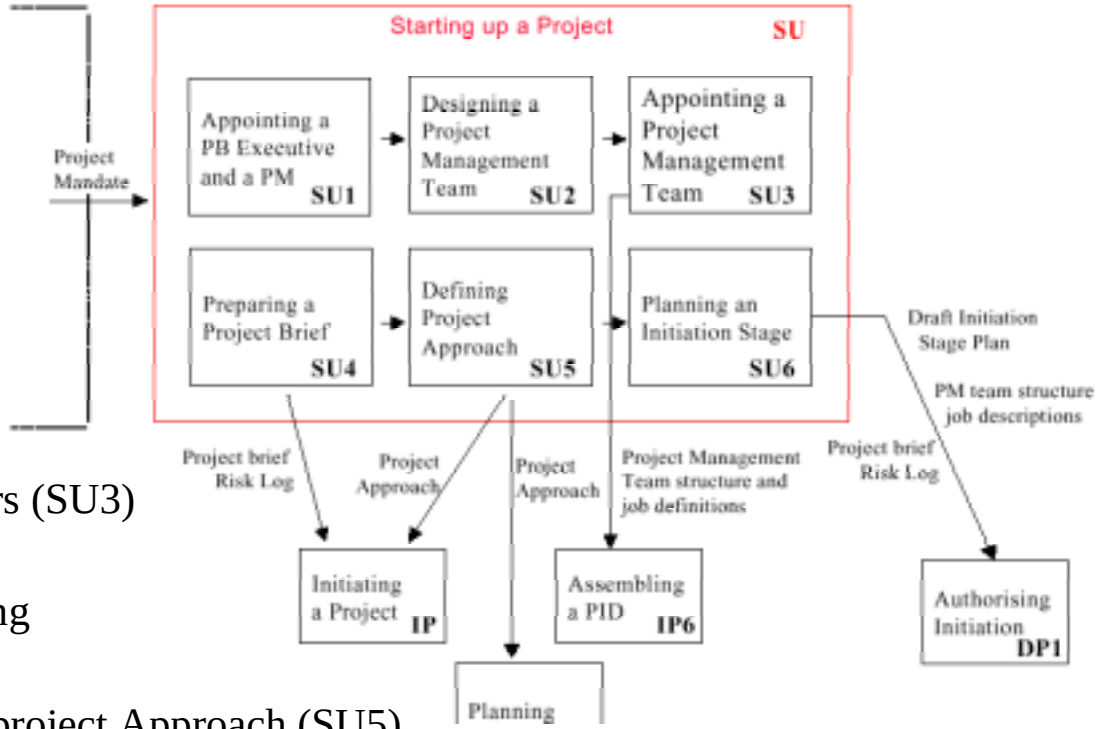


Dedicated Sub-processes



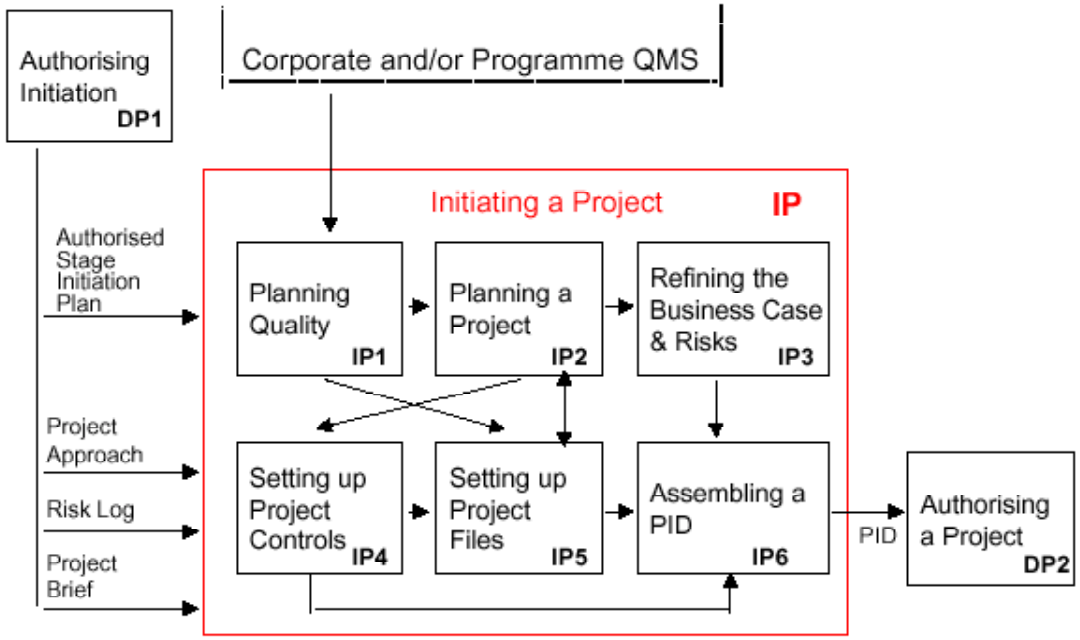
Starting up a Project (SU)

