



**nVISION 08**  
THE WORLD OF VISUAL COMPUTING

RealityServer® —  
The 3D Web Services Platform

Ludwig von Reiche, COO, mental images GmbH

# About mental images

- Founded 1986
- World's largest 3D component software team
- Fundamental R&D, patented technologies
- Academy Award® winning product
- NVIDIA subsidiary since 2007



# mental images Markets

- Digital Content Creation (DCC)

- Motion Picture Studios
- Interactive Entertainment Developers and Providers



- Computer Aided Design (CAD)

- Automotive
- Aerospace
- Industrial Engineering
- Architecture and Spatial Management



- Scientific Computing



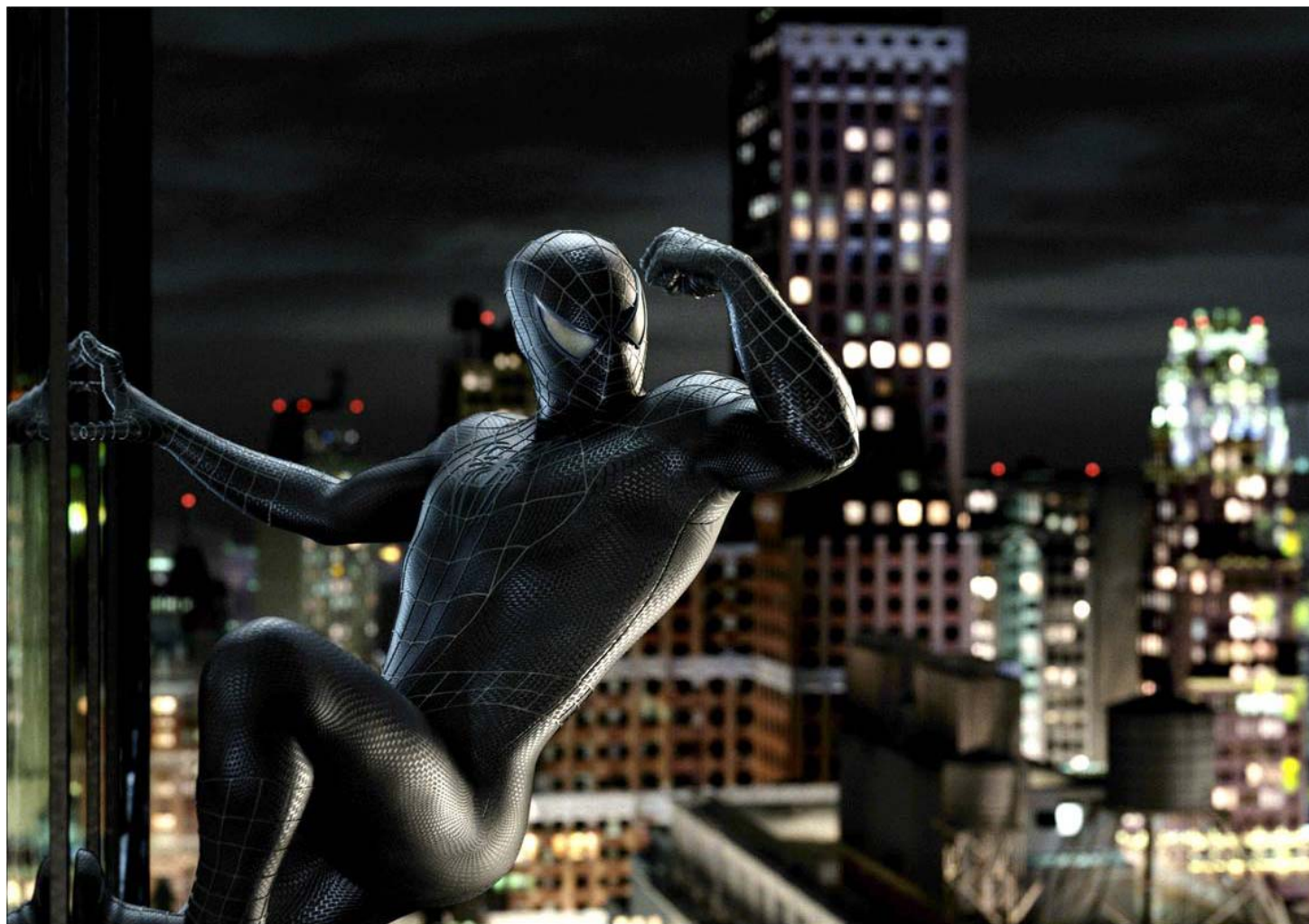
# mental ray® OEM Customers

Integrated into over 10M seats of leading CAD and DCC tools:

