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Change Request #:	366
Assigned OGC Document #:	14-118
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Document Name/Version:	*KML / 2.2.0
OGC Project Document:	*07-147r2

If this is a revision of a previous submission and you have a Change Request Number, then check here: ☐
Enter the CR number here: [   ]
Enter the Revsion Number that you are revising here: [   ]

Title: 💬	* Alternate Encoding of KML using EXI
Source: 💬	*US Army Common Overlay Working Group
Work item code: 💬	
Category: 💬	* C (Functional modification of feature) ⇕

Reason for change: 💬	*

XML is an inefficient text encoding standard (relative to traditional binary encoding). An alternative encoding of KML content is desirable to conserve storage space and transmission bandwidth, particularly as mobile delivery and display becomes increasingly common, and to leverage deferred resource loading strategies available in KML.

KMZ provides a mechanism to address inefficient encoding formats such as KML and COLLADA, but places additional processing resource burdens on systems to decompress and manage content into temporary files. Addition of an efficient, native binary encoding will better support bandwidth and resource constrained computing environments that can leverage deferred resource loading.

Issues with KMZ compressed KML:
â�¢   Expansion of KMZ requires decompression algorithms on the receiving system or server.
â��   Relative paths must be resolved to correct web URL
â��   Expansion of KMZ components requires file handling that may be difficult or resource intensive for some systems.
â�¢   Compressed KML must be fully expanded to access individual DOM elements within embedded KML/XML files, even though not all elements are required for visualization.

EXi is binary equivalent form of XML encoding that has been defined by W3C as a more space and transmission efficient binary variation of XML. EXi offers advantages over compressed (KMZ).

Due to the highly repetitive nature of KML content, EXi offers significant encoding and transmission efficiency without the drawbacks of compressed XML. See supporting documentation below).

Summary of change:	* Add KML/EXI as an alternate encoding of the KML/XML content. Add KMZ/EXI and XML/EXI as an alternate encoding of KML files contained within a KMZ file.
Consequences if not approved:	Increased storage size and transmission bandwidth using KML/XML instead of KML/EXI encoding, relative to binary encoding. Receiving systems/devices may be unable to processes KMZ, thus limiting interoperability.

Clauses affected:	* 9,10
Additional Documents affected:	EXi encoding should be considered as an alternative encoding for all XML-based transports, but particularly WFS/GML and other metadata intensive standards.
Supporting Documentation:	W3C Specification, Efficient XML Interchange (EXI) Format 1.0 (Second Edition), http://www.w3.org/TR/exi/ EFFICIENT XML INTERCHANGE (EXI) COMPRESSION AND PERFORMANCE BENEFITS: DEVELOPMENT, IMPLEMENTATION AND EVALUATION, http://www.dtic.mil/dtic/tr/fulltext/u2/a518679.pdf
Comments:	
Status:	Assigned
Assigned To:	KML SWG
Disposition:	Referred