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Closing Plenary

107th OGC Technical Committee

Fort Collins, Colorado USA

Scott Simmons

7 June 2018

Agenda



- Thanks to Sponsors and Hosts
- Quorum confirmation
- Presentations
 - A message from Mark Reichardt
 - Proposal for a reference point cloud dataset – Michael Rosen, Azimetry
- TC Member presentations
 - Real Factors GeoAtom and application of OGC standards – Colin George
 - 3DTiles Community standard – Patrick Cozzi
- TC Motions
 - GeoPackage corrigendum – Jeff Yutzler
 - TimeSeriesML 1.2 – Paul Hershberg
 - MetOcean Weather on the Web – Chris Little
 - Interoperable Simulation and Gaming DWG – David Graham
 - CDB 1.1 – Carl Reed
 - Web Services Security – Andreas Matheus
- Upcoming TC Meetings
 - Stuttgart
- TC Chair announcements and motions
 - TC Meeting structure and DWG clustering
 - Standards Roadmap
 - Corrigenda for other standards
 - Singapore Location Powers event
- Working Group reports with motions: Z to 3
- “Important Things” discussion

Thanks to our sponsors



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Thanks to OGC staff



- Greg Buehler
- Gobe Hobona
- Denise McKenzie
- Trevor Taylor
- Mark Reichardt
- George Percivall
- Luis Bermudez
- Bart De Lathouwer
- Terry Idol

Greg – do we have quorum?



**Or did we lose
someone Monday
evening?**





Presentations

A message from Mark



Mark Reichardt is moving on in OGC



“On behalf of the OGC Board of Directors, I am taking this opportunity to announce planning for the transition of OGC leadership. After almost 18 years with OGC, 14 years as President, I plan to transition to part-time work with OGC early next year. I will serve as OGC *Strategic Opportunities Director*, focusing on member retention/growth and advancement of key programs and initiatives in support of OGC’s technology and market priorities.

As a result, we will soon begin the search for a new CEO/President. We expect a public announcement and release of a position description in July, with an application deadline in September 2018.

Given the importance of the Consortium’s shared governance process, I want to outline with membership the approach that the Board of Directors intends to follow.

The Board will establish a six-person search committee and name a chair. This committee will be made up of four OGC Board members and two Consortium member representatives – one from the Planning Committee and one from the Technical Committee. I ask the Planning Committee to coordinate and complete a nomination and selection process for these two representatives by mid-July.

The search committee will:

- Develop a plan and milestones
- Review the resumes of the applicants and determine the list of candidates to interview
- Review the reference check information for selected candidates
- Deliberate as a committee to bring recommended candidates to the board for consideration
- Identify and manage, in collaboration with the CEO and Board Executive Committee any issues which may influence the search or success of next President & CEO
- Regularly communicate progress to the board of directors

To protect all confidential information accessed during the search and maintain confidentiality of candidates during and after this search process concludes, each member of the Search Committee will be required to sign a non-disclosure agreement.

The technical accomplishments of the Consortium continue to enable exciting new location interoperability across diverse fields of use. I am looking forward to the opportunity as OGC *Strategic Opportunities Director* to extend the Consortiums impact.

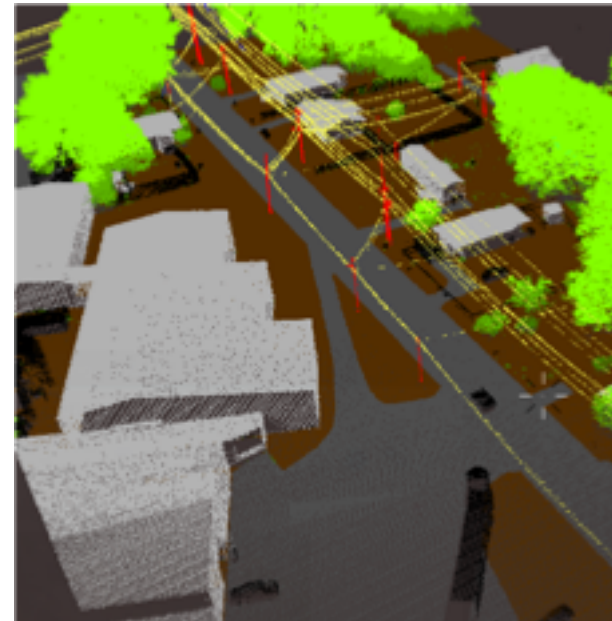
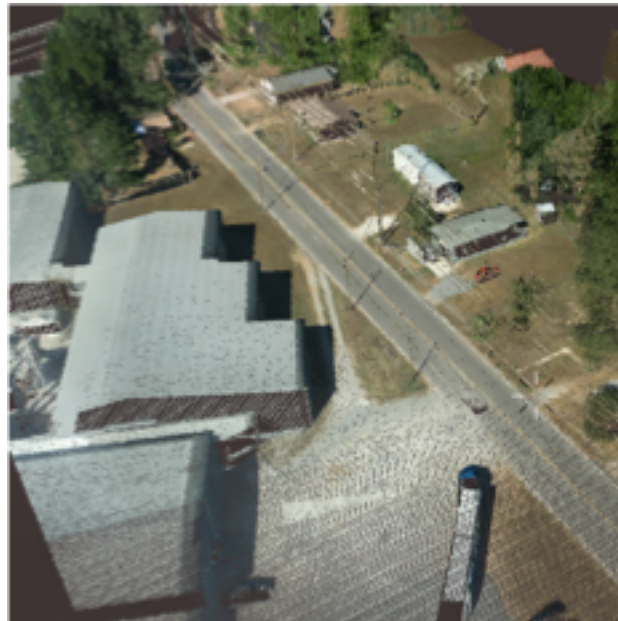
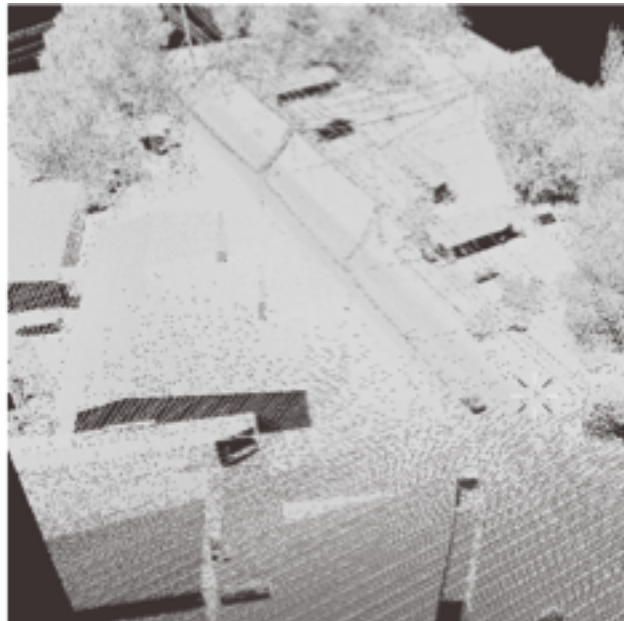
I have thoroughly enjoyed my time serving as President and CEO. This transition is something that I have considered carefully for some time, and I believe it’s an appropriate time for new leadership to help take OGC to the next level in its evolution.”

