

BluFocus presents:  
3D-FOCUS: Part I - Blu-ray  
An Introduction to 3D  
by Industry Experts

# *FOCUS*

An ONLINE WEBINAR  
March 4th, 2010  
11:00am PST  
[www.blufocus.com](http://www.blufocus.com)



# Welcome



- Introduction of **3D-Focus Webinar: Part 1 – Blu-ray**
- Submit questions via chat or email [3D-FocusWebinar@blufocus.com](mailto:3D-FocusWebinar@blufocus.com)  
They will be collected for the Q&A section at the end of all presentations.
- Please note that not all questions might be asked depending on number received.

## **ENJOY!! Let's begin!**

Start time: 11:00 pst



A  
G  
E  
N  
D  
A

### 3D Overview

- THX – Rick Dean



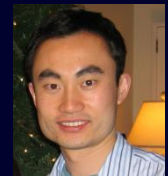
### Video Encoding

- Sensio – Etienne Fortin
- TDVision - Manuel R. Gutierrez Novelo



### 3D Authoring

- Sonic – Chris Neely
- Netblender – Denny Breitenfeld
- Sony – John Ying & Rob Aubey



### Content Creation

- Trailer Park – Curt Doty



### Software/Hardware

- NVIDIA – Alex Soohoo



### Accessories

- RealD – Matt Cowan
- XpanD – Ami Dror



### 3D Testing

- BluFocus/3D-Focus – Juan Reyes



# Video Encoding



**Mr. Manuel R. Gutierrez Novelo**  
President, CEO and CTO



Manuel Gutierrez Novelo has a distinguished career of creating innovative Avant-Garde technology and software ahead of time since the age of 13, for different applications like statistical analysis, 3D maximization, biomedical software, ERP, satellite visualization image processing and 3D stereoscopic processing.

In 2003, Manuel founded TDVision Systems, Inc. in the United States, a company committed to the research and development of technologies related to stereoscopic 3D processing, covering from acquisition, generation, encoding, deployment, decoding and visualization to achieve an immersive true 3D HD experience at home. The technology enables and drives any existing and future 3D display at the native resolution, the highest quality while maintaining compatibility with the 2D legacy systems for decoding and display. TDVision is active part and contributor member of practically all the standardization organizations like SMPTE, 3D@Home, ATSC, SCTE and many others. TDVision's achievements include the integration and listing of patents filed since 2003 and 2004 at ISO, ITU, JST, MPEG at the AVC MVC initiative, the first demonstration of a fully compatible 3D Stereoscopic full HD per eye Blu-ray disc, all of them key factors for massive adoption and deployment of stereoscopic 3D to the home.

# 2D+Delta Stereoscopic Video Coding

Mr. Ethan D. Schur

CMO TDVision Systems

3D@Home ST3 Worldwide Promotional Chair

**TDVISION SYSTEMS INC**

## About TDVision:

- Founded in 2003: Mission to bring massive adoption of high quality and compatible 3D to the Home massively
- First company ever to show a Full HD and backward compatible Blu-ray disc
- Intellectual Property listed as part of the “MultiView Video Coding” amendment selected by the BDA to be used in the "Blu-ray 3D" Specification
- Expert in Stereoscopic Full HD Authoring, Graphics and Subtitles, and Compression.