- Autodesk
  - AutoCAD®
  - Autodesk® Inventor®
  - Autodesk® Revit®
  - Autodesk® 3ds Max®
  - Autodesk® Maya®
- Dassault Systèmes
  - CATIA® V4 and V5
  - SolidWorks®
- AVID
  - Softimage® | XSI®
- Others



# mental ray<sup>®</sup> at work



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# mental ray<sup>®</sup> at work

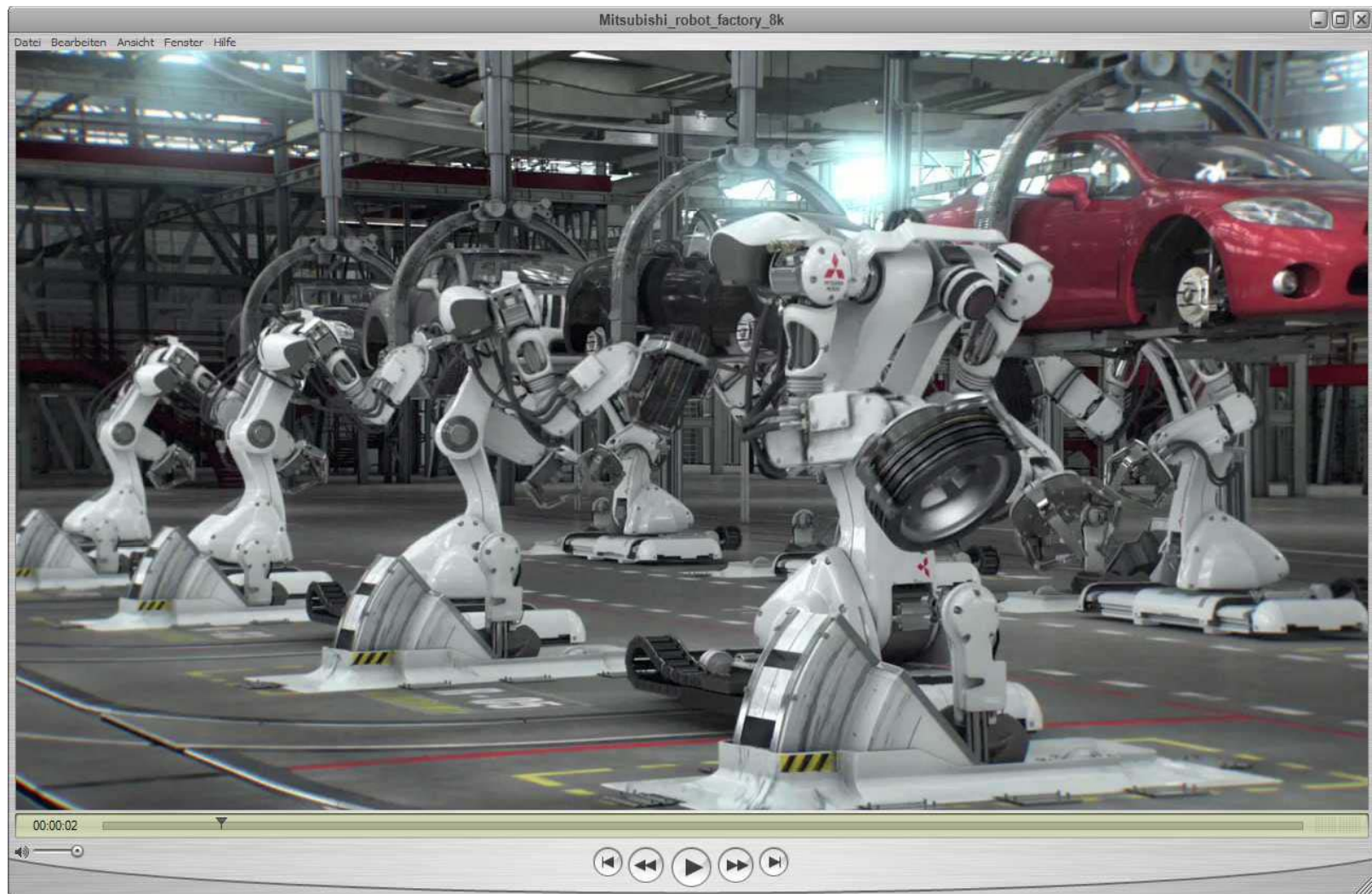


# mental ray<sup>®</sup> at work



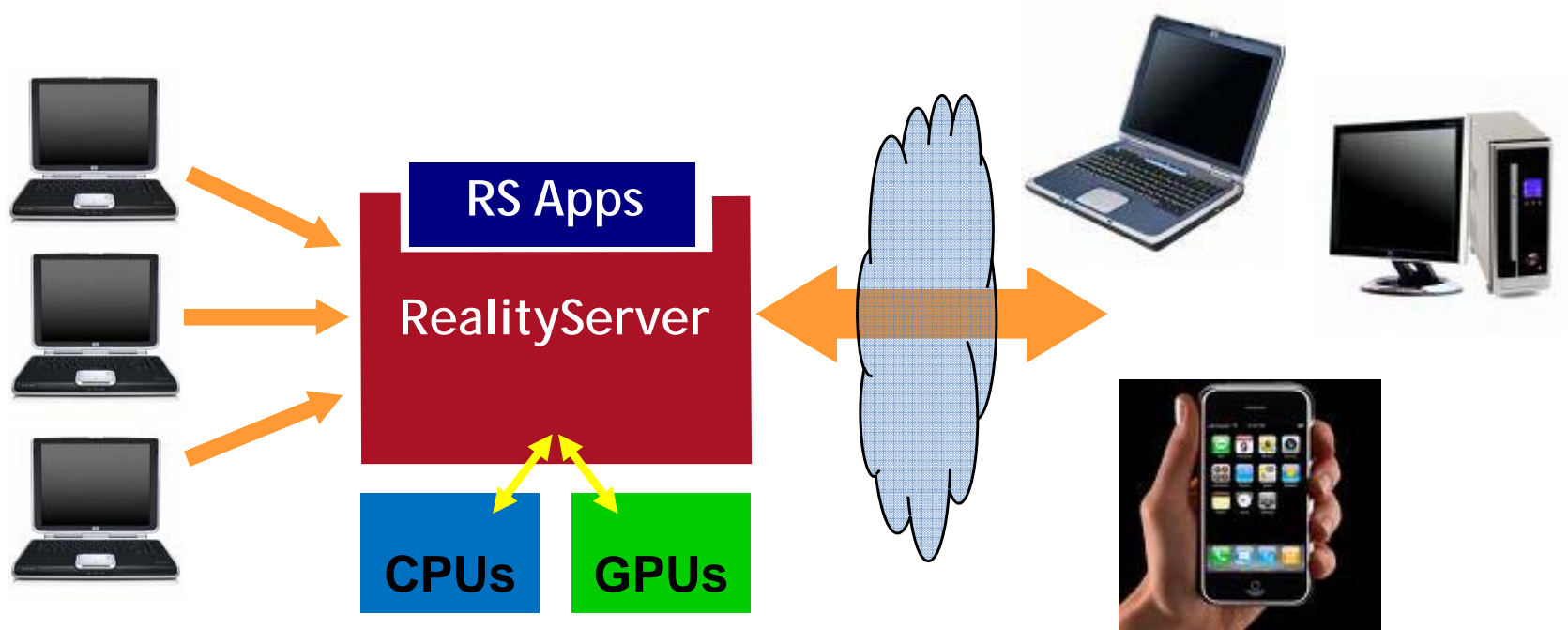
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# mental ray<sup>®</sup> live



