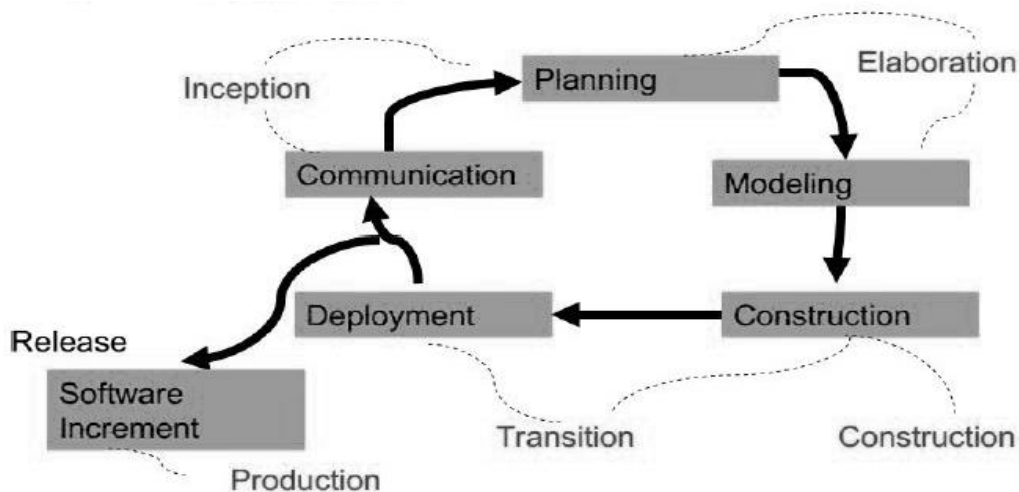


## RATIONAL UNIFIED PROCESS

The Unified Process or Rational Unified Process (RUP) is a framework for object oriented software engineering using UML. RUP is a use-case driven, architecture centric, iterative and incremental software development model.

### Five Phases of RUP

1. Inception Phase
2. Elaboration Phase
3. Construction Phase
4. Transition Phase
5. Production Phase



- **Inception Phase:** The Inception Phase of UP includes both customer communication and planning activities. By collaborating with the customer and end-users, business requirements for the software are identified, a rough architecture for the system is proposed, and a plan for the iterative, incremental nature of the project is developed.
- **Elaboration Phase:** The Elaboration Phase encompasses the planning and modeling activities of the generic process model. Elaboration refines and expands the primary use-cases that were developed as part of the inception phase and expands the architectural representation to include five different views of the software – the use-case model, the analysis model, the design model, the implementation model and the deployment model.

- **Construction Phase:** The construction phase of the UP is identical to the construction activity defined in the generic software process. Using the architectural model as input, the construction phase develops or acquires the software components that will make each usecase operational for end-users. As components are developed unit tests are designed and executed for each component. Integration testing and acceptance testing are carried out using use-cases to derive required test cases.
- **Transition Phase:** The Transition Phase of the UP encompasses the later stages of the generic construction activity and the first part of the generic deployment activity. Software is given to end-users for beta testing. The software team creates necessary support information (user manual, installation manual etc.). At the end of transition phase, the software increment becomes a usable software release.
- **Production Phase:** The production phase of the UP coincides with the deployment activity of the generic process. During this phase, the ongoing use of the software is monitored, support for operating environment is provided, and defect reports and requests for change are submitted and evaluated.

#### Major work products produced for each UP phases

<b>Inception Phase</b> Vision document Initial use-case model Initial risk assessment Project Plan Business model Prototypes	<b>Elaboration Phase</b> Use-case model Requirements functional, non-functional Analysis model Software architecture Preliminary design model Revised risk list, revised prototypes
<b>Construction Phase</b> Design model Software components Integrated software increment Test cases Test Plan and Procedures Support documentation	<b>Transition Phase</b> Delivered software increment Beta test reports General user feedback

**Conclusion:** It is likely that at the same time the construction, transition and production phases are being conducted, work may have already begun on the next software increment. This means that the unified process do not occur in a sequence, but rather with staggered concurrency.