IBM Rational Tools and IBM Rational Unified Process® Provide a Foundation for Unisys 3D Visible Enterprise

Overview

- ***The Challenge***
  To propel its transformation from a predominantly hardware-oriented company to a services-led technology company, Unisys needed to differentiate itself and respond to client needs with innovative service offerings.

- ***The Solution***
  After adopting IBM Rational tools to improve and enhance the way Unisys development teams built solutions internally, Unisys leveraged tools from IBM Rational Suite® Enterprise and best practices from IBM Rational Unified Process®, or RUP®, to enable its new 3D Visible Enterprise strategy.

- ***The Benefit***
  Unisys gained a 6 to 18 month market lead as a systems integrator using its 3D Visible Enterprise strategy and IBM Rational tools. Unisys has added several referenceable clients, including an insurance company that reduced policy issuance time by almost 60 percent and associated costs by 25 percent.

As a worldwide information technology services and solutions company, Unisys delivers the precision thinking and relentless execution to help its clients drive business transformation. Over the past several years, Unisys itself has undergone a successful transformation from a predominantly hardware-oriented company to a services-led technology company.

Unisys 3D Visible Enterprise is helping to propel that transformation, by enabling Unisys clients to see the inner workings of their organization through the creation of a virtual model that maps all of the cause-effect relationships between business vision, business operations and the IT systems that support them. This provides clients with the power to predict the outcomes of key business decisions before they are made. This vision is achieved by using the Unisys 3D Blueprinting process, a Visible next generation business and systems modeling architecture that integrates business vision and IT execution to increase organizational agility for Unisys' clients. Unisys is leveraging tools from IBM Rational Suite Enterprise and best practices from IBM Rational Unified Process (RUP) as key components of its 3D Blueprinting methodology.

Edward Ferrara, Architect Director at Unisys, explains that IBM Rational played a key role in the development of the 3D Blueprinting process. "I think Rational has demonstrated thought leadership in a number of areas of the software development lifecycle, which provided us the ability to think about business problems in a different way. And from that perspective we created the notion of 3D Blueprinting, which has, for Unisys, transformed the company. Rational thought leadership served as a foundation for our blueprinting concept and approach. We believe that 3D Visible Enterprise in turn, has shown real thought leadership in not just the IT space, but also in the business world as a whole."

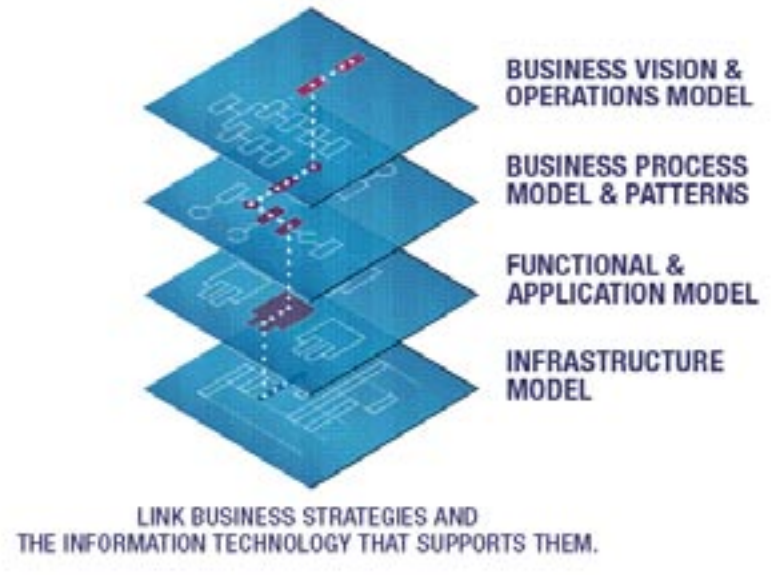
3D Visible Enterprise and IBM Rational

To see how IBM Rational tools and processes fit into the Unisys 3D Visible Enterprise strategy, it helps to have a good understanding of the approach as a whole. 3D Visible Enterprise provides business with clear and traceable connections between all layers of a business -- from business strategy through business architecture and process, to information technology implementation. The 3D Blueprinting model comprises four key business layers: Business Vision & Operations Model, Business Process Model & Patterns, Functional &

Application Model, and Infrastructure Modeling – each with tangible, digital records of intellectual assets and business processes. Aligning these layers helps businesses operate with more efficiency and agility.