# RealityServer® Overview

## A scalable 3D Web Services Platform



CAD  
and  
DCC  
systems

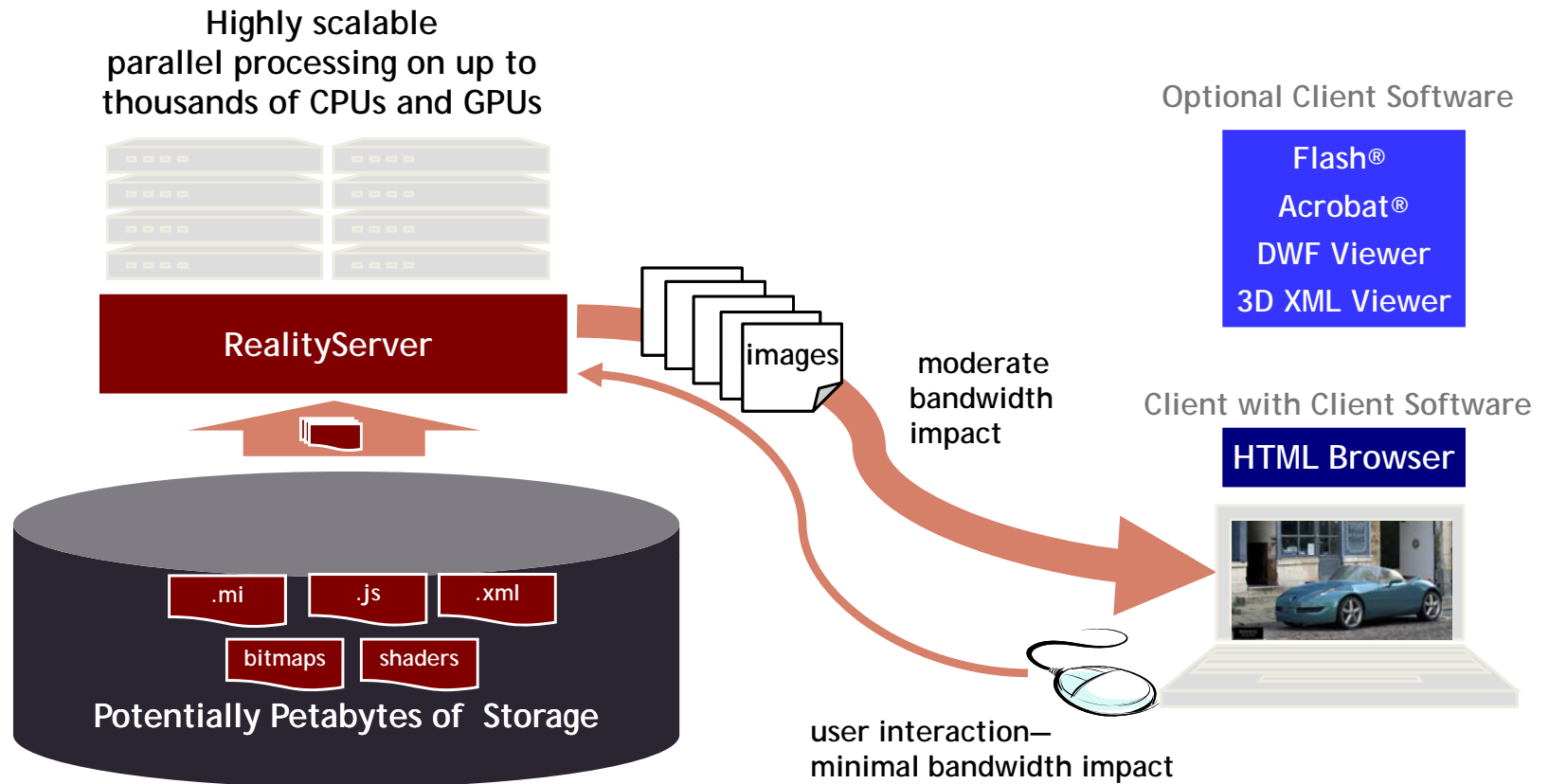
System  
Integration

Deployment  
& Hosting

Enterprise Integration

Any mobile  
or fixed client  
with Web or  
network access

# RealityServer Architecture 1/4



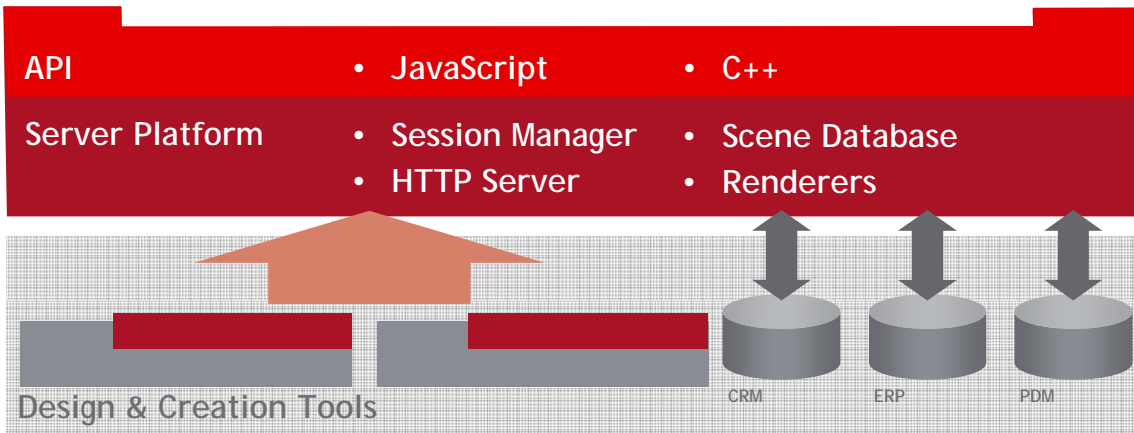
# RealityServer Architecture 2/4



Client-side Presentation Layer

HTTP, Internet, VPN, Intranets, WLAN

Server-side Application Layer

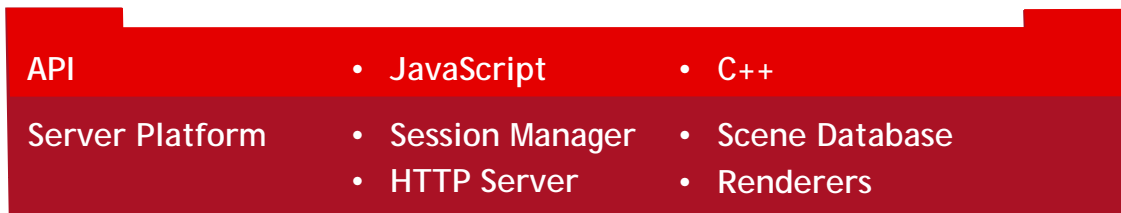


Custom Application Design, Development and System Integration

