

ANZ Metadata Working Group

Meeting 2 Report
8-9 October 2018, Melbourne



Background:

Following the inaugural meeting of the Metadata Working Group meeting on 13 June 2018, the group's second meeting was held in Melbourne on the 8-9th October 2018, to progress the working group's roadmap, the 19115-1 profile audit exercise and other actions since that initial meeting. The group recognised that such face to face meetings are important forums to raise and discuss any issues, ideas and innovations that the group should be focused upon, whilst providing a forum to exchange information.

Meeting summary:

Amelia Chapman and Craig Sandy from Land Use Victoria, opened the meeting each day, both emphasizing the importance of quality metadata, the critical work being undertaken by this group and how the outputs underpin much of the other ICSM working groups focused activities, in particular, the implementation of GDA2020. Amelia also acknowledged the wider membership of the group beyond the usual spatial and land agencies that form the majority of ICSM members. Craig noted that good metadata is more vital than ever, but it needs to be easy for users to produce, manage but more importantly understand and use.

Since the original meeting in Canberra, the group has nearly doubled in membership, now 60 strong and including representatives from a broad scope of government agencies and research bodies. Many of these members are not actively engaged with the group, however are very interested in what the group is working upon and what are the key decision and deliverables related to metadata. Communities such as the Emergency Management Spatial Information Network Australia (EMSINA) continued to offer their support and interest in being a open community to test the outputs from the working group.

Major Deliverables since meeting #1

1. The Road Map Sub Group (RMSG) developed a roadmap to articulate what are the key deliverables the MDWG need to deliver, and what is each deliverables dependencies. This roadmap provides the framework for the group to focus efforts, assign resources and priorities, identify synergies with other initiatives, and openly communicate what the group has delivered. (Refer to Attachment A).
2. The profile subgroup identified, analysed and compared how different agencies have implemented ISO 19115-1. The goal was to look for consistency in the selection of metadata elements and record how these elements have been implemented. In doing this, the resulting information provides data custodians and metadata users guidance about which of the possible 7000 elements contained within the standard, are seen as important within each business and also whether those elements have been implemented as optional or mandatory. This choice is driven by the business requirements of each agency. However, there is general consistency in which elements that are thought to be important and also how these elements then map to other metadata exchange formats, such as RIF-CS and DCAT.

By showing multiple approaches, custodians can make better informed choices about what elements they choose to implement and whether to make them mandatory or not. Through showing mapping to other exchange formats, custodians can now see the consequences of the element implementation within their own profile and maximise their potential for information exchange based on their business needs. (Refer to Attachment B)

Meeting Outcomes

- The Terms of Reference were endorsed out of session by the group. (Refer to Attachment C)
- The Tabled MDWG roadmap was endorsed
- The profile sub-group recommendations were endorsed, and the recommended minimum set of elements were accepted as v1.0. The mapping spreadsheet, and the recommended minimum elements will be circulated further for comment out of session.

- The establishment of the technical sub-group to be incorporated into the Profile Sub Group.
- **The next meeting to be held at the offices of DEWLP in Melbourne, 21st and 22nd February 2019.**

DELWP Presentation and Demonstration

George Mansour presented and gave a demonstration on the Victorian Department of Environment, Land, Water and Planning (DELWP) current metadata systems, and the modernisation of existing business and systems architecture. DELWP's goal is to streamline metadata management for data custodians, consolidate multiple bespoke systems, and upgrade applications, which are anywhere up to 20 years old. In undertaking this review, DELWP is currently considering the benefits in using the latest version of GeoNetwork which is aligned to the latest version of the 19115-1 standard.

The group discussed the challenge DELWP is facing, with aging bespoke metadata systems. Aging metadata systems is not uncommon, and this demonstration and associated discussion was found to be valuable as it stimulated on common issues faced. The MDWG agreed the show and tell should be a core part of the future working group agendas, as it stemmed healthy discussion and identifies synergies with other member's organisations.