Large Scale Aerial Lidar Point Cloud Classification Benchmark



“Semantic3D.net for the rest of us”

Michael Rosen / Azimetry (Redmond WA)



Background



- Lots of Interest in using ML to classify aerial lidar data. Very little to show for it.
- Lack of Training and Benchmark data is an encumbrance
- Semantic3D.net is awesome but not for us

What is Sematic3D.net ?



This benchmark closes the gap and provides a large labelled 3D point cloud data set of natural scenes with over 4 billion points in total. It also covers a range of diverse urban scenes: churches, streets, railroad tracks, squares, villages, soccer fields, castles to name just a few. The point clouds we provide are scanned statically with state-of-the-art equipment and contain very fine details. Our goal is to help data-demanding methods like deep neural nets to unleash their full power and to learn richer 3D representations than it was ever possible before.

What do we provide?

We have created a framework for the fair evaluation of semantic classification in 3D space. In this framework we provide:

- A large set of point clouds with over **four billion** of labelled points.
- Ground truth, hand-labelled by professional assessors.
- A common evaluation tool providing the established intersection-union measure along with the full confusion matrix.

semantic-8 results

We use Intersection over Union (IoU) and Overall Accuracy (OA) as [metrics](#). For more details hover the cursor over the symbols or click on a classifier. In order to sort the results differently click on a symbol.

	Name	↑ A_IoU	OA	[s]	IoU_1	IoU_2	IoU_3	IoU_4	IoU_5	IoU_6	IoU_7	IoU_8
1	SPGraph_	0.762	0.929	10000.00	0.915	0.756	0.783	0.717	0.944	0.568	0.529	0.884
Large-scale Point cloud segmentation with superpoint graphs, Loïc Landrieu and Martin Simonovsky, CVPR2018												
2	SnapNet	0.674	0.910	0.00	0.896	0.795	0.748	0.561	0.909	0.365	0.343	0.772
Unstructured point cloud semantic labeling using deep segmentation networks, A. Boulch, B. Le Saux and N. Audebert, Eurographics 3DOR 2017												
3	HarrisNet	0.623	0.881	0.00	0.818	0.737	0.742	0.625	0.927	0.283	0.178	0.671
Anonymous submission												
4	TMLC-MS	0.494	0.850	38421.00	0.911	0.695	0.328	0.216	0.876	0.259	0.113	0.553
Timo Hackel, Jan D. Wegner, Konrad Schindler: Fast semantic segmentation of 3d point clouds with strongly varying density, ISPRS Annals - ISPRS Congress, Prague, 2016												
5	TML-PC	0.391	0.745	0.00	0.804	0.661	0.423	0.412	0.647	0.124	0.000	0.058
Wind the gap: modeling local and global context in (road) networks, Javier Montoya, Jan D. Wegner, Lubor Ladicky, Konrad Schindler, In: German Conference on Pattern Recognition (GCPR), Münster, Germany, 2014												
6	FCNVoxNet	0.372	0.523	138929.00	0.066	0.272	0.580	0.364	0.809	0.283	0.095	0.509
Anonymous submission												