- The Start Up of a Project has to be accompanied by the processes
  - [Business Plan] the determination of the basic business requirements triggering the project
  - [Project Board] the identification of responsibilities, thus establishing the Project Board, and appointing the Project Manager (SU1)
  - [Project Management Team Design] designing the project management team under consideration of the concerned parties (SU2)
  - [Appointing Project Manager Team] the appointment of the PM team members (SU3)
  - [Project Brief] the knowledge of certain base information about the commissioning of the project (SU4)
  - [Project Approach] the definition of the project Approach (SU5)
  - [Initial Stage Plan] the creation of an Initial Stage Plan to enter the Initiation stage (SU6).



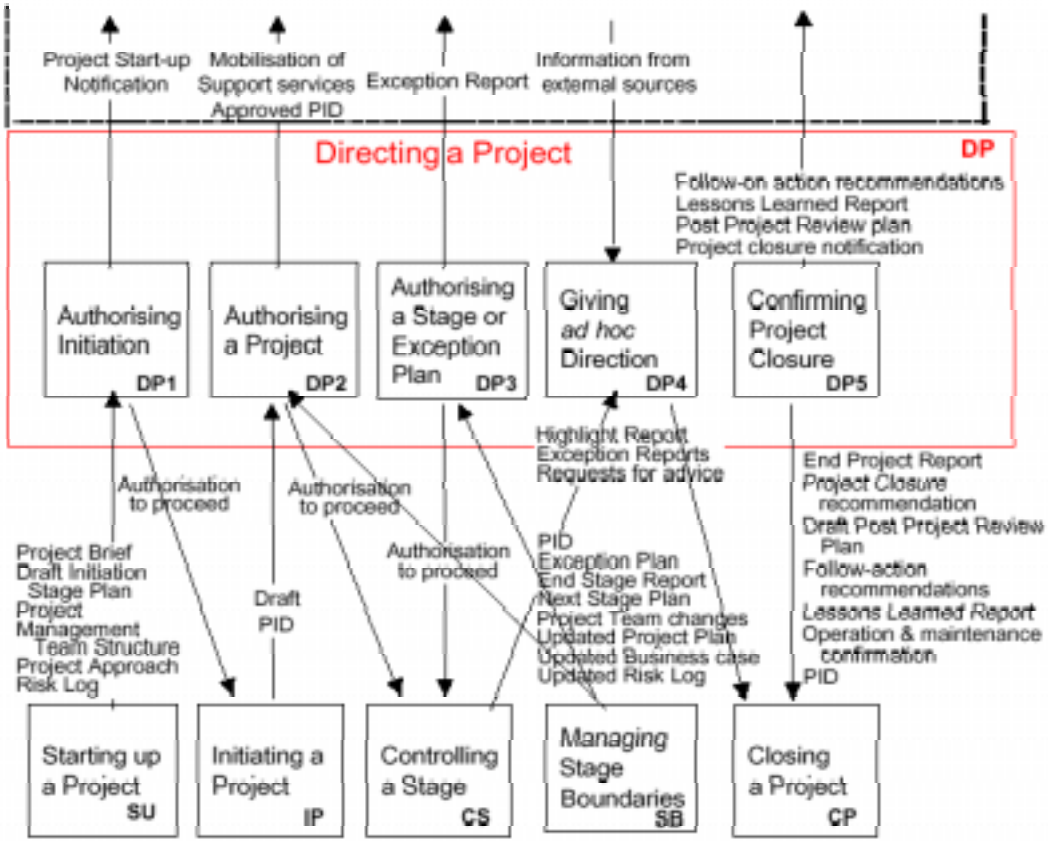
Initiating a Project (IP)