Action: *Jurisdictional demonstrations to be included in future MDWG meeting agendas.*

Shared metadata infrastructure

Andrew Whiting led discussion on a capability for a shared metadata infrastructure, which could be based on the same pattern demonstrated by ELVIS. The concept being, a shared infrastructure to host metadata (not the specific data), whilst ensuring custodial roles and responsibilities are maintained.

The principle of the agenda item is to explore if the concept of a centralised shared infrastructure to host metadata, for data custodians who do not have the capability or capacity to do so. The metadata is maintained solely by the data custodian, however the system management, and maintenance is managed centrally, releasing the physical resource required for managing the system, for those who participate. This capability would support custodians that don't have the required skills for the interpretation of complex metadata standards, and the systems know-how for developing, managing and maintaining a dedicated metadata system, but there is strong need for good governance.

A discussion followed, questioning; How would this tool differ from what is already provided to data.gov.au? The ASDD was a great concept, however it was not successful long term, how is this different? Who would utilise such a service? It was agreed that there are many different catalogues existing, but few are consistent in the application of standards, and many of these catalogues are for harvesting metadata rather than hosting.

Actions:

- *Define what this shared metadata infrastructure capability is in further detail*
- *Establish a strong relationship with data.gov.au and explore their scope for hosting metadata, whilst ensuring custodians business requirements can be stained*

International Standards Organisation (ISO) update

Chris Body from Standards Australia gave an update on ISO/OGC work, which is improving productivity through standards. New developments and harmonisation is occurring between Australia and New Zealand, with an expectation for accelerated implementation and influencing. Chris urged ICSM to become more actively involved in standards, as there is a very strong and powerful mandate for ICSM to do so, particularly with the backing and influence of the many government agencies who support and already participate in ICSM. Shanti noted that while we have many standards, there is no one developing policy to endorse or mandate use. There is a need to have a champion to ensure standards are observed, adopted and enforce implementation.

Standards and the Maritime Domain

Anna Potter from Geoscience Australia spoke to marine regulations and the standards work which is currently being undertaken to enable information connectivity, for informed and consistent evidence based decision-making. Through work at Geoscience Australia, in collaboration with international forums, they are

developing common standards, tools, access points and vocabularies that have international use and impact. The challenge for the maritime domain is communicating core information to high-level decision makers, in the simplest way; not a technical way. To enable all these functions to work, standard compliant metadata is essential. Therefore, the marine community is interested in the activities of the MDWG.

GDA2020, ATRF and Metadata

Nick Brown from Geoscience Australia reported on the importance of metadata for the implementation of GDA2020 and the Australian Terrestrial Reference Frame (ATRF). The datum's fundamentally are dependent upon standards compliant metadata. There is a need to take the GDA2020 and future ATRF technologies available to be usable for all, not just technical or subject matter experts.

The implementation of GDA2020 is the responsibility of the jurisdictions and the data custodians, however it is important the implementations need to be done in a consistent manner. Officially, the new 2020 datum was determined and published in October 2017. The uptake of this datum and the supporting standards are essential for the success of the program. ESRI is adopting some, but not all, standards as part of GDA2020 update. Other software vendors are not implementing GDA2020 changes in their foreseeable updates, and this will affect how jurisdictions can implement changes in their systems. As the capability for jurisdictions to work with the GDA2020 compliant data is dependent upon the software being compatible.

GDA2020 is another static datum, with all the coordinate references projected to where the position will be in the year 2020. The introduction of ATRF will be built upon GDA2020 as a foundation. Therefore, data custodians will be required to move to GDA2020 before being able to utilise the ATRF capabilities. ATRF will be maximised by the high precision sectors, due to the nature of their requirements. It is not envisaged all data custodians will move towards the ATRF capabilities due to the data not reflecting the accuracy the ATRF realises.

To enable ATRF as a dynamic datum, the requirement for quality, time stamped feature level metadata will be essential. The time stamping and articulation of this through consistent metadata will be important, to avoid the Rail Gauge Issue.

Nick also said that eGeodesy is working on positioning applications that are being used everywhere in real time. The Geodesy Markup Language (GeodesyML) is a standard way of describing (encoding) and sharing geodetic data and metadata, that was created by geodesists, but now they needed assistance to take it through ISO for formal recognition.