Proposal

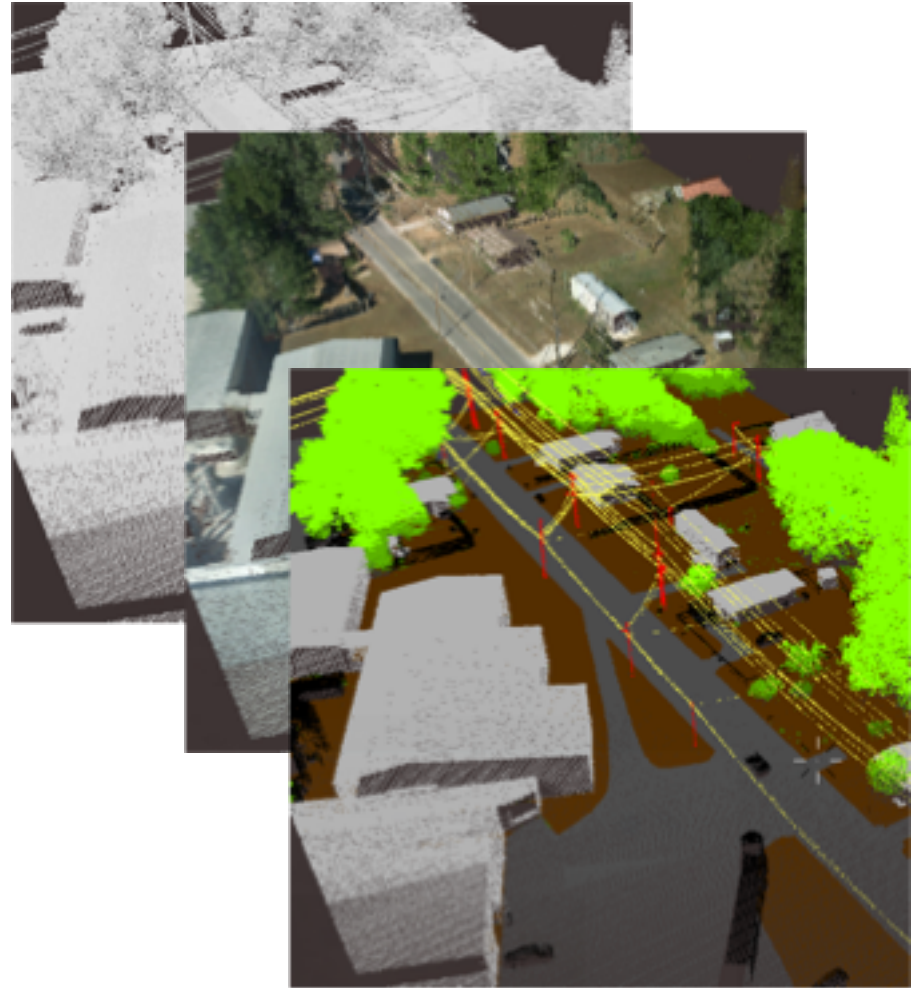


- OGC should curate and publish a very large reference dataset of manually classified aerial lidar data. This dataset will be freely available to both academic and commercial researchers. The intent is to accelerate the creation of processing algorithms capable of classifying similar data. In short, we want a commercially accessible version of Semantic3D.net that uses aerial data.

The Ask: Next Steps?



- Who else is interested?
- What do we need?
 - What kinds of data (Aerial?)
 - Density? Terrain?)
 - Licenseable data
 - Classifications of interest
 - Manual classification effort
- How can we engage OGC?
 - Which DWG?
 - Fit in a TestBed?
 - Ad-hoc session?
- michaelr@azymetry.com





TC Member Presentations



Real Factors



3DTiles

Next steps for 3DTiles



- Approved by OAB for public RFC this week
- 30 day public comment to start shortly
- Then will request a 2-week email vote of the TC to start the electronic approval vote



TC Motions



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GeoPackage SWG Report

107th OGC Technical Committee

Fort Collins, Colorado USA

Keith Ryden

7 June 2018

The most important thing for this WG is...



While GeoPackage is emerging as an important geospatial standard, we want to see more public data published in the format. We set up <http://www.geopackage.org/data.html> for this purpose but it is virtually empty now.

Let's change that.

Agenda



- Roll Call
- GeoPackage status
- GeoPackage 1.2.1 (Corrigendum)
- GeoPackage Executable Test Suite
- Related Tables Extension Interoperability Experiment
 - SOFWERX Demonstration
- GeoPackage + OWS Context
- Compusult Presentation
- Future Directions

Activity Summary



- Discussion topics
 - Breaking news: ETS ready to go.
 - The way ahead for the SWG is unclear. There are a large number of initiatives that the SWG could take on. How to prioritize?
 - Is OWS Context the right solution for integrating with GeoPackage?
- Upcoming deliverables
 - **GeoPackage v1.2.1 corrigendum – ready for adoption as OGC 12-128r15**
 - GPKG-RTE IE Engineering Report – electronic vote
 - GeoPackage / OWS Context Harmonization Discussion Paper
- Coordination (ongoing and planned)
 - SLD SWG (styling and symbology)
 - OWS Context SWG (Context harmonization)
 - Portrayal CDS Team
 - Testbed 14
 - Vector Tiles
- Future meetings
 - Next SWG Telecon: June 18 (tentative)
 - Next TC Meeting: September 2018 (Stuttgart, Germany) or December 2018 (Charlotte, NC)

Corrigendum Approval Motion



- The GeoPackage SWG recommends that the OGC Technical Committee approve release of 12-128r15 as a corrigendum version 1.2.1 of “OGC GeoPackage Encoding Standard.”
 - There was no objection to unanimous consent
- This is a corrigendum of version 1.2.0
- For further details, see the release notes in OGC 18-024r1
 - https://portal.opengeospatial.org/files/?artifact_id=79189&version=1

Electronic Vote Request



- The GeoPackage SWG recommends that the OGC Technical Committee approve an electronic vote to approve release of 17-093r1 “GeoPackage Related Tables Extension Interoperability Experiment Engineering Report” as an OGC Engineering Report.
 - There was no objection to unanimous consent
- The Related Tables Extension defines the rules and requirements for associating tables with existing feature or attribute tables in a GeoPackage data store.

Document Approval Motion



- The GeoPackage SWG recommends that the OGC Technical Committee approve release of 18-037r1 “GeoPackage / OWS Context Harmonization Discussion Paper” as an OGC Discussion Paper.
 - Pending any final edits and review by OGC staff
 - OWS Context has had limited uptake in the market so the TC may want to reconsider whether this is the appropriate solution for the use cases or whether more needs to be done to encourage uptake.
 - There was no objection to unanimous consent
- This document presents an approach to harmonizing these two OGC standards through extensions



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Timeseries SWG Closing Plenary Report

107th OGC Technical Committee
Fort Collins, Colorado USA
Paul Hershberg (NOAA/NWS)
7 June 2018

The most important thing for this WG is...



- Communicate and Disseminate our more complex Use Cases (i.e. NASA's), both outside and inside OGC, to gauge their need across other domains.
- Currently, NASA has some complex Use Cases that push the TSML standard towards the limits of its intensions in the charter.

These include:

-Multiple elements per time step

-Divorcing TSML Metadata from Data Payload

-Relaxing Sampling Features with Fixed Locations Requirement

- If there is more interest across other domains, or these Use Cases could be handled easier via other coverage disciplines (i.e. CIS1.1), it is information that can guide whether to implement or not, these changes into the TSML standard moving forward.

Agenda



1) Action Items – Status (Prior, Current)

2) TSML Version 1.2 - Status

3) TSML Ver 1.3 - Proposal

- TimeSeriesML encoding examples for new NWS NDFD Web Service showcasing 1.2 additions and 1.3 updates
- Pres by Thomas Hearty/Bill Teng (of NASA - GES DISC) in support of 1.2/1.3's irregularly spaced timeseries concepts.

4) NASA Use Cases Update (pushing the standard)

- Scope Issue
- TimeseriesML Evolution/Timeline and TSWG Use Cases.

5) Harmonize any differences in TimeseriesML/O&M with the WCS Coverage model within OGC – Update

- CIS1.1's incompatibility with Timeseries Conceptual Model (15-043)
- Re-Title 15-043 - Timeseries Profile Of O&M (abstract model)?

6) Encoding Example for Divorcing TimeSeriesML Metadata from its' Data Payload

- Benefit NASA SORCE and SWOT Use Cases ?