Ferrara continues, "3D Visible Enterprise links – from a business architecture perspective – what the business vision is, where it is going, and how it operates from a process perspective, to the applications and infrastructure underneath. The Rational toolset and Rational Unified Process form the basis of layer three of our 3D Visible Enterprise approach – the application layer. We have extended the ideas that Rational provided as a basis for blueprinting at layer three to the other layers of the stack. We really could not have accomplished this if we didn't begin our design of 3D Blueprinting incorporating the Rational best practices -- specifically visually modeling the solution. As we thought about blueprinting, our first step was to visually model applications. That is what Unisys has historically done. We took the core of some very good ideas that were encompassed in the Rational process and approach and expanded on those ideas to cover other domains."

The results, Ferrara notes, have provided Unisys with a significant competitive advantage. "We found that by starting with this Rational kernel three years ago, and using an evolutionary process, we have created a very unique market differentiating element for us as a systems integrator. Also, in many ways 3D Visible Enterprise validates the Rational approach as well in a broader context



Unisys is leveraging IBM Rational tools and Rational Unified Process at the Functional & Application Model layer of the 3D Visible Enterprise Blueprinting process.

-- demonstrating true business value. The issue that Rational historically addressed was solving the software development lifecycle. With Rational, Unisys has solved a business process -- or business management -- lifecycle problem, using the 3D Blueprinting approach that has the Rational Unified Process as its foundation. We find that when we talk to clients about blueprinting they say 'You got it. That's exactly what we need.' We believe that we have a six to 18 month market lead as a systems integrator, using this approach, leveraging Rational's tools and process. Other firms are scrambling to catch up, and we're as pleased as can be about this."

First steps

Before Unisys began developing the 3D Visible Enterprise strategy, its development teams – which include over 9,000 developers, 1,000 testers, and 2,000 business analysts worldwide – were already using IBM Rational development tools and processes to improve productivity and accelerate development.

Ferrara recalls, "When we first looked at Rational, blueprinting was just a gleam in our eyes. We were actually looking at Rational to solve a number of different issues in our solution development centers. We wanted a process that supports component based development -- one that supports aggressively managing requirements and supports aggressively managing change. And we also wanted to have a toolset that supports the process. We wanted a market leading company with a vision that matched our own. If you look at the best practices of Rational, it is completely aligned with where we wanted to go.

So our selection of Rational began with a desire for us to improve and enhance the way we build our solutions internally. What we quickly realized is that it could help solve our clients' problems as well, if we could add value by extending the Rational process. We have done that by extending the ideas upward to encompass vision and strategy, as

well as business processes, and by extending them downward to include the infrastructure layer that actually runs the applications."

As an example of a concept that Unisys has extended in 3D Visible Enterprise, Ferrara points to the notion of model congruence. "In RUP, use cases are squared off against analysis models, which are squared off against design models, yet they represent a different view for the practitioner. We have taken the idea of model congruence, which Grady Booch and Jim Rumbaugh pioneered, and have created a holistic, congruent view of the software space. We took that idea and extended it from layer three to layers one, two and four to create a complete view for the business. That gives us alignment. We now know that when a strategy change is requested, we can understand the impact to the process so the operation manager is happy; we can understand the impact to the applications so the CIO and CTO are happy; and we can understand the impact to the infrastructure so the people who run the data centers are happy."

Delivering customer satisfaction with 3D Visible Enterprise

One measure of Unisys' success with 3D Visible Enterprise is simply the satisfaction of its clients. "As a consulting company, clients that are referenceable are very valuable. Using the 3D Blueprinting approach we are building a list of referenceable clients. Right now we are 100 percent successful in terms of acceptance of blueprinting, our ability to help clients execute both the 3D Blueprinting approach and the Rational tools and process," says Ferrara.