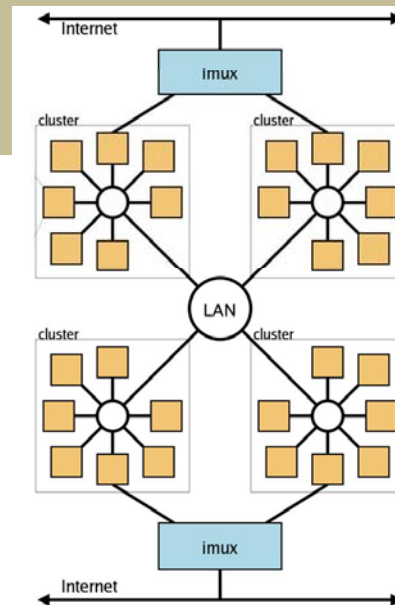
RealityServer Platform

Resource Infrastructure  
(Hardware and Enterprise Software)

# RealityServer Architecture 3/4



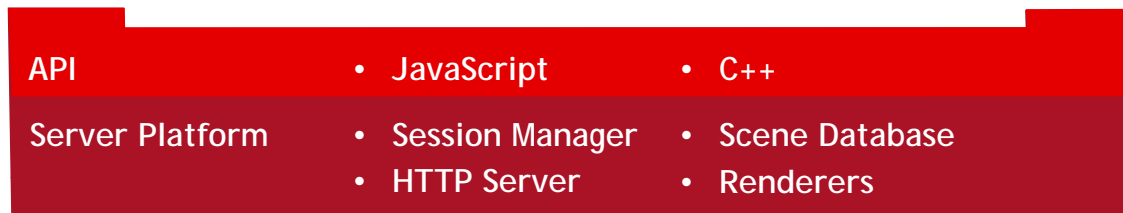
- Self-organizing clusters of hosts
- Multiple symmetric hosts
- Multiple network connections
- IP Multicast



RealityServer Platform

Resource Infrastructure  
(Hardware and Enterprise Software)

# RealityServer Architecture 4/4



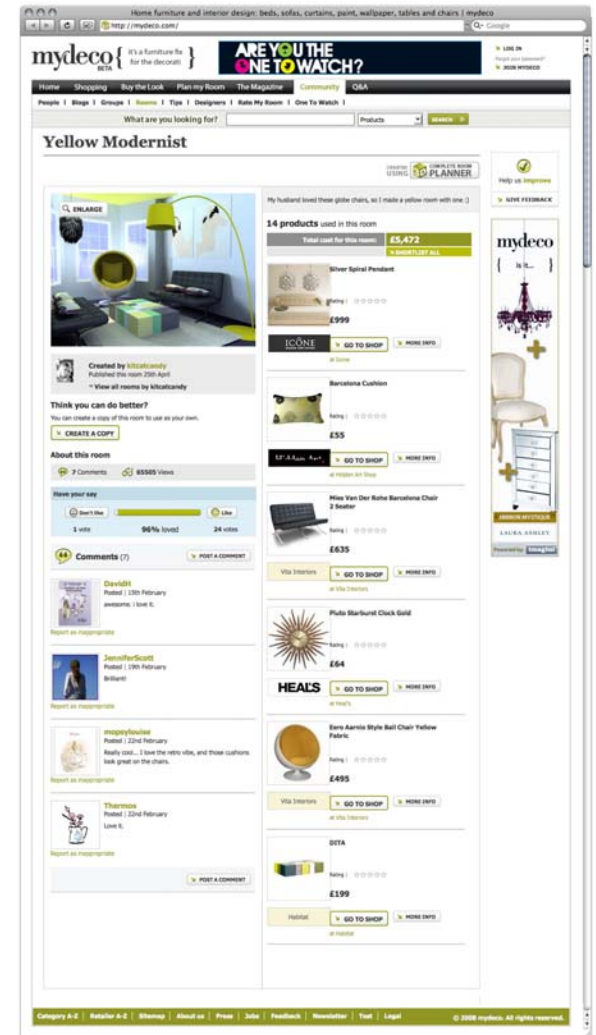
- Distributed data ownership
- Programmed redundancy
- Fault tolerance
- Lost hosts automatically recovered