7) Future Work

Activity Summary



- Discussion topics

- Action Items: Current, asking for Ver1.2 vote in CP. Prior, to reform O&M, met
- Propose Ver1.3, to handle time step count in reg spaced segments, miss data?
- BTeng's pres on irreg spaced ts: use typ
- NASA's Use Case status update – discussion led to “most import thing”
- Harmonizing differences in TSML (1D Cov in O&M) with WCS (drop re-titling)
- Workaround for divorcing TSML metadata/data – discussed limitations

- Coordination (ongoing & planned)

- WCS SWG (CIS)
- O&M
- Temporal DWG
- MetOcean DWG
- NASA ESDS TSWG

- Upcoming deliverables

- Version mismatch/issues between Enterprise Architecture 11/12 and 13.5 w.r.t. UML models

- Future meetings

- NASA ESDS TSWG Telcos monthly
- OGC – Germany, Sept '18
- OGC – Charlotte, NC, Dec '18

Request of an electronic vote



- The TimeseriesML SWG recommends that the OGC Technical Committee approve an electronic vote to approve release of OGC 15-042r3 “OGC TimeseriesML 1.2 – XML Encoding of the Timeseries Profile of Observations and Measurements” as an OGC Adopted Standard.
 - There was no objection to unanimous consent
- **NOTE:** TimeSeriesML was presented to the TC at the Orléans TC Meeting and subsequently underwent public RFC.



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Weather on the Web

107th OGC Technical Committee
Fort Collins, Colorado USA
Richard Carne (UK Met Office)
6th June 2018

Overview



- Proposed Vision statement for Weather on the Web
- Thoughts on Best Practice from George Percival
- Outline Project plan
- Forming the Community
 - Focus Group and Member commitment
 - Community Communication
 - GitHub / slack / Gitter.im / bi-weekly telco

Vision



Weather on the Web Vision



The purpose of Weather* on the Web is to clarify and formalize the weather related standards landscape that enables the development and use of weather based web services.

Intent: support both public & private weather services globally

** Weather meaning any meteorological information that covers past present and future state of the atmosphere including observations and climatological data.*

Weather on the Web Vision



- to determine how weather information can best be integrated with other data on the Web;
- to define a range of access patterns and encoding extensions** that cover a set of core use cases specified;
- to identify and assess existing methods and tools;
- to drive consensus on weather standards for the web;
- and to produce a set of best practices for use of weather information on the web.

*** encoding extensions: for example specifying GeoJSON structures for describing weather at a specific location.*

Data API vs Product API



- Weather on the Web will solely focused on data APIs centered around weather information as opposed to product APIs, in which specific business logic and context of use is required to add further value.
- Weather on the Web will not consider Use Cases that require specific business knowledge of the end use.

Do we agree with this focus?

Met Ocean DWG Agreed NOTUC

Best Practice



OGC Best Practice in the TC P&P



- Documents best practices related to **one or more OGC standards**.
 - A best practice is a technique or methodology that, through experience, implementation and research, has proven to reliably lead to a desired result
- Must contain “**evidence of implementation**.”
 - Implementation in commercial product, implementation in open source applications or software, and/or implementation in deployed applications.
 - Single research related implementation is not proper evidence of implementation.

Approach:



Best Practice for weather info on the web

Normative Body of BP

- Access to weather info using OGC standards
- Processing of weather info using OGC standards
- Weather information Data models using OGC standards

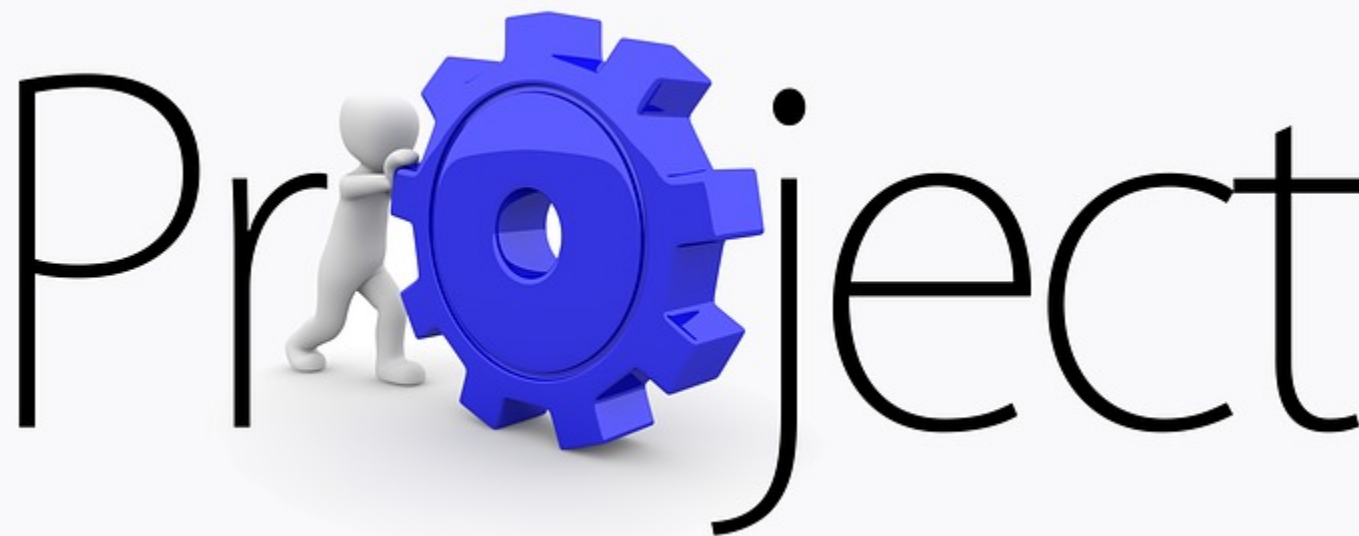
Normative Body of BP to contain verifiable requirements

