

CLOUDPAGING STARTUP NUMECENT EMERGES FROM STEALTH

Unveils Cloudpaging As Successor To Application Virtualization And Streaming; Also Announces Spin-out Of Appoxy Focusing On Cloud-Gaming

March 5, 2012 – Irvine, CA –Numecent™, a startup pioneering friction-free digital software delivery through virtualization, today came out of stealth and released the details of its patented cloudpaging technology. One of the key benefits of cloudpaging is that it can reduce the digital delivery time of any native software and other non-linear content by between 20x and 100x and runs without actual installation on a client device.

Numecent's technology can cloudify 100% of Microsoft® Windows® applications, (even with separately cloudified plug-ins and can even cloudify the OS itself). These are then published on a secure, scalable server component and delivered to client devices in a virtualized and encrypted form with full license control. This process does not require access or changes to the software source code and cloudified applications execute on the device at native speed, without any installation – and can even run offline.

With cloudpaging, users don't have to wait for very large downloads to complete and can start using an application in as little as 5% of the time it would have taken for the total download. Since applications delivered this way are never installed, this means users never have to confront installation issues or resource conflicts, which often plague software deployment.

Cloudpaging accomplishes this by pre-virtualizing the asset to be delivered and then by dividing it into small fragments called 'pages'. These pages are then fetched individually and on demand over HTTP/S by a Virtual MMU (Memory Management Unit) on the user's machine.

The application immediately starts executing inside an encrypted sandbox (using military-grade AES 256-bit encryption) and without actually requiring any installation on the client machine. For example, in customer trials the company was able to deliver and deploy a

66GB Hyper-VTM Virtual Machine by cloudpaging only 900Mb – a 60x reduction in delivery and deployment time.

Subsequent accesses to the previously fetched pages are locally stored in an encrypted cache so that the software executes as fast as a natively-installed application. This allows cloudpaged applications and content to be off-lined and even used without a network connection – all still under license control.

“In modern computer architectures an MMU is used to virtualize RAM to reduce the memory footprint of an application. By deploying a Virtual MMU in the communication path, we are in essence reducing the network footprint of the deliverable,” said Dr. Art Hitomi, co-founder and CTO of Numecent.

Another patented innovation of cloudpaging is the learning behavior whereby the system creates a statistical tree for a given asset from multiple users and starts pushing pages to the client in advance of an actual request – thereby further reducing network footprint and latency. This ‘push-pull’ paging mechanism essentially decodes the genome of cloudpaged software and can become a valuable instrumentation tool for ISVs.

Numecent believes cloudpaging has far-reaching use cases for all connected devices. During its technology demonstrations, the company showed very large applications being delivered from a Smartphone (used as a pocket server) to a local PC and also from a PC to a tablet - all at full frame rates.

“The industry is littered with customers who have tried legacy application virtualization, block-streaming or progressive download solutions and who became disenchanted,” said Osman Kent, CEO of Numecent. “Some of these approaches failed to live up to their original promise by delivering only 50% of the applications and managed to confuse the terminology of streaming along the way. With cloudpaging, we not only address the digital transport issue which has long been ignored, but also deliver a complete end-to-end solution for virtualized application deployment for consumers and enterprises alike. We want to be to software what Dropbox® is to data – but with secure yet friction-free license control so the rights-holders can protect their assets.”

Numecent is targeting this technology to ISVs, Aggregators, Service Providers, SMBs and Enterprises who need a rapid digital software delivery, deployment and provisioning

solution on any physical or virtual desktop. The company previously announced a partnership with Red Hat® where its cloudpaging technology will be used to deliver virtualized applications to RHEV3 desktops.

Approxy Spin-out For Cloud-Gaming

In addition to its launch, the company simultaneously announced the spin-out of Approxy™, a new company focused on leveraging Numecent's cloudpaging technology into the rapidly-growing field of cloud-gaming.

Approxy was incubated as a joint venture between Numecent and Dr. Yavuz Ahiska (co-founder of 3Dlabs™) and is already in Beta with its instant HD game delivery service.

Approxy will be offering its technology as a white-label service to game developers, publishers and aggregators.

"We plan to do further incubations and spin-outs in well-defined vertical use cases," Kent continued. "Cloudpaging is a very broad and fundamental technology foundation with far-reaching applications. As the Approxy example has shown, cloudpaging can jump-start a young company with 90% of the R&D complete and enable them to apply a very sharp marketing focus."

About Numecent

Numecent is a fast-growing software and cloud-services company pioneering application delivery. Numecent's Cloudpaging technology brings rapid, secure and friction free provisioning of native applications from the cloud through virtualization and containerization.

Delivering solutions to Enterprise customers via the channel while also servicing Cloud providers and ISV's, Numecent has delivered cloudified applications worldwide reducing the pain points for application delivery while helping lower application deployment costs. Numecent was founded in 2008, and is headquartered in Irvine, California. More information can be found at www.numecent.com

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