At this stage, it was un-determined what specific action items the MDWG need to address. However there was a broad discussion articulating the need for consistency in the way features are timestamped. Furthermore there is interest in how to describe compliance – conformance to GDA2020. This is a activity which will need to be specifically addressed in due course.

Action: MDWG Secretariat to keep in touch with Nicholas Brown, monitoring GDA2020 developments and requirements of the group

Data Catalogue Vocabulary (DCAT)

Simon Cox demonstrated the development, adoption and benefits of the Data Catalogue Vocabulary (DCAT) and the semantic web, with the alignment and integration across communities and disciplines.

DCAT was published initially in January 2014, with the intent to make a standard for exchanging data between different catalogues online. The DCAT is closely aligned to the Dublin Core Metadata Initiative. The Dublin Core metadata initiative is a set of vocabulary terms that can be used to describe digital resources.

Simon also discussed the new application released by Google, the Google Public Data portal. The portal is based off the Schema.org standard. This standard is very similar to DCAT.

Federal Government Digital Continuity Policy – DC2020

Esther Carey and Karuna Bhoday from the National Archives of Australia (NAA) spoke and stimulated allot of discussion about the Federal governments Digital Continuity Policy (DC2020), and its requirements for quality metadata. Currently the NAA is focusing working efforts with record management teams within different

agencies. Further information surrounding the DC2020 can be found at <http://www.naa.gov.au/information-management/digital-transition-and-digital-continuity/digital-continuity-2020/index.aspx>

The working group questioned:

- What records are impacted by the policy? *All records are impacted*
- IS DC2020 only for Federal government? *It only effects Federal government agencies, however there are similar initiatives within the state and territory governments. Members are advised to check if their work is impacted by a similar initiative.*

Roadmap Sub Group update

Andrew Whiting thanked the team for contributing to the production of the roadmap and introduced the activities associated with its production. In preparing for the roadmap, activity One (identifying the barriers for organisation in managing metadata) and Two (the requirements to improve organisation metadata capabilities) from the MDWG Canberra meeting were taken into consideration and used as the basis for the requirements for the roadmap to address.

The roadmap is structured around three core tranches.

- **Tranche 1:** Identification, comparison and recommendation of a series of elements which are preferable to consistently enable the 19115-1 standard. This tranche is the foundation as all other activities will be developed upon.
- **Tranche 2:** Production of a cookbook to enable users to easily understand what is the standard, why it is important, what can be used to develop, manage metadata, and how to do so. The cookbook resources will continually be maintained online.
- **Tranche 3:** Communication, outreach, advice and the provision of a forum for metadata custodians to socialise, seek feedback and advice for all items related to location metadata.

The working group endorsed the concept of the three tranches for the metadata roadmap for communication purposes, however noted perhaps the name of tranche 2 – Cookbook, may need to be re-considered. The second element to the roadmap is the detail task and activity framework, which outlines what the core deliverables associated with each tranche. Each deliverable has an objective, outcome dependency, and status.

With the working endorsing the three tranches for communication purposes, the working group agreed, the detailed deliverables need to be flexible in nature to maximise efforts when resources or opportunities exist. The working group also noted, all associated deliverables would be made transparent and accessible online.

Action items:

- *Prepare a web presence articulating the roadmap tranches*
- *Circulate to the MDWG the deliverables roadmap spreadsheet for further feedback*
- *Explore a Trello board to monitor the activities associated with the roadmap*
- *Have the roadmap status as a standing item on the groups agenda for status reporting*

Attachments:

- MDWG Meeting 2 report

Geoscience Australia 19115-1 Profile update

Irina Bastrakova from Geoscience Australia updated the working group on the status of the Geoscience Australian ISO19115-1 profile. Since the last meeting, GA's profile was concluded and formally published (<https://ecat.ga.gov.au/geonetwork/srv/eng/catalog.search?node=srv#/metadata/4fce6238-8d55-499c-bff5-98518552f4b4>).

All supporting documentation is available open and accessible through GA's website (<http://pid.geoscience.gov.au/def/schema/ga/ISO19115-1-2014>). Supporting resources include a schema-tron for the QA/QC of the xml for transformation into GeoNetwork, the GA profile and the supplementary code lists.