Informative Annexes

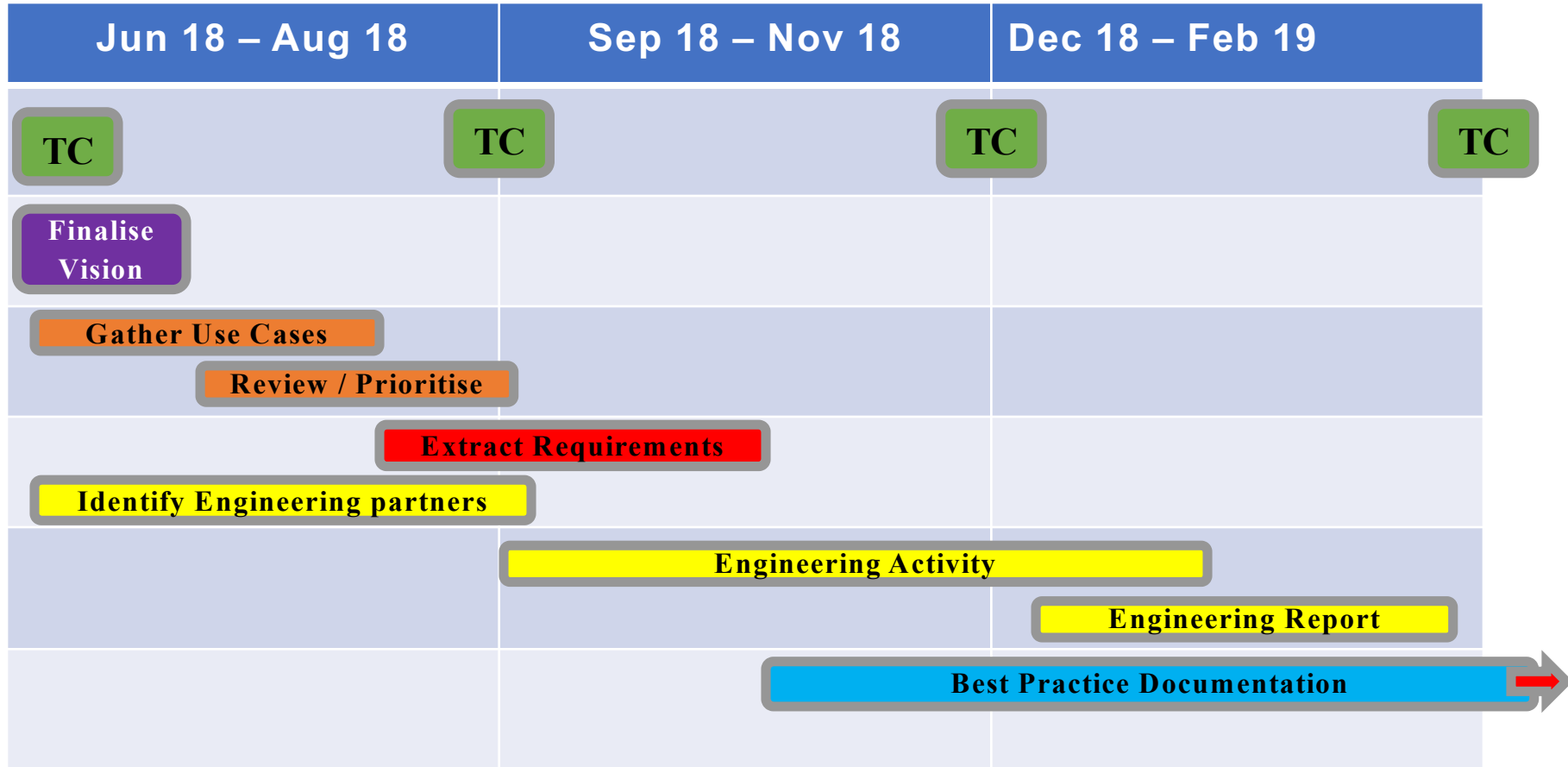
- Operational Weather Information systems, e.g. NMSs implementation, commercial consumers.
- ***Interoperability program*** Engineering Reports
- Compliant Products

Informative Annexes provides evidence of implementation

Project Plan



Project Plan



Forming the Community



Met Ocean DWG Sub-Group



- Move to set up Sub-Group for Weather on the Web
 - Requires commitment from interested members.
 - Should include engineering partners
 - Sign up to Sub-Group today
 - Propose setting up regular Teleconference for members of Weather on the Web Sub-Group

Motion Proposed: Pete Trevelyan

Seconded: Richard Carne

No further discussion

Motion Passed NOTUC





Met Ocean DWG Proposal












- **Proposal** that Met Ocean DWG creates a new repository under the OGC GitHub organisation, **named weather-on-the-web** And that the repo be made **publicly accessible**.
- **Motion Proposed: Richard Carne**
- **Seconded: Peter Trevelyan**
- **No further discussion**
- **Motion Passed NOTUC**
- Further work on agreeing detailed governance



GitHub Repo




 Search or jump to...  Pull requests Issues Marketplace Explore  + 







OGCMetOceanDWG / weather-on-the-web  6  1  0

 Code  Issues 0  Pull requests 0  Projects 0  Wiki  Insights

Branch: master [weather-on-the-web / Draft_Use_Cases.md](#)  Find file  Copy path

 RichCarne Create Draft_Use_Cases.md 2a72be9 an hour ago

1 contributor

9 lines (5 sloc) | 407 Bytes  Raw  Blame  History   

Proposed use cases for Weather on the Web

Use Case 1 - Simple point data

Web application developers require convenient and consistent interface to request weather data for a specified point on the surface of the earth. The encoding format should also be consistent to enable data to be sourced from a range of weather sources.

Use Case 2 - Time series of point data

Use Case 3 - Drone pilot

Slack Channel / Gitter.im



Weather on the ...
Rich Carne

All Threads

Channels
general
random
use-case-generation

Direct Messages
slackbot
Rich Carne (you)
+ Invite People

Apps
GitHub

#use-case-generation
☆ | 1 | 0 | Add a topic

📞 ⓘ ⚙️ 🔍 Search @ ☆ ⋮

use-case-generation

You created this channel today. This is the very beginning of the **# use-case-generation** channel. Purpose: to discuss and refine the core use cases for weather on the web ([edit](#))

[+ Add an app](#) [👤 Invite others to this channel](#)

Today

Rich Carne 1:00 PM
joined #use-case-generation.

Rich Carne 1:00 PM
set the channel purpose: to discuss and refine the core use cases for weather on the web

+ Message #use-case-generation @ 😊

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Questions?