On one recent engagement, Unisys helped a leading insurance company achieve remarkable results using 3D Blueprinting and IBM Rational tools along with RUP. Ferrara continues, "Rational, for a long time, has wanted to improve the way software is developed and it certainly has done that. The next problem is 'How do I change business?' And I think that 3D Blueprinting, powered by the Rational process, in many ways has done that. We can point to a very successful blueprinting project for us that was executed with Rational. In this project we actually changed, in a very positive way, a client's business.

It wasn't that we solved a software development problem for that client, we solved a business problem. The client was a large insurance company, and using the 3D Blueprinting approach and the Rational approach within, we essentially reduced the policy issuance time by almost 60 percent, we reduced policy issuance cost by 25 percent. And, we did it in less than 12 months using this approach. The time and costs savings are phenomenal, and the value to this client has been huge. As a result they have given us subsequent work using 3D Blueprinting in other areas of their business to solve similar kinds of problems."

IBM Rational Suite Enterprise tools and the RUP methodology played a key role in the success of the project. Unisys uses IBM Rational RequisitePro® to manage requirements; IBM Rational ClearCase®, IBM Rational ClearQuest® and Unified Change Management (UCM) to manage change; IBM Rational Rose® to visually model component-based architectures; and IBM Rational testing tools to ensure functionality and performance. These tools, along with the best practices of RUP, enable the Unisys team to react quickly as their clients' needs change.

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> *-- Joe McGrath, President of Unisys Enterprise Transformation Services*

Ferrara explains, "With the iterative, incremental approach we were able to manage risk, and effectively deal with change. About one-third of the way through the project, our client wanted to change their plan offerings, and we were able to adjust to that change in a matter of weeks. That was phenomenal in their eyes, because those types of changes historically would take months to implement. Tools played a part – for example, the ability to link requirements in Rational RequisitePro for traceability -- but it was enabled primarily by the iterative process and component-based design. By defining systems as a discrete set of use cases and then modeling the architecture to support flexibility, we were able to address and adjust to the changing requirements. The tooling enabled that, because while you're not changing code, you are changing models. Rational enabled us to make those kinds of changes very quickly for the client, who was very pleased."

While speed is important, Unisys developers do not sacrifice quality to hasten development. Ferrara continues, "The other thing that the Rational approach did for us was to improve quality. Because we had done a great deal of work on the architecture, and specifying component behavior without writing code, we were able to more effectively deliver a higher quality product. There was less fixing required on the backend, because we did a lot of the work up front. To Ivar Jacobson's point, we left-shifted the development curve. We were able to instill the quality by design theme in the project."

A complete package

Unisys is leveraging not only IBM Rational development tools but also IBM WebSphere Studio® Application Developer and IBM WebSphere Application Server as well. Ferrara reports, "We are big users of WebSphere Studio Application Developer and WebSphere. The integration of Rational ClearCase and WebSphere Studio Application Developer is a big benefit to our developers because the developers can access SCM features directly from within their IDE."

Joe McGrath, President of Unisys Enterprise Transformation Services notes that the complete package enables Unisys to deliver unmatched value on every project. "IBM's world-class development tools and recognized WebSphere capabilities, combined with our 3D Visible Enterprise Blueprinting methodology, provide a unique, powerful solution to our clients."

Looking forward

As Unisys continues transforming its own business, 3D Visible Enterprise will lie at the heart of its ability to help clients transform their businesses. Ferrara explains, "Everything we will do in the future will include 3D Blueprinting. It is the core to our strategy. This is the transformation of Unisys.

When our Chief Executive, Larry Weinbach came on board we were still a hardware company trying to move to services. Today, almost 80 percent of our business comes from services. Over the last three years, Unisys has taken marked and obvious steps in the direction of a services consultancy. 3D Visible Enterprise is the consulting framework we use to go to market, and Rational is an enabler of that framework."

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