

Paper for Consideration by TSMAD and DIPWG

S-101 Phase 2 – Exchange Set

<i>Submitted by:</i>	S-101 Work Item Leader
<i>Executive Summary:</i>	This paper will review the information regarding exchange sets in S-101
<i>Related Documents:</i>	S-101 Product Specification Phase 2
<i>Related Projects:</i>	N/A

Introduction / Background

1. As part of the development process for S-101, it was determined that the S-101 exchange set will be reviewed in phase two of the project. This paper examines the existing content for exchange set and seeks TSMAD and DIPWG discussion on the existing content.

Analysis/Discussion

2. Currently the information regarding Exchange Sets in S-101 is a combination of S-57 and information from focus groups. As development has entered phase two it is time to review the content in S-101. What is currently in S-101 is in red and the work item leaders questions are in blue.

An exchange set is a grouping of data sets in a logical, consistent and self-contained collection to support the interchange of geospatial data and meta data. It is comprised of at least one dataset (i.e a collection of features) and one exchange catalogue. This is the minimum number of entities that can be encapsulated in an exchange set. An exchange set may also contain any number of support files.

Units of Delivery:	Exchange Set
Transfer Size:	Unlimited
Medium Name:	Digital data delivery
Other Delivery Information:	

Is TSMAD/DIPWG in agreement with the information contained above?

ED NOTE: The UKHO has proposed the following:

S-101 datasets will be grouped into exchange sets for service delivery and exchange. Each exchange set will consist of one or more ENC datasets with an associated XML metadata file and a single Exchange Catalogue XML file containing metadata. It may also include one or more support files, each of which will also be accompanied by an XML metadata file.

Each exchange set has a single exchange catalogue which contains the discovery meta data for each data set and references to any support files.

– these are files of supplementary information which are linked to by the TXTDSC/PICREP (?) fields within the cells.

Is TSMAD/DIPWG in agreement with the information contained above? Do we need to define support files?

An exchange set is encapsulated into a form suitable for transmission either on hard or soft media by a mapping called an encoding. An encoding translates each of the elements of the exchange set into a logical form suitable for writing to media and for transmission online. An encoding may also define other elements in addition to the exchange set contents (i.e media identification, data extents etc...) and also may define commercial constructs such as encryption and compression methods.

Is TSMAD/DIPWG in agreement with the information contained above? Is there something missing?

This product specification defines a single example encoding for ENC exchange sets which is described in the next section. This encoding provides a hard-media / file based encoding for an exchange set with no encrypted or compressed contents and an additional file based cyclic redundancy check. It is not intended that this encoding is used for commercial distribution of ENC data as it contains no copy protection mechanisms or data authentication means. A complete encoding suitable for commercial distribution will be published in IHO XX-YY.

Is TSMAD/DIPWG in agreement with the information contained above? Should the reference to IHO XX-YY be renamed S-63

With all encodings it is paramount that data is only transformed and not changed. The acid test for an encodings consistency is the ability to extract individual feature information and recalculation of the features CRC value as defined in this standard. If an encoding can replicate the features CRC for arbitrary ENC data then the data has only been transformed (i.e reformatted) and not changed.

Is TSMAD/DIPWG in agreement with the information contained above? Is this more of a business rule?
Editor's note: This needs to be reworded to read more like a specification – right now it sounds like a business rule.

The S-101 Product Specification defines an encoding which can be used as a default for transmission of data between parties.

The encoding encapsulates exchange set elements as follows:

- ENC datasets – ISO 8211 encoding of features/attributes and their associated geometry and metadata. Defined further in XXXX
- Exchange Catalogue – the XML encoded representation of exchange set catalogue features [discovery metadata]. Includes an additional file level CRC check per dataset.
- Useful information about the ENC dataset. This is contained within a README.TXT file.
- Supplementary files – These are contained within the exchange set as files and the map from the name included within the cell and the physical location on the media is defined within the Exchange Catalogue.

Is TSMAD/DIPWG in Agreement with the information contained above? What is meant by the default transmission between parties? If it is an ENC it should be 8211, it seems this language is not specific enough.

3. In addition, S-101 does not contain any information regarding exchange set metadata. Are there any fields that are specific to the exchange set that must be captured?

Action Required of TSMAD and DIPWG

The TSMAD and DIPWG is invited to:

- a. review the existing language regarding exchange sets and provide recommendations for improved language.