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Interoperable Simulation & Gaming DWG / ad-hoc Closing Plenary Report

107th OGC Technical Committee

Fort Collins, Colorado USA

David Graham

7 June 2018

The most important thing for this WG is...



Learning how to effectively collaborate with other WG's in
OGC

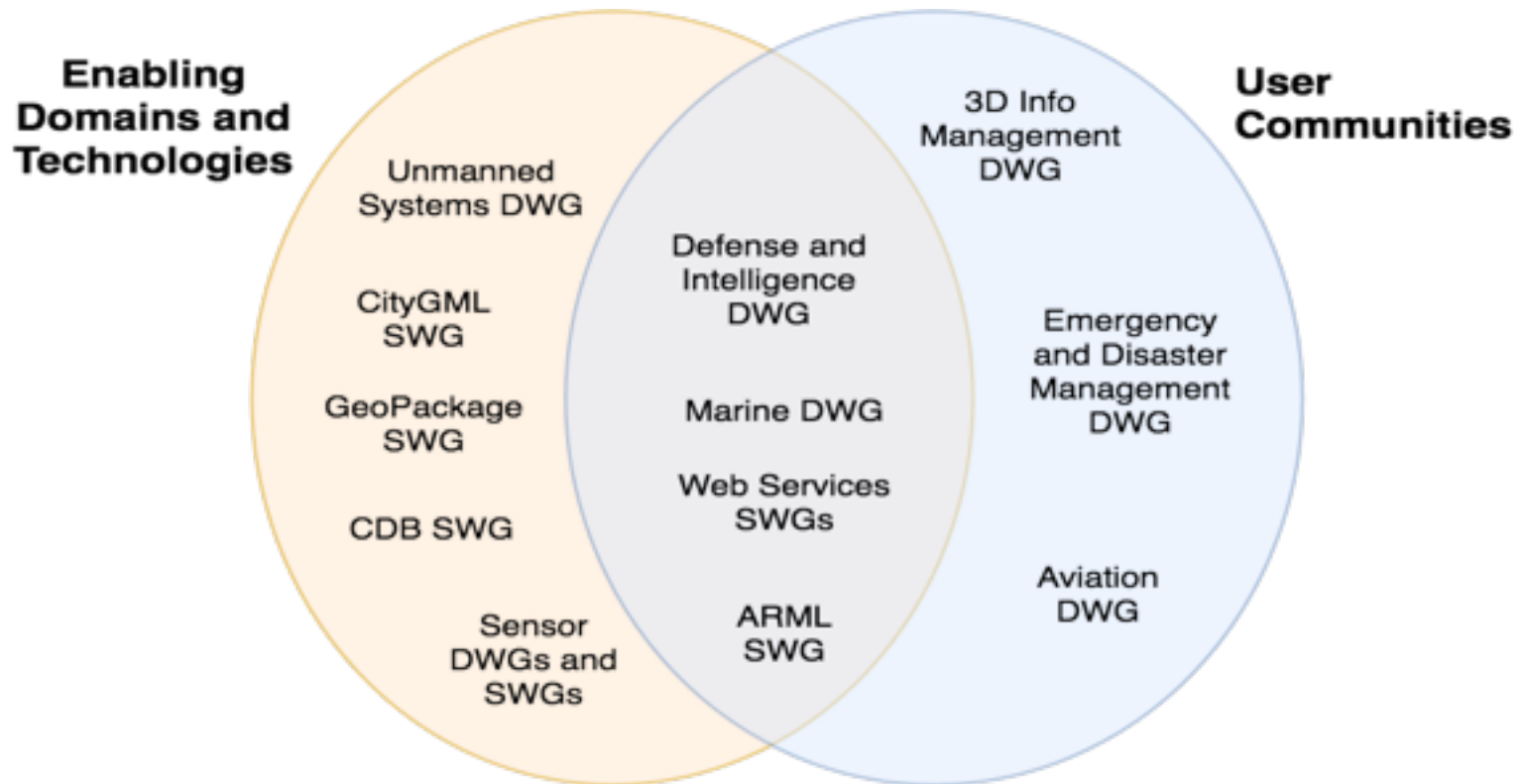


Figure 1 Some of the OGC Working Groups that should cooperate with the ISG DWG
...excerpted from the ISG DWG Charter, OGC 18-018

Agenda



- **First Session: 0855-0945**

- Review of previous ad-hocs
- Charter; completed public comment period; vote in closing plenary tomorrow
- Introductions: people / organizations / ISG interest
- Election of Co-Chairs; DWG meeting schedule
- CDB SWG status report
- DOD White Paper; OGC/SISO MOU Status

- **Second Session: 1015-1200 Presentations**

- ADSTC Functions Brief: David Ronnfeldt, DOD (Aus)
- RIEDP Status: Lance Marrou
- Interoperable Weather Challenge: Andrew Fernie
- AGC Slides: Glen Quesenberry
- 3D Model Container Conversation: Jay Freeman
- Call for presentations / inputs / conversations for the next meeting of the DWG

Activity Summary



- Discussion topics
 - Forming the DWG
 - Recruiting additional Charter Members
 - Electing some Co-Chairs
 - Beginning discussions to discover and form our community

- Upcoming deliverables
 - Establish a twiki and populate it
 - Final charter version with updated Charter Member list
 - Plan for an ISG summit in Charlotte

- Coordination (ongoing and planned)
 - ‘Summits’ in Stuttgart and Charlotte

- Future meetings
 - TC meetings in Stuttgart and Charlotte
 - Summits in Stuttgart and Charlotte

Key activities



- Picked up four more charter members to the DWG in the meeting
- Elected Co-Chairs:
 - David Graham, CAE
 - Ron Brown, Leidos
 - Colin George, Real Factors
 - Promises to think about it from BIS and Dept. of Defence (Aus)
- DWG agreed to ask TC Chair for two summits at the next two TC meetings

Motion to Request a Closing Plenary Vote



- The Interoperable Simulation and Gaming ad hoc v4 recommends that the OGC Technical Committee approve OGC Document Number 18-018 “OGC Interoperable Simulation and Gaming Domain Working Group (ISG DWG) Charter” and approve the formation of the ISG DWG as an authorized WG of the OGC Technical Committee
 - There was no objection to unanimous consent



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CDB 1.1 Presentation to TC

107th OGC Technical Committee
Fort Collins, Colorado USA
Carl Reed on behalf of CDB SWG
7 June 2018

Agenda



- OGC CDB V 1.1 Standard Status
- Change Requests Processed
- Key changes in CDB Version 1.1
- Release notes [OGC 18-016] are here:
 - https://portal.opengeospatial.org/files/?artifact_id=78192&version=1

Quick note on one normative change



- Change Request: Remove Requirement 102 from the CDB standard
- This was a requirement for the client. The SWG determined that client side requirements are not testable and therefore this requirement was changed to guidance. The associated ATS clause was also removed.

