

X3D Efficient Binary Encoding

Progress Summary

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Goals

- Upgrade existing X3D Compressed Binary Encoding with improved capabilities
- Design requirements:
 - Full representational capability for X3D graphics
 - Royalty free (RF), two or more implementations
- Components
 - Shape and geometry compression
 - Streamable progressive mesh at run time
 - Efficient XML Interchange (EXI) compressed XML, compatible with digital signature and encryption

Timeline for X3D Binary Capabilities

- **Annual.** We reviewed goals and developmental capabilities at the Web3D Conferences and SIGGRAPH in 2013, 2014 and (soon) 2015.
- **2013.** We accomplished our strategic goal to define X3D Compressed Binary Encoding (CBE) requirements and planned all steps.
- **2014.** We received multiple contributions for geometric compression and progressive streaming for X3D.
- **2014.** Efficient XML Interchange (EXI) is a fully approved W3C Recommendation with multiple implementations (both commercial and open source).
- **2015.** Decision: retain existing Compressed Binary Encoding (.x3db) for model stability, add Efficient Binary Encoding (.x3de) for improved capabilities.
- **2015.** All needed components are in hand. We will soon close our Call for Contributions to begin in-depth implementation and specification efforts.
 - Some specialty items like Volume Compression may deserve a follow-on Call for Contributions.
- **Target completion?** With sufficient member contributions, possibly finish 2015.
 - Not “if,” simply “when” all due-diligence efforts are complete.

References

- Web3D Consortium
 - <http://www.web3d.org>
- X3D Compressed Binary Encoding Activity
 - <http://www.web3d.org/working-groups/x3d/compressed-binary-encoding-activity>
- X3DOM Shape Resource Container (src)
 - <http://x3dom.org/src>
- Efficient XML Interchange (EXI) compression
 - <http://www.w3.org/standards/xml/exi>