RealityServer Platform

Resource Infrastructure  
(Hardware and Enterprise Software)

# RealityServer @ mydeco.com

- B2C configuration platform for highly customizable products (interior decoration)
- 30,000+ 3D models from several hundred vendors
- Using simple 2D modeling and 3D model representation
- Supports user-generated content
- Integrates with other application services (e.g. Facebook)
- [Live demo ...](#)



# Data Preparation with RealityDesigner™

## API

- JavaScript
- C++

## Server Platform

- Session Manager
- Scene Database
- HTTP Server
- Renderers

## RealityServer Platform

## RealityDesigner ...

- ... handles scene graph
- ... supports configurations
- ... converts mental ray shaders into MetaSL shaders
- ... handles textures and environments
- ... supports multiple cameras

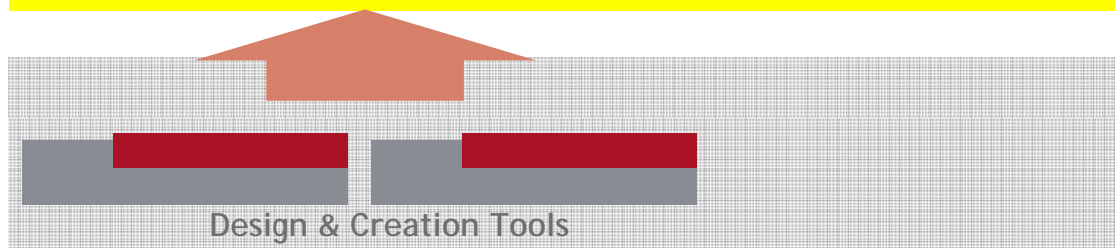
## RealityDesigner is available for

- Generic Integration and
- Autodesk 3ds Max
- Autodesk Maya
- Softimage | XSI
- SolidWorks

## Data Preparation

## Resource Infrastructure

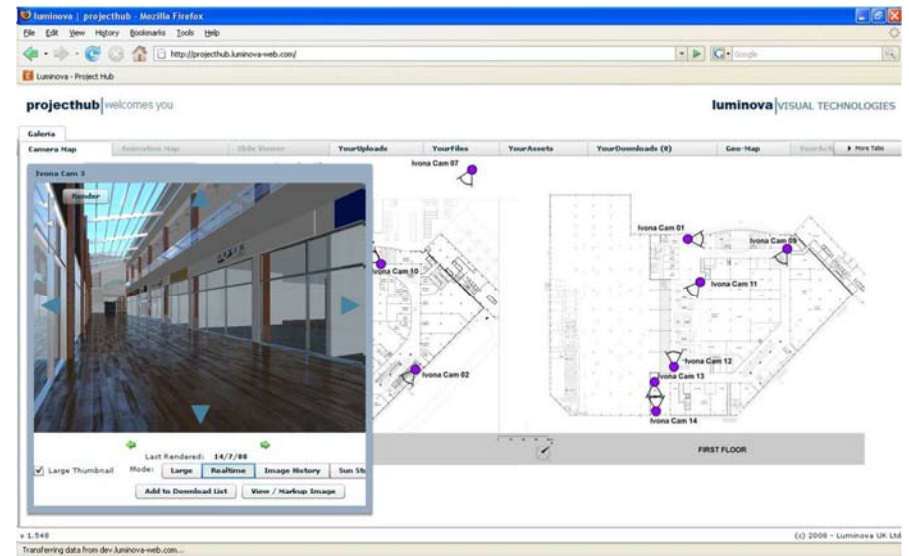
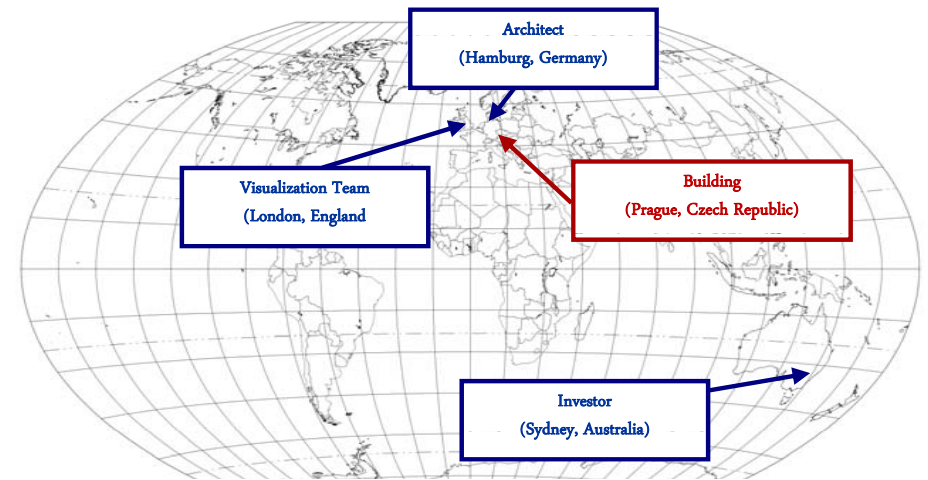
(Hardware and Enterprise Software)