Volume 1



- The majority of the changes, additions, and enhancements are in Volume 1: Core Standard: Model and Physical Data Store Structure. No new requirements are specified.
 - Includes all CDB 1.0 Corrigendum changes
 - All file specific extensions stated in requirements have been made generic (change .shp, .flt, and so forth to .<ext>.
 - 5.1.11 (Formerly 5.1.9): Vendor Attributes Metadata. Description re-written.
 - 5.6: Tiled Raster Datasets. Cross walked terminology for consistency with ISO 19123.
 - New Clause: 5.7.1.6.4 Network Vector Priority was added.
 - New Clause: 5.7.1.9 Vector Significant Size and Spatial Significance Criteria were added.
 - Changed Clause 5.6.2.3.2 Default Read Value. Removed requirement 102 and changed to guidance
 - Updated Annex A as required to reflect above edits.

Volume 1: Metadata



- The inclusion of metadata guidance is the major change in Version 1.1
 - No new requirements!
 - Introduction of concept of controlled vocabularies viz metadata
 - Added clauses
 - 1.4.3.1 – Metadata
 - 1.4.3.2 – Controlled Vocabularies
 - 1.4.3.3 – Enumerations
 - 1.4.3.4 CDB metadata, controlled vocabularies, and enumerations summary table. Table is also new.
 - 5.1.1 – Discussion of global metadata
 - 5.1.2 – Discussion of local metadata
 - 5.1.12 – Geospatial Metadata Guidance
 - 5.1.12.1 - Suggested Global Metadata Elements.
 - 5.1.12.2 - Suggested Local Metadata Elements.

Volume 1: Metadata



- Modifications to Volume 1 for Metadata Continued
 - Changed clauses
 - 3.1.1.1 - Enhanced to introduce concept of global spatial metadata
 - 5.1 - Enhanced to reflect inclusion of metadata guidance
 - 5.1.8 – Enhanced to include Metadata_standard element and discussion of that element. Also added new enumeration table of metadata standards and codes

Schemas Corrected/Updated



- The Version.xsd schema has also been modified to allow the specification of OGC CDB Versions 1.0 and 1.1 and to allow specification of optional metadata standard used in a CDB data store.
- Updated Datasets.xml file that reflects the datasets that are in CDB 1.0 and 1.1
- The light table in the CDB 3.2 Volume 2 document doesn't match the Lights.xml file from CDB 3.2. This is the Lights.xml that was pulled into the OGC CDB 1.0.
 - Change Request 507

Updated Schemas (Cont.)



- CDB_Attributes XML (CR 471 and 481)
 - The legend at the bottom of the table uses the uppercase letter "D" twice with two different meanings. The use of "D" to indicate a "Deprecated Attribution Schema" is never referenced by the first [3](#) lines of the table where it was used in the past... at the time of the CDB Specification.
 - The other correction (CR 481) to the table allows the proper visualization in the standards document. The issue was with Table 5-27 not being entirely visible.

Request of an electronic vote



- The CDB SWG recommends that the OGC Technical Committee approve an electronic vote to approve release of OGC 15-112r3, 15-113r5, 15-120r5, 16-003r3, 16-004r4, 16-005r3, 16-006r4, 16-007r4, 16-009r4, 16-010r4, 16-011r4, 16-070r3 “OGC CDB 1.1” (multiple volumes) as an OGC Adopted Standard.
 - There was no objection to unanimous consent
- **Abstract:** The CDB standard defines a standardized model and structure for a single, “versionable”, virtual representation of the earth. A CDB structured data store provides for a geospatial content and model definition repository that is plug-and-play interoperable between database authoring workstations. Moreover, a CDB structured data store can be used as a common online (or runtime) repository from which various simulator client-devices can simultaneously retrieve and modify, in real-time, relevant information to perform their respective runtime simulation tasks.



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OGC Web Services Security

107th OGC Technical Committee

Fort Collins, Colorado USA

Andreas Matheus

07 June 2018

We all know the Square-Peg-Challenge



What is the clash in the Interoperability?



- OGC Web Services Implementation Standards and OWS Common are missing normative reference to IETF RFC 2818 or 7230 (HTTPS)
- If you operate an OWS on HTTPS and you have interoperability issues caused by HTTPS, no OGC standards backup what you did
- If you have Information Assurance Controls (i.e. Authentication and Access Control) and the client application does not interoperate, no OGC standard help you to achieve interoperability

What is the Solution?



- OGC Web Services Implementation Standard 17-007 has normative reference to IETF RFC 7230 which allows you to host an OWS on HTTPS
- OGC Web Services Implementation Standard 17-007 provides the ability to identify the existence of Information Assurance Controls in the Capabilities document
- More details on the ability of this standard can be found in portal folders of previous Open OAB sessions

