What's new in Jitter 1.5

Jitter 1.5 represents the first major upgrade since Jitter 1.0. With more than 35 new objects and fundamental infrastructural changes, Jitter 1.5 introduces a slew of features designed to improve performance, networking, programmability, interoperability, and more. Several new tutorials are provided to facilitate learning the large number of additions.

Performance:

- **Cross platform architecture for GPU hardware acceleration**. This fundamental shift in processing offers a dramatic increase in performance for image processing and general purpose computation, as well as material shaders and other GPU effects.
- **Fast YUV 4:2:2 (UYVY) video transfer to the GPU**. Using the half bandwidth, half chroma data representation common in many of today's video formats, Jitter is able to more rapidly decompress and transfer YUV 4:2:2 data to the graphics card in real time. Together with GPU processing, this permits processing of up to HD resolution video footage in real time.
- **Multiprocessor support**. Many CPU based Jitter objects now exploit multi-processor and multi-core systems to take advantage of all the resources available to today's systems.

Networking:

- **Compressed RTSP streams**. Jitter 1.5 uses either the cross platform LiveMedia architecture, or the QT Broadcasting architecture on Macintosh to stream a variety of video codecs in real time.
- **Uncompressed Jitter matrix streams**. For lossless transmission of Jitter matrices of arbitrary type, plane count, and dimensionality, Jitter 1.5 allows direct network communication in a Jitter native matrix format.

Programmability:

- **Java and JavaScript support**. Instantiate and control Jitter objects directly from text based programming languages that offer greater control of complex tasks.
- **Expressions**. Succinctly define mathematical expressions for calculating matrix data.

Interoperability:

- **Direct X video input and output support**. Native Windows video input and output offers higher performance and more reliable I/O, without the need for third party Quicktime bridges.
- **FreeFrame plugin support**. An open standard for video processing, FreeFrame plugins provide a rich set of options for building custom networks of effects.
- **Improved Flash integration**. More control over and communication with Flash media through Quicktime. (Currently only supports Flash 5 subset of functionality).
- **Improved MSP audio integration**. Treat MSP buffer objects as Jitter matrix data, and convert audio vectors to and from Jitter matrices for frame based processing and audio visualization.

More:

- **Procedural texturing and geometry**. Synthesize textures and geometry with a diverse set of noise and pattern basis functions.
- **Volume visualization**. View volume data sets either as 3d textures or geometry obtained through surface reconstruction.
- **High Dynamic Range image support**. Read and write floating point images using the industry standard OpenEXR file format.