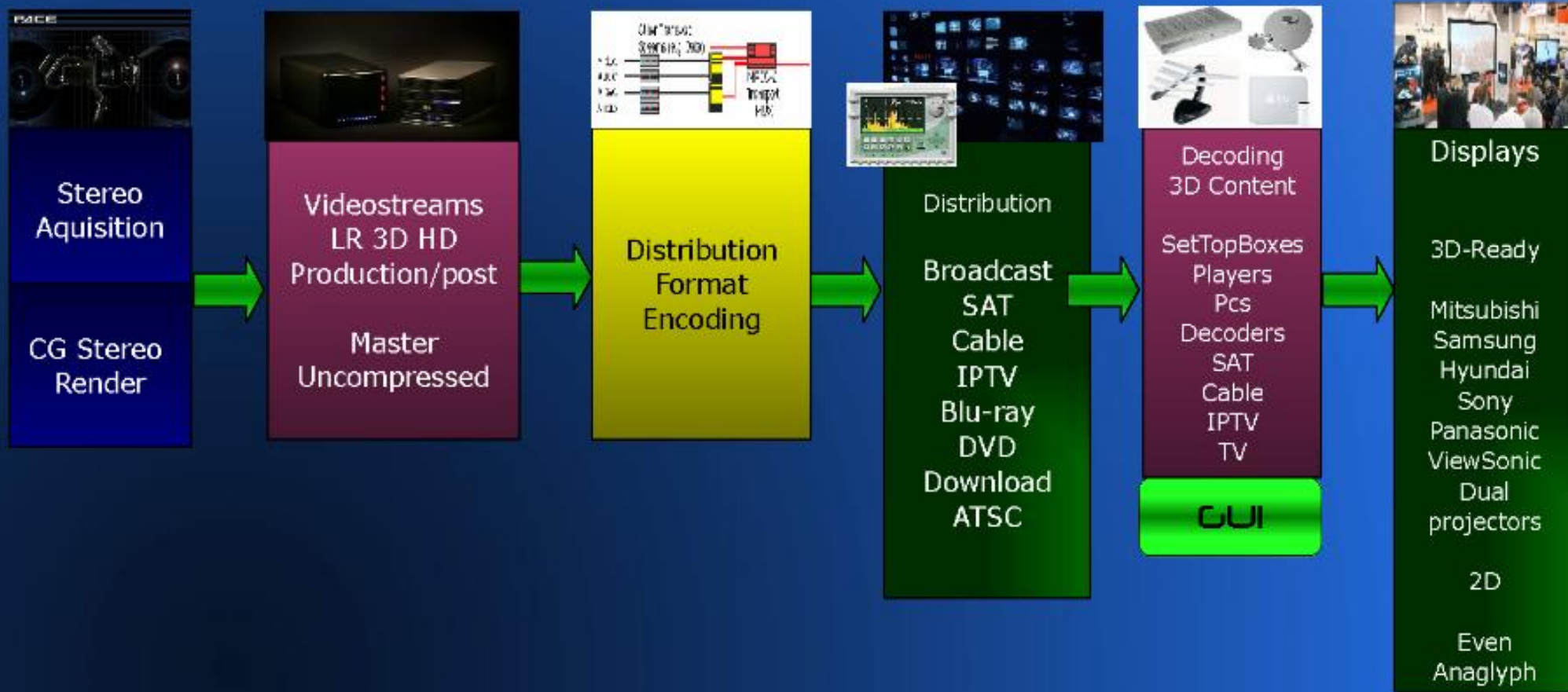




# TDVision Systems Inc

The future of Digital 3D HD

## 3D Work flow



# TDVision MVC Coding Basics

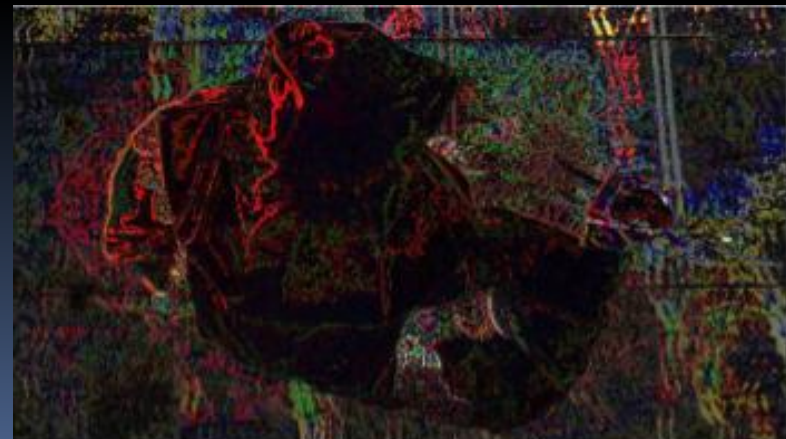
Left



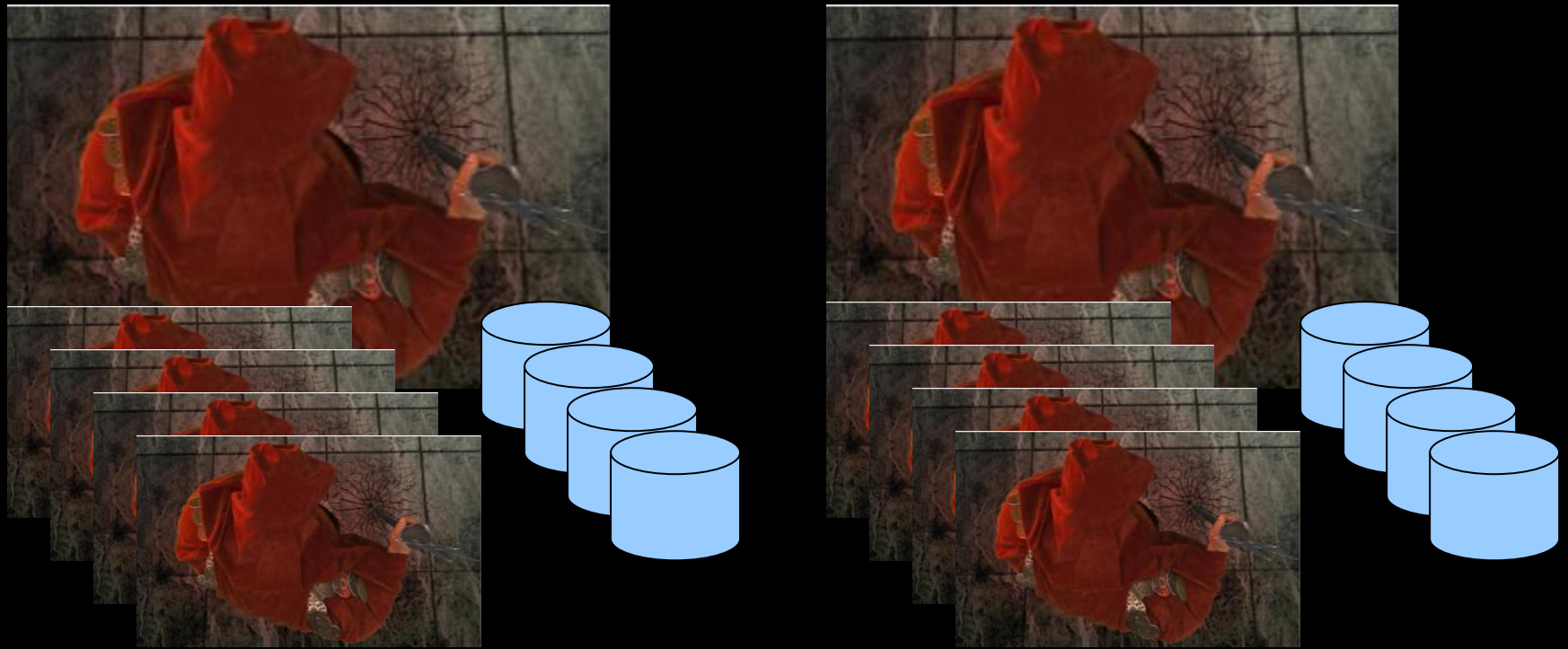
Right



Delta



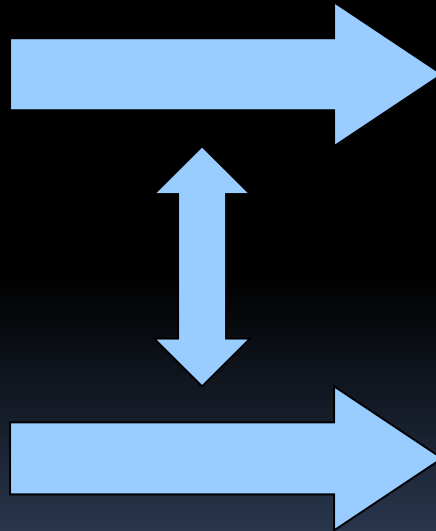
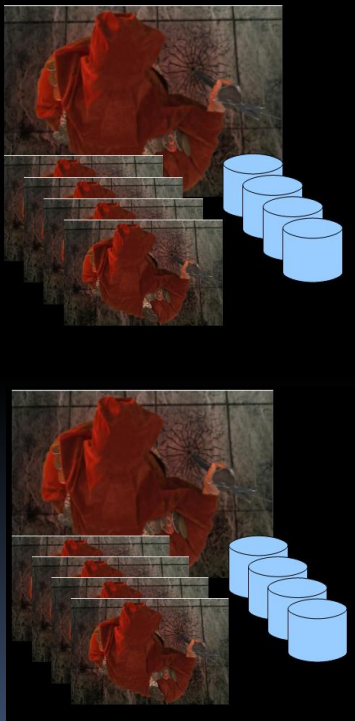
# Encoding and Authoring with the TDVCodec Professional Encoder Suite: **Master + Metadata**



Master images can be SMPTE Home Master image format, Uncompressed DPX, TIFF.

Metadata Includes: Convergence, Camera Info, interaxial, floating window, branching, depth range and more. See SMPTE docs for more info.

