Rendering Acceleration Software Framework

CEOCFO: *Mr. Kopalle, what is innoBright Technologies?*
Mr. Kopalle: We are a rendering acceleration software company. We take existing ray tracing or path tracing renderers that are used for animation and visual effects and make them run significantly faster (> 10x) and save costs via productivity improvement for our customers.

CEOCFO: *How do you do that?*
Mr. Kopalle: We do that by using noise filtering software that removes the noise generated by monte-carlo methods based rendering software. Most rendering software that is in the market today uses what is called monte carlo based path tracing or ray tracing, which has not changed as a technology in many years. We plug into monte carlo based renderers and apply an efficient filter to produce the quality images/animations that our customers (artists) are looking to for in a fraction of the time. Rendering is a bottleneck step in the animation process. Many people wonder why some of the movies take several years to make with hundreds of millions in budget, but 25% of the cost of a movie project goes into this rate limiting step called rendering, which takes a great deal of people and computing time.

Raghu Kopalle
Founder & CEO

CEOCFO: *Is the industry aware of innoBright? Where are you in the process of becoming known?*
Mr. Kopalle: We have signed up some early adopter beta customers at this point and we have reached out to these beta customers on a one-on-one basis or personal marketing. We have not launched our product officially, but we are looking to launch in the early part of the second half of this year, in July or August. However, we do have a simple to use, production ready product that customers can try.

CEOCFO: *What have learned from the beta testing? Have you made any changes based on the early usage?*
Mr. Kopalle: Beta testing for us has been very useful to understand how customers use our product, considering it is a breakthrough product with a significant promise. When we first articulated our value proposition, it was "hard to believe" for our customers, so we had to deliver our promise with our initial beta product offering. Customer involvement and discussions also helped us define what type of market segments are better to prioritize and go after initially, among all the available segments. In fact, what we originally thought our product would be, we have already changed the definition and have bifurcated the market into custom renderer users and standard renderer users. We therefore decided on two product offerings – a) Altus Standalone and we now have Altus Integrated, to cater to these two different types of customers. We have learnt a lot during this early adopter beta test cycle process – every startup should go through it to create robust products or services. What we thought about how customers would use our product and the resulting benefits weren't exactly the same when they actually used it during beta cycle. We have made two software releases that cater to two of our fifteen beta customers. We are still working on three more product releases to cater to the remaining beta customers. Over the next month to two months we expect to get a great deal of feedback from these early adopters to iron out all of the issues and make it a robust product.

CEOCFO: *When you founded the company were you looking for a particular solution or came across it and then put it into action?*
Mr. Kopalle: When we founded the company it was actually a solution looking for a problem. We did have a critical breakthrough algorithm that solves a major problem but the market/customers and product weren't clearly defined; hence I call it a solution looking for a problem. We joined an accelerator to do customer development and market validation to make sure that we have a clearly defined problem that is looking for a solution. A startup accelerator program pushes an entrepreneur to talk to customers upfront, to clearly define a market need, and to decide on how to productize the right solution, rather than just create a solution and look for customers. We did a great deal of customer validation going through our accelerator program, ABQid, which is similar to many of the lean startup accelerator programs throughout the country that are based on Steve Blank's lean startup model. ABQid is based in Albuquerque, New Mexico and is part of

their global accelerator network. The primary reason to go through an accelerator is to "accelerate" our market/customer validation and clearly define our business model, market segments & product offerings.

CEOCFO: *Has the market been looking for a solution or will they be surprised to find one exists?*
Mr. Kopalle: From our studies, it is clear that the market has been looking for better solution. We are taking a unique approach to the problem, but they have been looking for faster rendering solutions to deliver their projects sooner for a long time. In fact, their biggest progress has been from the hardware perspective. Traditionally, rendering was done on CPU servers that are multi-CPU or AMD CPU servers. The emergence of GPU has accelerated the process and significantly improved rendering performance, but CPUs still provide the programming and performance flexibility via multi-CPU and large memory systems. However, we are trying to stay agnostic to CPU or GPU by creating a platform that provides significant performance (speed & quality) improvement, purely from a software approach. We are avoiding CapEx and reducing OpEx for our customers.

CEOCFO: *When you approach beta customers, are they skeptical about the speed?*
Mr. Kopalle: That is a great question, because at first they were very skeptical. We started by providing an alpha demo that explained how our filtering software works on an open source rendering package called PBRT, which is software that is not a commercial rendering package. PBRT is primarily used as a rendering development tool for algorithmic research by university professors. Our Alpha Demo was on PBRT, which convinced our customers that there was real value to our solution. However, what they really wanted in the beta cycle was integration with the renderer or whatever they were using. Therefore, we had to integrate our filtering software into their workflow seamlessly so that they would not have to learn something completely new, but whatever system they were using they would start running faster.

> "innoBright is transforming the animation/visual effects industry by dramatically improving the speed of rendering, thereby saving significant time and money." - Raghu Kopalle

CEOCFO: *What is the market opportunity?*
Mr. Kopalle: Our market opportunity comes from the spending on rendering and we have used capital spending for our customers has been primarily on servers and adding more servers to their centers. Included in the different market segments that we can go after are entertainment animation, visual effects, advertising, CADCAM, architecture and engineering firms, and cloud rendering firms. Just in North America they are spending in the $2 billion range. Worldwide the animation market comes close to $8 billion every year on rendering. It is a huge pain point not just in the entertainment visual effects and animation, but also the other segments that I mentioned, such as visual effects for commercials, companies doing automotive design and companies doing rendering. It is a multi-billion dollar spending range, so the market opportunity is quite large.

CEOCFO: *Are you funded for your next steps or will you be seeking funding or partnerships?*
Mr. Kopalle: We are seed funded at the moment. We are continually raising seed funding to close the seed round in the next few months. We are growing the company to the next level by getting some paying customers over the next quarter or so, and then going back and trying to raise our next round of funding, probably later this year. However, we needed to get this customer traction before we do that and that is what we are working on currently.

CEOCFO: *Put it all together for our readers. Why should InnoBright Technologies standout?*
Mr. Kopalle: We stand out because we are dramatically improve the speed and quality of a modeling step called rendering in the animation industry, within all of the market segments and that is a pretty big challenge that we are undertaking. However, we are not stopping at just solving the rendering problem of today. We have a roadmap to evolve into a cloud-based rendering acceleration engine soon and eventually a real time rendering engine. Our greater purpose is to help the struggling animation artists of the world to realize their projects with a very cost effective solution. Therefore, we are looking to provide a solution for the struggling smaller studios of the world as well as the higher paying customers of the world. We are unique in that respect and we are going to be the chosen commercialization platform for state-of-the-art university research to be brought to market.

Interview conducted by: Lynn Fosse, Senior Editor, CEOCFO Magazine

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