- The project's objectives and in particular the Business should be clearly understood by all participants.
- The solution path and the responsibilities should be determined in the first place.
- Under these conditions, PRINCE2 defines the following subprocesses while Initiating a Project:
  - Planning Quality (IP1)
  - Planning a Project (IP2)major products, activities, and risks; estimate efforts and resources needed; determine timescale
  - Refining the Business Case and Risks (IP3)
  - Setting up Project Control (IP4)
  - Setting up Project Files (IP5)
  - Assembling a Project Initialisation Document (IP6)



Directing a Project (DP)

- The entitled project management has the authority to
  - define the requirements for the project
  - authorising funds
  - committing resources
  - make decisions on any changes requested by Project Management
  - make decisions on exception situations
  - communicating with external stakeholders.
- Directing a Project includes the following
  - Authorising Initiation (DP1)
  - Authorising a Project (DP2)
  - Authorising a Stage or Exception Plan (DP3)
  - Providing Ad hod Direction (DP4)
  - Confirming Project Closure (DP5)



Controlling a Stage (CS)

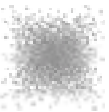
- Controlling a Stage is the most fundamental discipline for the actual execution of Project Management.

  At the end of every stage, a 'delivery' is assumed.

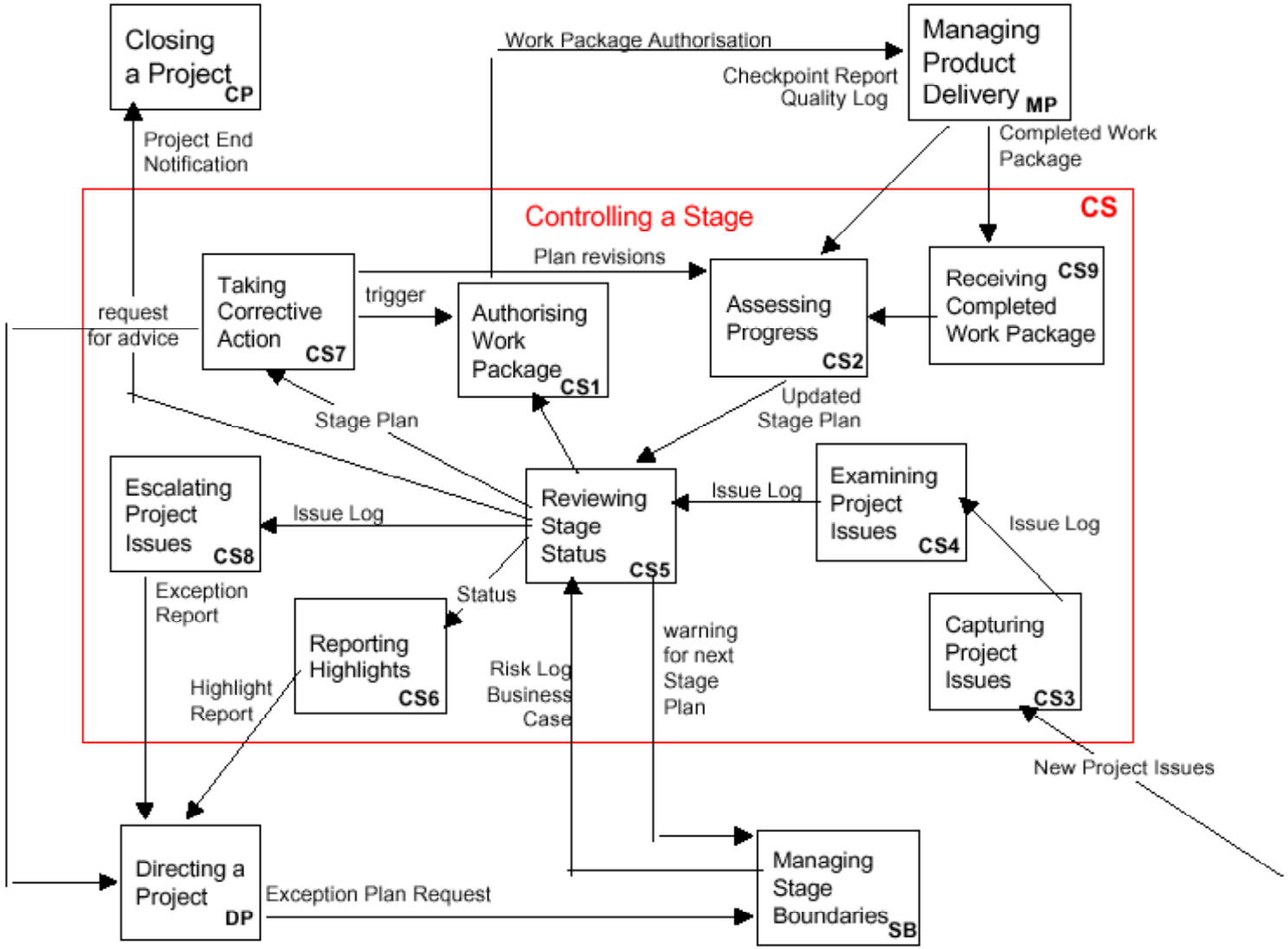
- In order to successfully provide this, management must focus it's attention
  - on the realisation of the delivery or outcome,
  - the used resources from the beginning to the end of the stage
  - apply risk control
  - keep the stage aligned with the Business Case
  - monitor deviations from the initial plan (loss of focus)