Profile Sub Group update

The Metadata Profile Sub Group introduced the activities they had undertaken since the Canberra meeting. The groups core activity was to identify, and document how different agencies have implemented the revised ISO19115-1 standard, and to make recommendations back to the MDWG on a set of core elements which should be recommended by the working group.

The first step undertaken was to share, and compare what current implementations of 19115-1 currently exist, what are the chosen elements within each implementation, and identify what are the common elements between each. The comparison assessed the GA, ABARES, AAD and Defence implementations.

In order to assess what the group believed were the minimum set of elements; a table was presented detailing the cross-walks between the provided metadata profiles (Refer to Attachment A). A high level crosswalk identifies the common elements between ISO 19115-1 (GA, ABARES, AAD), implementations, whilst also showing the mapping to the RIF-CS (ARDC) and DCAT (V1.1) standards was also included. There was a major focus by the Profile Group to ensure the profile work contained adequate resources to ensure the metadata record:

- Simplifies and Streamlines the discovery of data; reducing the users time on finding data through the use of key words, vocabularies and reference lists
- Improve authoritative access to data and reduce the risk of breaching security and legal restrictions
- Enable machine-to-machine access and integration of data across multiple information standards and disciplines, and
- Prepares for modern and future technologies (e.g. Machine Learning, Linked Data,) thus stimulating innovation and data re-use

As an outcome of this activity, the profile sub group believe the profile should not be seen as a mandatory compliance framework, explicitly defining the mandatory elements for collection. Rather a guiding framework which articulates who has currently implemented the ISO19115-1 standard, and which of the 7000 elements within where chosen to meet their business needs and requirements. By showing multiple approaches, custodians can make better informed choices about what elements they choose to implement and whether to make them mandatory or not. Through showing mapping to other exchange formats, custodians can now see the consequences of the element implementation within their own profile and maximise their potential for information exchange based on their business needs.

The working group accepted the approach the PSG has recommended, and support the minimum set of elements proposed as version 1.0, with the requirement the elements be circulated to the MDWG for further comment. The MDWG noted there now needs to be a clear narrative wrapping the intent of the profile proposal, as well as further notation articulating what each of the elements identified are. The MDWG also noted, it will be important to undertake a exercise to compare all the jurisdiction mappings, whilst understanding what infrastructures and systems currently exist to host and manage metadata.

Action items:

- *Produce a narrative clearly articulating the proposed profile framework – explicitly articulating what it is and why it is different to past ANZLIC profile activities*
- *Clearly articulate and describe what each of the elements is within the recommended profile comparison*
- *Continue to make additions to the mapping spreadsheet – and document each of the jurisdiction mappings*
 - *George Mansour to share with the PSG DELWP's chosen elements, for inclusion in the mapping document*
- *Circulate the profile comparison to the MDWG for any further comment and feedback*
- *Develop and undertake a survey to identify what each MDWG's metadata capabilities are identifying what systems or applications currently develop, manage or disseminate metadata*

Attachments:

1. Attachment A - Metadata Profile mapping v0.2.xlsx
2. Metadata Profile Overview statement

Moving forward, the Profile sub group reflected upon the fact, the group needs to now expand to include the Technical working group. As the group will need to begin assessing what tools, applications and supporting documentation will be required to support the profile work. Kate Roberts (BOM), Ian Beitzel (Qld), Aaron Sedgman (GA) and Adam Rice (DTA) wished to be included into this working group.

The tools which the Profile – Technical Sub group will consider include:

- A online, metadata creation, and QA / QC too which is compliant to the 19115-1 and 19115-3 standard
- Conversion tool to support custodians who wish to upgrade from ISO 19115 to ISO 19115-1
- Conversion tool to enable the transformation between ISO19115-1 to other metadata formats such as DCAT, CKAN, RIF-CS, Schema.org etc
- Vocabulary systems, and
- How API's will integrate and work with metadata contained within existing systems. The OGC as well as PSMA are currently undertaking a significant amount of work with relation to API's, and therefore need to be engaged with this associated activity.

