

## Open Inventor RemoteViz

3D graphics development toolkit for interactive web-based applications

Open Inventor® RemoteViz\* enables software developers to easily integrate advanced 3D visualization into their web-based applications.

**Open Inventor RemoteViz** brings rich remote 3D interaction and visualization capabilities to web-based applications, while maintaining a high level of interactivity and visual performance on any display device including tablet, phone, laptop, or workstation.

Open Inventor RemoteViz provides:

- State-of-the-art 3D visualization for very large geometry and volumetric data
- Advanced 3D viewing and interaction components
- Multi-touch device interface
- C++, .NET and Java API for Windows® and Linux.

### KEY BENEFITS

**Web-based deployment of cutting-edge 3D visualization**

**Real-time interaction with very large 3D data**

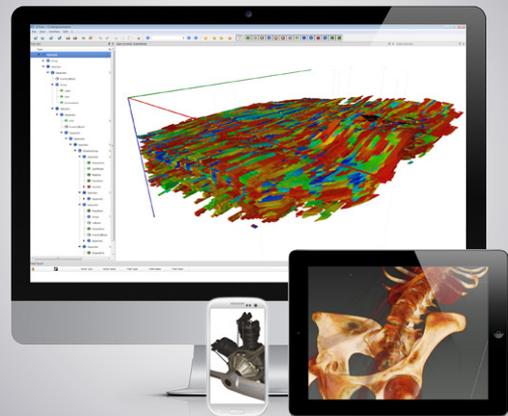
**Data safe solution**

**Cross-platform (for any computer or mobile devices)**

**Allows multi-user collaboration**

**Based on standard and open web technologies**

**Reuse your existing Open Inventor code**



Desktop image courtesy of Amarile

\* RemoteViz is an extension of the Open Inventor 3D software development toolkit.

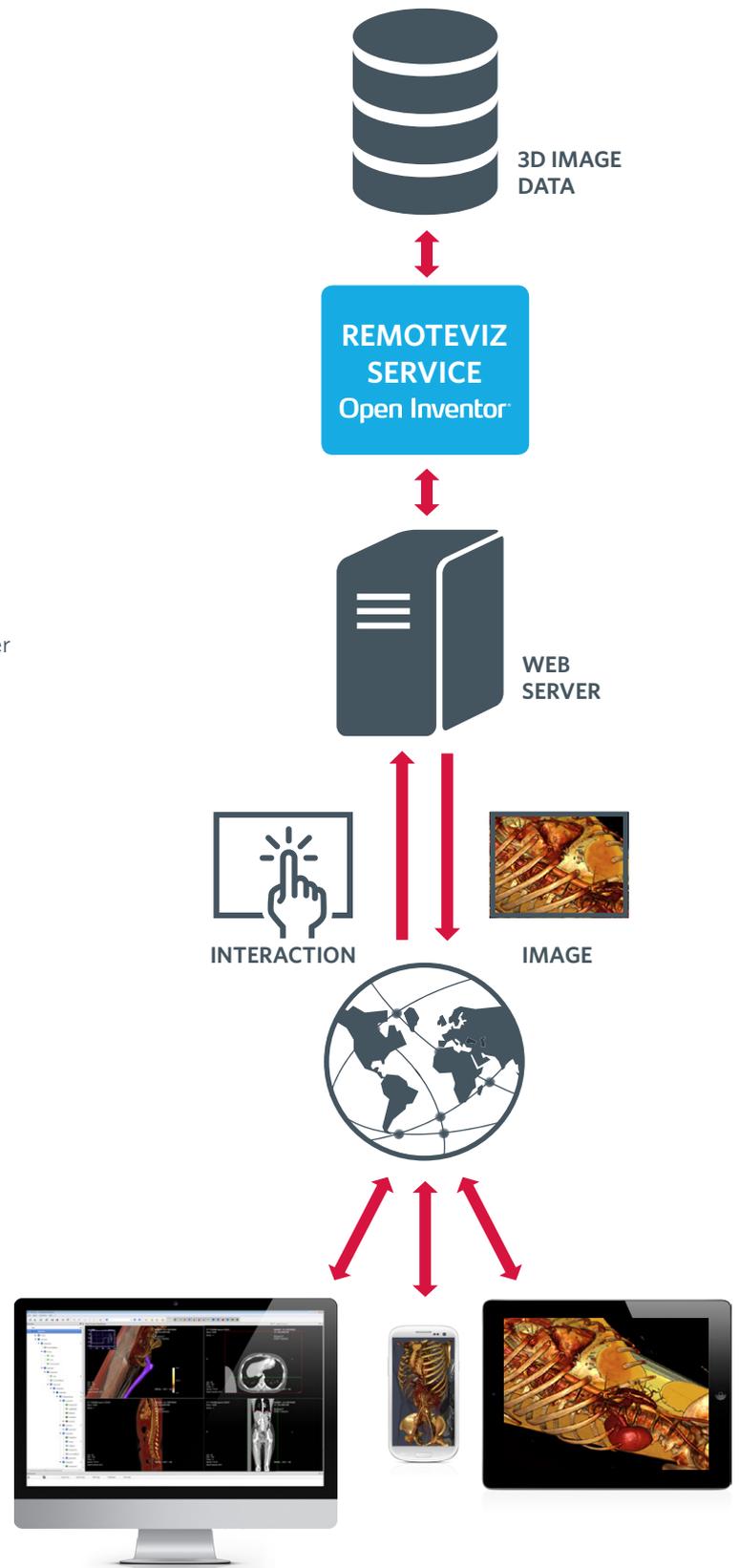
## Add remote 3D interaction and visualization to your web-based applications.