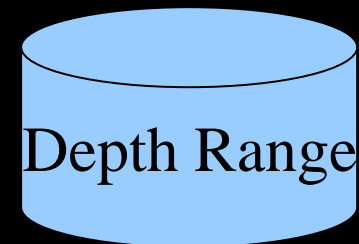
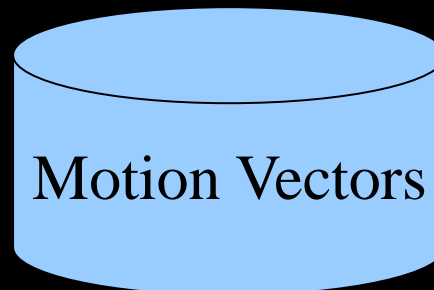
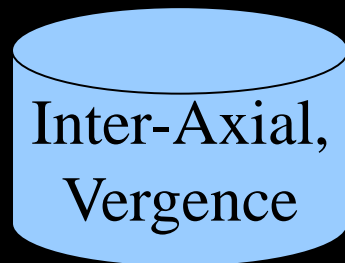
# Encoding and Authoring with the TDVCodec Professional Encoder Suite: **Encoding**



Left and Right files are 2D+Delta / MVC Coded  
New metadata is generated as a by-product of encoding

# Encoding and Authoring with the TDVCodec Professional Encoder Suite: Graphics, Menus And Sub-Titles

Metadata from Master and encoding stages is used to calculate best placement for elements.

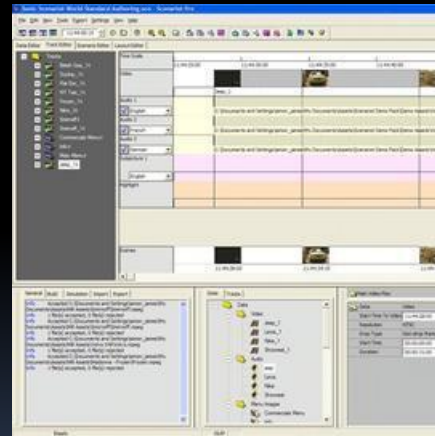


Graphics: Pure Stereo Graphics (stereo pair) or OpenGL surface render

Menus: Pure Stereo Graphics (stereo pair) or OpenGL surface render

Subtitles (text: location, offset) / (Graphics: OpenGL mesh)

# The Files are now ready to be Muxed and Authored into a Blu-ray Disc Structure



# Decoding Options



# Need More Information?

**TDVision is Happy to Help with the Following:**

- Full HD 3D Encoding For Blu-ray and other pipelines including Cable, IPTV, Broadcast.

- Stereoscopic Authoring of Graphics and Subtitles

- Licensing of MVC technology for encode and decode

Ethan Schur [eschur@tdvision.com](mailto:eschur@tdvision.com)