# RealityServer @ ProjectHub

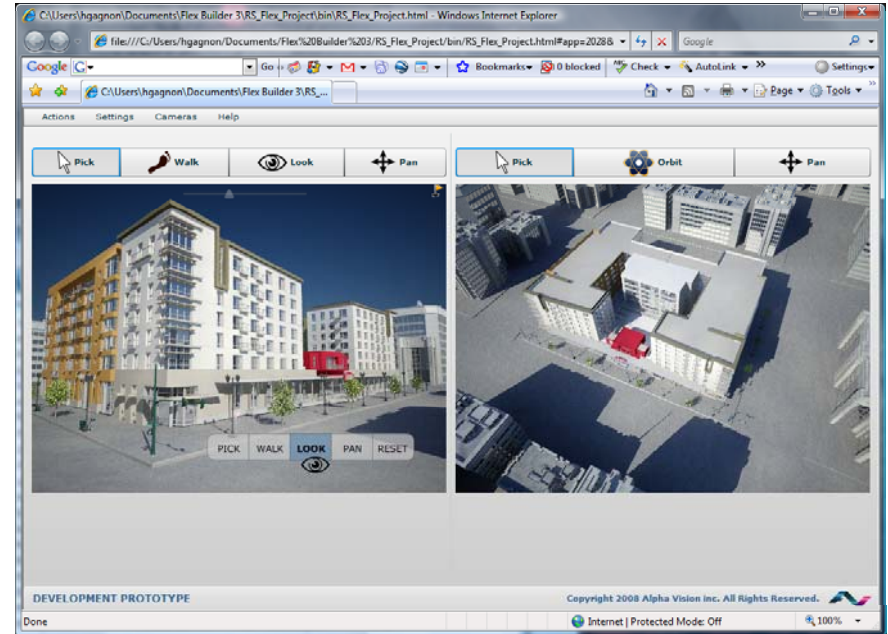
- Professional design collaboration across multiple sites and professions
- Easily deploy original 2D and 3D content
- Visual collaboration for improved and timely decision-making

- [Live demo...](#)



# RealityServer @ KTGy

- Architecture and construction marketing solution with high quality visualization
- B2B visualization platform for interactive walkthrough of 3D buildings and cityscapes

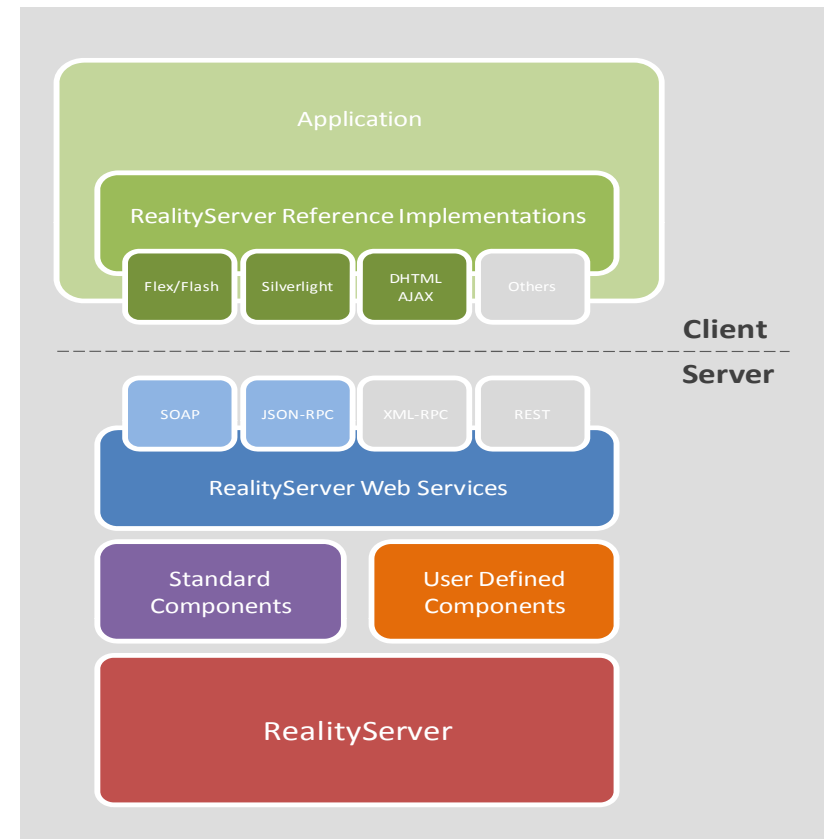


- [Video ...](#)