Add the Open Inventor RemoteViz service to your web-based application on the server side and provide rich remote 3D interaction and visualization capabilities accessible from any display device. Remotely display very large, complex and sensitive data, while maintaining high-performance computing and visualization. Easily integrate multi-touch input into your 3D graphics applications.

### Open Inventor RemoteViz: 3D as a Service.

Current mobile devices allow for the development of interactive 3D applications that download data and render locally. However, most of these devices have limited bandwidth, computing power and storage capacity, which make visualization and interaction with 3D data very limited. 3D data can be extremely complex in terms of geometry (large number of triangles) and size (large volumetric data). Using local rendering means data transfer time is limited by the network bandwidth, data set size is limited by the local memory and rendering performance and image quality are both limited by the local graphics hardware. Transferring data to a remote device may also not be possible for data security reasons.

To work around such constraints, Open Inventor RemoteViz has been implemented using a Service model: the data access, computing, and 3D rendering are performed on the server side by the Open Inventor RemoteViz service, while the Client side application only needs to provide the user interface and display each frame (image) sent from the server. No 3D hardware is required on the Client side.





**Easy 3-step integration into your web application:**

**1 - Web page integration:** add a 3D viewer by inserting a new HTML element into an HTML page and connect it to Open Inventor RemoteViz service by using a provided RemoteViz object.

**2 - Web server integration:** Add a redirection rule to enable image and interaction transmission through the web server.

**3 - Application integration:** using Open Inventor RemoteViz service, load your own data or standard data formats like DICOM, SEG Y, CATIA, etc. Using Open Inventor’s convenient high-level visualization objects, create a 3D scene that presents your data. Handling Open Inventor input events from the 3D viewer, modify the 3D scene in response to user actions.

**Already using Open Inventor in your app?**

Existing Open Inventor code can be largely reused to convert existing applications into mobile/web-enabled apps.

**System requirements.**

**Client:**

- Any display device (phone, tablet, workstation etc.)
- Up-to-date HTML5-compatible browser

**Server:**

- Any web server (Apache, IIS, NGINX®, etc.)
- GPU-equipped server to host RemoteViz service

**Minimum bandwidth consumption.**

Bandwidth usage can be optimized by adapting the image quality during interaction phases. An artifact-free and very high-quality image is displayed when not interacting with viewing: the 3D model can be explored with the same level of accuracy as if it were visualized on a powerful workstation.

**Flexible collaboration.**

A Client can connect to the Service, and initiate a new session or connect to an existing session. In the latter case, rendering and interaction are shared between all Clients connected to this particular session.

**Secure confidential data.**

Data remains on the server, and only rendered 2D images are sent over the Internet. RemoteViz Clients do not require direct access to the data. Communication between Open Inventor RemoteViz Client and Service can be secured using https web mechanism.

**Fast interaction and multi-touch.**

Open Inventor RemoteViz allows easy integration of multi- touch manipulations into web apps, providing an easier, more comfortable-to-use, and more intuitive way of interacting with 3D data.

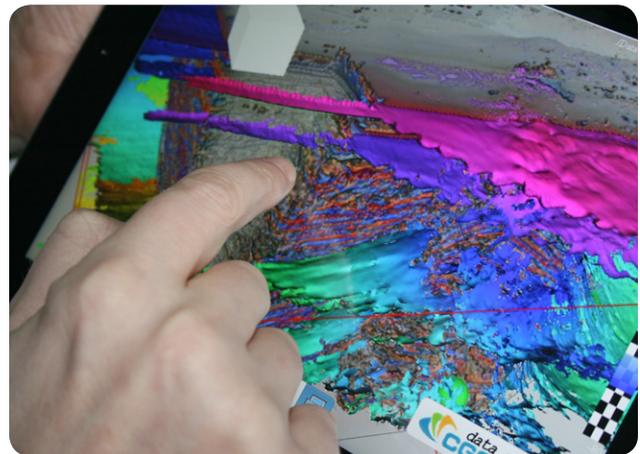


Image courtesy of CGG

# Power your software development with Open Inventor®



**Deliver state-of-the-art 3D.** Open Inventor provides the power and functionality of OpenGL at an object-oriented level. The easy-to-use API, extensible architecture, and large set of advanced components provide software developers with a high-level platform for rapid prototyping and development of advanced 3D graphics applications.

Open Inventor extensions add specialized capabilities for the interactive visualization of very large (out-of-core) volume data, efficient support for several-hundred-million cell 3D models, distributed rendering, and 3D graphics output.

**Build robust foundations.** Open Inventor is proven to be the safe choice for the long term and the most flexible tool to transfer technology evolutions and unique innovations to your solutions.

Extensions of the API and new class modules are carefully designed to introduce powerful new capabilities for your application in the most simple, transparent and consistent way, protecting your investment and anticipating needs that you may not even foresee. Last, the interoperability and extensibility ensure your complete freedom to best adapt the toolkit to your specific needs.

**Rely on strong support and innovation.** Dedicated to serving our customers, FEI Visualization Sciences Group brings more than 25 years' experience in 3D visualization. Our support team pays particular attention to constraints of professional developers, working closely with R&D for best phasing with your development schedule.

Our Professional Services team is available to increase your efficiency through training, consultancy and custom development covering the whole life cycle of your project: from software and hardware requirements, prototyping, migration assistance, to system deployment and even cooperative R&D.

Open Inventor is available for Windows®, OS X®, Linux  
Languages: C++, .NET, Java™.

World Headquarters  
Phone +1 503 726 7500

Visualization Sciences Group  
Phone +33 (0) 556 133 777

Learn more at [OPEN-INVENTOR.COM](http://OPEN-INVENTOR.COM)  
[vsginfo@fei.com](mailto:vsginfo@fei.com)