The following subprocesses are essential Controlling a Stage (figure 50):

- Authorising Work Packages (CS1)
- Assessing Progress (CS2)
- Capturing Project Issues (CS3)
- Examing Project Issues (CS4)
- Reviewing Stage Status (CS5)
- Reporting Highlights (CS6)
- Taking Corrective Actions (CS7)
- Escalating Project Issues (CS8)
- Receiving Completed Work Package (CS9)



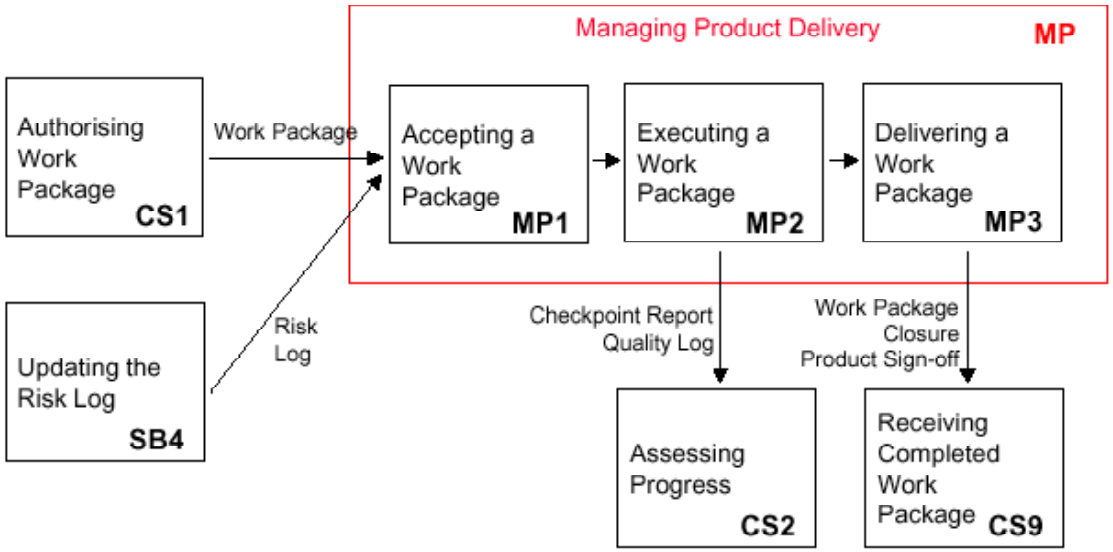
Controlling a Stage (CS) - 2



Managing Product Delivery (MP)