Actions:

- *MDWG members interested in the technical working group to contact Irina.Bastrakova@ga.gov.au*
- Kate Roberts (BOM), Ian Beitzel (Qld), Aaron Sedgman (GA) and Adam Rice (DTA) wished to be included into this working group
- *PSMA to be invited to the MDWG, with relation to the API associated activities*

Standard 19115-2

Irina Bastrakova tabled the 19115-2:2009 (Metadata extensions for imagery and gridded data) standard, to seek the MDWG interest for the inclusion of this standard within the groups scope of focus. This standard is currently under review.

The MDWG agreed, the 19115-2 standard needs to be considered and included as a standard of focus.

ACT, VIC, QLD governments as well as Defence showed significant interest in partaking in any associated activities related to this standard. ACT government will have a significant amount of new imagery arriving soon. It is critical for ACT to ensure the data is well documented, consistent in the way this is documented, and importantly have a framework standard to push back to the imagery provider. QLD discussed recent data acquisitions received have had associated metadata now compliant to any standard, and also agree of the importance of the metadata being consistently compliant to a standard.

Shanti Rowlison articulated their need to also reference the 19165 (Preservation of digital data and metadata) standard for archiving purposes. The MDWG agreed this needs to be considered when looking at the 19115-2 standard.

Before the work is undertaken on these standards, the ICSM imagery working group needs to be consulted with, to work collaboratively on this activity. The end product may be a specification similar to the ICSM LiDAR specification.

The review of these standards, and the production of a specification will benefit many other sectors, appreciating this the sub group undertaking this activity will need to consider including other data providers especially industry.

Actions:

- *Approach the Imagery Working Group, with a recommendation that the MDWG believe the 19115-2 and the 19165 standards need to be considered and worked upon. Open a discussion around a specification for data collection*
- *Defence, ACT, VIC, QLD and GA to discuss what are the common requirements related to 19115-2, and 19165. Consider how these requirements would be addressed within the associated standards*
- *Defence, ACT, VIC, QLD and GA to discuss further and report back to MDWG and the profile sub-group.*

Meeting Administration

MDWG content

The working group agreed, all concluded documents will be published and made transparent on the ICSM website. To assist managing the roadmap and associated projects, Trello and GovTeams will be explored and established.

Next Meeting

The next meeting will be in 7-8th February 2019 again in Melbourne, and Jacqueline from DELWP kindly offered to host this meeting. The working group agreed, Melbourne is a good location due to the ease in access from all capital cities. The working group also noted, the meeting should be two days in length to enable deeper discussion with relation to core activities such as elements within the profiles.

Agenda

- Todd Baker from DPIPWE Tasmania offered to present on the Tasmanian metadata systems capabilities
- Adam Rice from DTA offered to present on what is occurring within data.gov.au
- Marcus Blake from ABS offered to present on what is occurring within the ABS
- Kate Roberts raised the meeting will need to focus on Web Service metadata to ensure the EMSINA community is satisfied, Irina agreed to this, and noted this will be a core element at the next meeting

Actions:

1. Explore Trello and GovTeams for the hosting and management of the roadmap activities

Report Attachments:

1. Attachment A - Metadata Profile mapping v0.2.xlsx
2. Metadata Profile Overview statement
3. MDWG roadmap

Attendees:

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By telephone:

