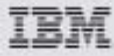


## From the waterfall method to Rational Unified Process – a case study from experience



Software Group



**Katharina Sägesser**, *Leader CMMI program at Credit Suisse*  
**Rainer Grau**, *Software Architect and Project leader at Zühlke Engineering AG*

The introduction of the Rational Unified Process to a large company is a complicated undertaking. An organization geared towards the waterfall model tends towards proceeding according to the waterfall approach for the process implementation. This means: defining and documenting everything, planning broad training and using the process productively from the target date.

However, Credit Suisse IT organized the implementation of RUP as an iterative and incremental project, whereby the RUP guidelines are already applied within the framework of the implementation project. We are subsequently presenting the experience gathered and the results achieved hitherto arising from the iterative-incremental approach to the RUP rollout.

**Maria Teofani:** „Mr Grau, could you briefly introduce yourself and your function“?

**Rainer Grau:** „Yes of course. My name is Rainer Grau, I am a Partner at Zühlke and manage the International Education Centre in Switzerland as well as in Germany, Austria and England. At Zühlke, I am active as an account manager and active RUP coach in this project. I have undertaken this role due to my many years of experience as a software developer and consultant in the Change Management and development process area, in particular for RUP and HL development as well as in Requirements Engineering.“

**Maria Teofani:** „Ms Sägesser, could you also briefly introduce yourself and your function“?

**Katharina Sägesser:** „My name is Katharina Sägesser. For the past 11 years I have worked for the Credit Suisse IT region Switzerland, and one year ago I took over responsibility for managing the CMMI program, which is an important initiative for CS IT. We have set ourselves the target of achieving Unity Level 3 by the end of 2010.“

**Maria Teofani:** „Mr Grau, Credit Suisse has implemented Rational Unified Process. However the processes here are not organized according to the waterfall principle, but constructed iteratively and incrementally. How does RUP differ from the waterfall method, and how does this approach affect the processes“?

**Rainer Grau:** „I would like to restrict myself to the three fundamental advantages of RUP as compared to the waterfall process model, although I could mention many more. The first benefit is the risk management anchored in the process. Iterations are planned depending on risk and according to priority. Moreover, assessments are mandatory both for the iteration results and the processes. The second advantage is the early feedback by customers and users. The process provides for a potentially productively useful result, i.e. software containing the features implemented to date, being submitted to the users at the latest following the first third of the project term. The result will then be tested for its functional integrity by the customer and users. Thereby, incorrect trends can be identified quickly. The third significant advantage is that an optimization of the iterative process takes place in each iteration. It is therefore potentially possible to increase team productivity noticeably, and to introduce more efficient working methods into the project.“

**Maria Teofani:** „Could you explain, with the help of an example, what the process control with RUP looks like“?

**Rainer Grau:** „Yes. Let's assume the development of ATM software, with which customers can withdraw cash at the ATM or for example, load their Cash cards. According to the waterfall process model, all details of the software, including layout, dialogue sequence, interfaces between systems or business processes, right up to the last technical detail will be specified on paper in advance and then implemented and tested. One of the greatest risks here is that a test user tests the software, and in the end may judge it to be unsuitable or not user-friendly. In a RUP process, the so-called Use Cases are defined at the beginning of the basic application case; but this is done only at user level, and not down to the last technical detail. Then, per iteration, a set of these application cases is prepared in detail, completely implemented and submitted directly to the user for testing. Examples of such application cases are the authentication of the card on the basis of the input PIN code or the payout of cash. It can therefore be ascertained early on, if the project development is proceeding in the right direction and it is significantly easier to ensure any necessary detailed corrections of workflows or interfaces, or the implementation of quality criteria such as user friendliness or software performance in the project. User satisfaction is considerably higher, and the often significant amount of reworking required for waterfall projects following the first release sinks markedly.“

**Maria Teofani:** „Ms Sägesser, it is precisely in a large concern such as Credit Suisse that the implementation of a new project management system is a significant undertaking. For what reason did you decide on Rational Unified Process?“

**Katharina Sägesser:** „The reason is that, in the past we have only had one project lifecycle model available for our renewal and expansion projects. This is of course not an ideal situation. We are confronted with very different projects, and must therefore be able to offer different approaches. We decided on Rational - and thereby RUP – because we wanted to work with an industry standard established in the market, and not with an in-house development. We initiated a lengthy analysis phase, and reviewed which type of lifecycle was most suitable, and finally decided on Rational Unified Process.“

**Maria Teofani:** „What experience have you gathered up to now and which results have you achieved“?

**Katharina Sägesser:** „There are currently several RUP pilot projects; RUP is today employed for 10 projects, which are all at a different phase. We had a very good experience with the first, already completed project. Other projects are still in the start phase. In general, I can say that once employees have got used to RUP and the new lifecycle, they are enthusiastic about the solution and the teams work very well together. The idea of feature-teams, i.e. teams that focus on certain requirements or features, is in the meantime well-known, and has turned out to be highly efficient. A very important point is also that we can integrate the business far better. We have already received the following feedback from four projects, including from the business, and thereby from our customer side: „We are highly satisfied as can even now we can see functions, which are already implemented. This is not a matter of PowerPoint slides or a Word description, but real functionalities which we can also test. The business feels that it is better integrated and that it has a greater influence. This is very valuable, as ultimately, the customer is king. If the customer is satisfied, then we are too.“

**Maria Teofani:** „How will the project develop in the future and what other targets would you like to achieve with RUP“?

**Katharina Sägeser:** „We are planning to start another 30 pilot projects over the coming years, so that we can undertake additional improvements to our RUP implementation. Here I have to say, that we cannot of course work with an “Out of the box“ RUP solution. We need to adjust to the specific conditions at CS. This means that we need to fulfill both the regulatory as well as the process-specific demands. We expect this solution to be able to better incorporate the customer’s requirements. On the other hand, we have already noticed, that the development process is not necessarily any faster; you can’t say that the iterative approach to the development process is faster than the waterfall method. But there again, we are more flexible and can respond to customer requirements better. This is the main objective for implementing RUP, and of course this is highly acceptable to our customers.“

**Maria Teofani:** „Thank you both very much for the interview.“



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