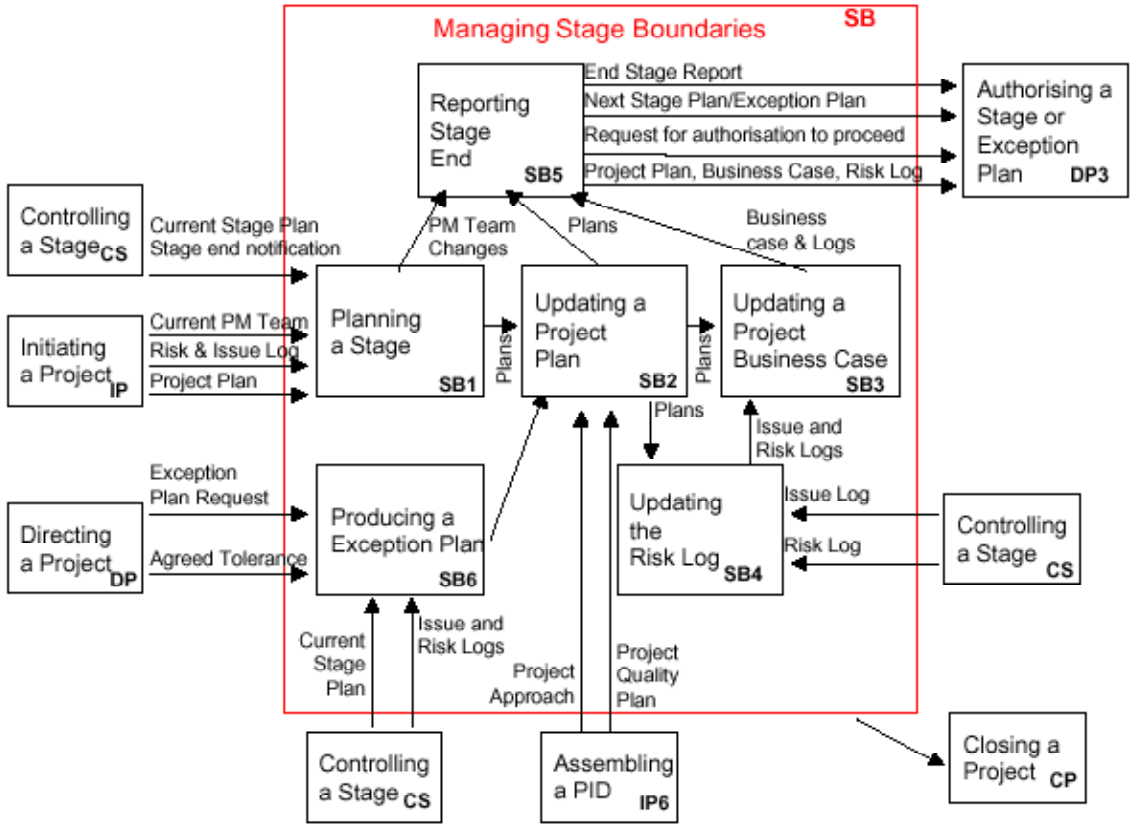
- Managing Product Delivery has two directions:
  - Third Party Products may be needed to be incorporated into the Project.
  - The (Sub-)Project has to deliver Products (defined as Work Package) to the Project or the Programme for Integration.

    In the last case, it is the responsibility of the Team Manager to ensure, that planned Products are created and delivered by the team to the Project.
- In order to streamline the delivery, the following subprocesses are required:
  - Accepting a Work Package (MP1)
  - Executing a Work Package (MP2)
  - Delivering a Work Package (MP3)