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Actions

Current Meeting

#	Action Meeting 9 Oct 2018	Who
15	Jurisdictional demonstrations to be included in future MDWG meeting agendas	MDWG Secretariat
16	Shared Metadata Infrastructure # Define what this shared metadata infrastructure capability is in further detail # Establish a strong relationship with data.gov.au and explore their scope for hosting metadata, whilst ensuring custodians business requirements can be stated	Andrew Whiting
17	MDWG Secretariat to keep in touch with Nicholas Brown, monitoring GDA2020 developments and requirements of the group	MDWG Secretariat
18	Prepare a web presence articulating the roadmap tranches	RMSG and Secretariat
19	Circulate to the MDWG the deliverables roadmap spreadsheet for further feedback	MDWG Secretariat
20	Explore a Trello board or other, to monitor the activities associated with the roadmap	MDWG Secretariat
21	Have the roadmap status as a standing item on the groups agenda for status reporting	MDWG Secretariat
22	Produce a narrative clearly articulating the proposed profile framework – explicitly articulating what it is and why it is different to past ANZLIC profile activities	Profile Sub Group
23	Clearly articulate and describe what each of the elements is within the recommended profile comparison	Profile Sub Group
24	Continue to make additions to the mapping spreadsheet – and document each of the jurisdiction mappings # George Mansour to share with the PSG DELWP's chosen elements, for inclusion in the mapping document	Profile Sub Group , George Mansour
25	Circulate the profile comparison to the MDWG for any further comment and feedback	MDWG Secretariat
26	Develop and undertake a survey to identify what each MDWG's metadata capabilities are identifying what systems or applications currently develop, manage or disseminate metadata	Profile Sub Group
27	MDWG members interested in the technical working group to contact Irina.Bastrakova@ga.gov.au	All
28	Kate Roberts (BOM), Ian Beitzel (Qld), Aaron Sedgman (GA) and Adam Rice (DTA) wished to be included into this working group	
29	PSMA to be invited to the MDWG, with relation to the API associated activities	Irina Bastrakova
30	Approach the Imagery Working Group, with a recommendation that the MDWG believe the 19115-2 and the 19165 standards need to be considered and worked upon. Open a discussion around a specification for data collection	Irina Bastrakova
31	Defence, ACT, VIC, QLD and GA to discuss what are the common requirements related to 19115-2, and 19165. Consider how these requirements would be addressed within the associated standards	
32	Defence, ACT, VIC, QLD and GA to discuss further and report back to MDWG and the profile sub-group.	
33	Explore Trello and GovTeams for the hosting and management of the roadmap activities	MDWG Secretariat

Previous Meeting

#	Action Meeting 13 June 2018	Status
1	Generate Workshop report with Terms Of Reference (Within 6 weeks)	Complete
2	Formally establish the MDWG Profile Sub Group (refer to Appendix 2 for membership). Arrange a meeting within 3 week of the workshop	Complete
3	Formally establish the MDWG Roadmap Sub Group (refer to Appendix 2 for membership). Arrange a meeting within 3 week of the workshop	Complete
4	Members to contact the MDWG Secretariat (Andrew.whiting@ga.gov.au) if they are interested in been involved with the Technical Sub Group	Complete
5	Consider a shared community profile based of 19115-1 & 19115-3	Complete
5.a	Collate existing profiles related to the new 19115-1 standard	Complete
5.b	Assess profiles and prepare report outlining the commonality, pros and cons of each profile	Complete
5.c	Based off the report the MDWG will discuss the current profiles and make recommendations on the relevance, - Value / Cost and look and feel of a ANZLIC based profile. Discuss the formality of the profile	Complete
6	ABARES to provide their profile to the MDWG Secretariat (Andrew.whiting@ga.gov.au) for registration distribution to the Profile Sub Group	Complete
7	ANDS to provide their service elements profile to the MDWG Secretariat (Andrew.whiting@ga.gov.au) for registration distribution to the Profile Sub Group	Complete
8	Establish a web presence to host all MDWG documentation and communication items – Gov Teams or ICSM website	Complete
9	Develop a roadmap for where the MDWG are aiming to go including strategic directions, key milestones and core items for consideration based off the workshop report (Action item 1)	Complete
	Establish a technical sub group for the socialisation and knowledge gathering on what technologies exist for managing metadata, their pros / cons, implications and management of a catalogue of options for use. MDWG members are to indicate their interest in this group by emailing MDWG Secretariat (Andrew.whiting@ga.gov.au).	Complete
11	Invite the DTA and AIMS to the working group	Complete
12	Arrange face to face meeting – 3 months' time September 2018	Complete
13	Report to ICSM the establishment of the MDWG, and ensure ICSM working groups are aware of the MDWG and appreciate its role. PCG and PCTI need to appreciate the impact of metadata and utilise this function.	Complete
14	MDWG representative to de-brief EMSINA on the outcomes of the workshop and the groups associated work plan	Complete