# RealityServer 2.2 Web Services

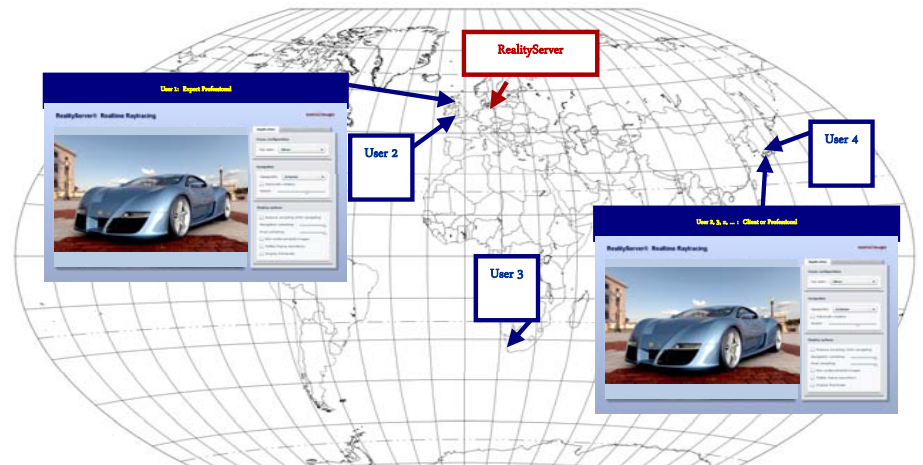
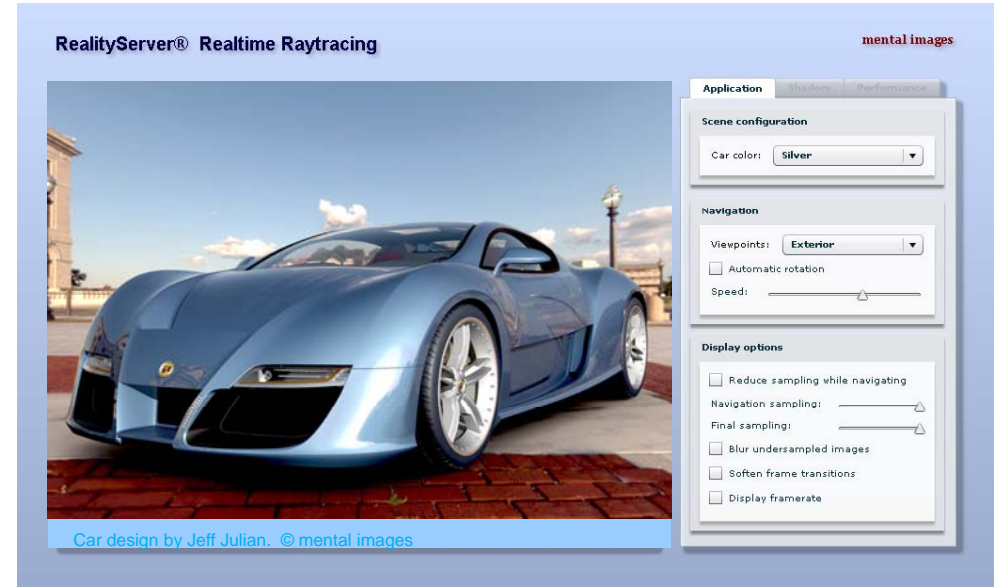
Reference implementations for common web application programming environments

- Simplify Web integration
- Supported environments:
  - Flex/Flash
  - Microsoft Silverlight
  - DHTML/Ajax
- Available from September 2008



# RealityServer @ Design Review

- Highest quality, collaborative CAD-based visualization
- Realtime raytracing with image-based lighting
- Multi-site collaboration with various modes of control
- IP protection
- [Live demo ...](#)



# RealityServer in Summary

- Leverage your 3D assets in new web-based application services
- Protect your 3D assets through *server-based* Web application services
- Use available tools for straightforward application integration

## Get started:

- *See us ...* at NVISION booth # 326
- *Download ...* free RealityServer Developer Edition from [www.mentalimages.com/realityserver](http://www.mentalimages.com/realityserver)
- *Contact us ...* in North America: Randy Ochs ([rochs@mental.com](mailto:rochs@mental.com))  
in Europe & A/P: Ludwig von Reiche ([ludwig@mental.com](mailto:ludwig@mental.com))