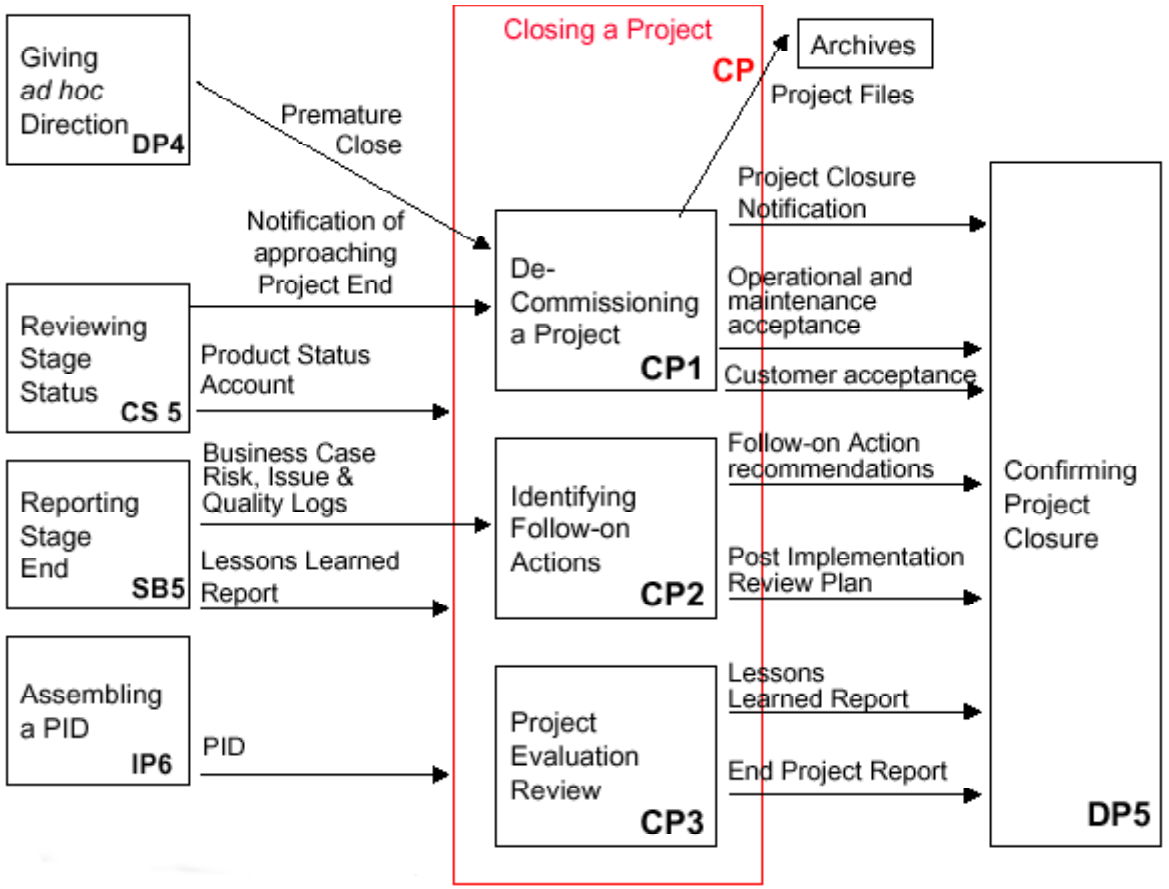
Managing Stage Boundaries (SB)

- Transitions between stages happen regularly during the progress of the project. The process Managing Stage Boundaries has the tasks
  - to assure the Project Board that all Products in the current Stage Plan have been completed
  - to provide information to the Project Board to assess the continuing viability of the project
  - obtain authorisation to start the next state
  - record 'lesson-learned' information for later stages
  - to update the relevant Project documents
  - to provide a Stage End Report and perhaps to
  - Produce an Exception Plan.



Closing a Project (CP)

- Once the Project is finally realised, it has be gracefully closed.
- Closing a Project is the respective process within PRINCE2



Planning (PL)

- Planning is a common (sub-)process required by
  - Planning an Initiation Stage (SU6)
  - Planning a Project (IP2)
  - Planning a Stage (SB1)
  - Producing an Exception Plan (SB6)
- Any plan has to include the following steps:
  - Establishing what products are needed
  - Describe products according and assign quality requirements
  - Determing the sequence order for products and their dependencies
  - Check, when activities should be done and from whom
  - Estimate the amount of effort for each activity and the duration
  - Agreeing on Quality Control and the required resources

Planning (PL) - 2

- Planning can subdivided into the following subprocesses :
  - Designing a Plan (PL1)
  - Defining and Analysing Products (PL2)
  - Identifying Activities and Dependencies (PL3)
  - Estimating (PL4)
  - Scheduling (PL5)
  - Analysing Risks (PL6)
  - Completing a Plan (PL7
  - Calculate overall costs and efforts and make a budget forecast
  - Assessing risks
  - Identify management control points