



The Cloud-Based Integrated Data Viewer (IDV)

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Maintaining software compatibility across new computing environments and the associated underlying hardware is a common problem for software engineers and scientific programmers. While there are a suite of tools and methodologies used in traditional software engineering environments to mitigate this issue, they are typically ignored by developers lacking a background in software engineering. The result is a large body of software which is simultaneously critical and difficult to maintain. Visualization software is particularly vulnerable to this problem, given the inherent dependency on particular graphics hardware and software API's.

The advent of cloud computing has provided a solution to this problem, which was not previously practical on a large scale; Application Streaming. This technology allows a program to run entirely on a remote virtual machine while still allowing for interactivity and dynamic visualizations, with little-to-no re-engineering required. Through application streaming we are able to bring the same visualization to a desktop, a netbook, a smartphone, and the next generation of hardware, whatever it may be.

Unidata has been able to harness Application Streaming to provide a tablet-compatible version of our visualization software, the Integrated Data Viewer (IDV). This work will examine the challenges associated with adapting the IDV to an application streaming platform, and include a brief discussion of the underlying technologies involved. We will also discuss the differences between local software and software-as-a-service.