OGC Web Services Fact Sheet



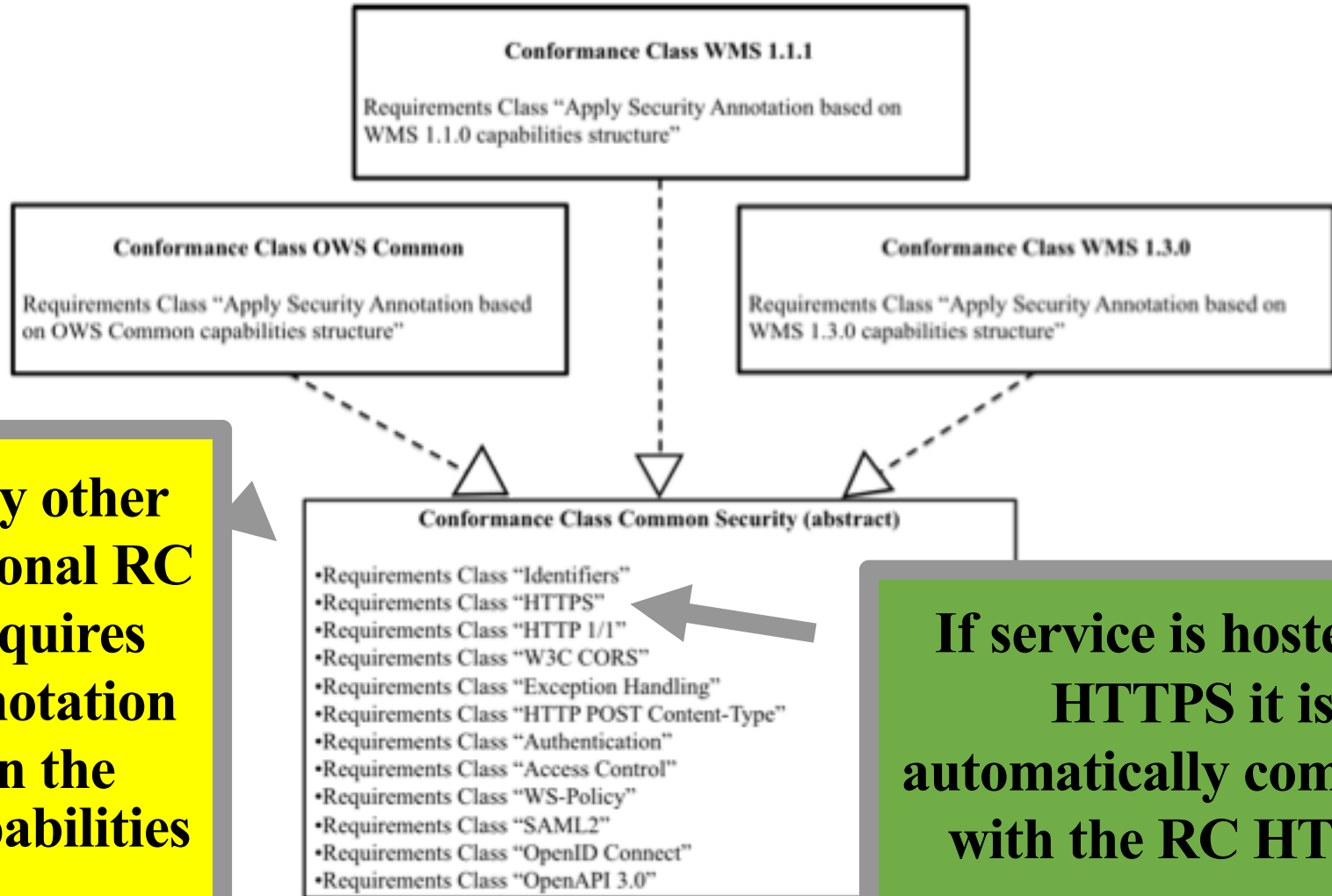
Requirements Class	... is mandatory	... is dependent upon	... has description
<u>HTTPS</u>	<u>YES</u>	-	<u>HTTP over TLS</u>
Identifiers	NO	-	Use of <ows:Constraint> element to annotate security metadata Use of <ows:Meaning> and <ows:Metadata> to provide URLs
HTTP Methods	NO	-	Support for HTTP 1/1 methods as advertised
HTTP Exception Handling	NO	-	Guarantees HTTP 1/1 compliant error responses incl. HTTP status code Authentication example: 401 => Authorization Required
W3C CORS	NO	HTTP 1/1	Service supports HTTP header processing according to W3C CORS
Authentication	NO	Exception Handling	To indicate the authentication method used by an operation of the service instance
SAML2	NO	-	To provide URL to SAML2 metadata for supporting client to fetch IdPs
OpenID Connect	NO	-	Required to provide the .well-known URL for the OpenID Provider's configuration
OpenAPI 3.0	NO	-	URL to an OpenAPI 3.0 compliant description of the service instance
Access Control	NO	-	Opportunity to inform client about access constraints – for the purpose of performance to enable client authorization pre-testing
WS-Policy	NO	-	To provide URL for the WS-SecurityPolicy that defines the conditions on accepted SOAP messages
HTTP POST XML Content-Type	NO	-	Support for CR #388 http://ogc.standardstracker.org/show_request.cgi?id=388

Submitters and Organizations



Name	Affiliation
Andreas Matheus	University of the Bundeswehr
Dave Wesloh	NGA
Frank Terpstra	Geonovum
Chuck Heazel	WiSC
Michael Leedahl	DigitalGlobe

Conformance and Requirements Classes



Any other optional RC requires annotation in the Capabilities

If service is hosted on HTTPS it is automatically compliant with the RC HTTPS

Summary & Impact



- With this OGC Web Services Security Standard any operator of an OGC Web Service can ...
 - ... claim compliance for an OGC Web Service if hosted on HTTPS (nothing else must be done)
 - ... specify which authentication method is required to be supported by the client for a particular operation (or all operations)
 - ... link to the well defined list of authentication codes and a resolver to lookup the definition of an authentication code
 - ... describe existing Assurance Controls in the services' Capabilities
- Every OWS Client must now be able to interoperate with an OGC Web Service deployed on HTTPS
- Web-Applications are supported by correcting default error handling via XML, as specified in OWS Common

History of the resulting Standard

These activities from the OGC Innovation Program fed into the Standardization Program

Testbed Activities

- Testbed 11 ER (2015)
 - Implementing Common Security Across the OGC Suite of Service Standards
- Testbed 12 ER (2016)
 - OWS Common Security Extension
- Testbed 13 ER (2017)
 - Security

SWG Activities (Nov 2015)

Action	Work	Priority	State	Name (milestones in red)	State	Actions Info	Lead	Owner	Start Date	Finish Date
	0%	VA		Telecom #2	Committed	- - - -	Matheus, Andreas	Matheus, Andreas	01/25/2016	01/25/2016
	0%	VA		Telecom #1	Committed	- - - -	Matheus, Andreas	Matheus, Andreas	01/11/2016	01/11/2016
	0%	VA		Telecom #3	Committed	- - - -	Matheus, Andreas	Matheus, Andreas	02/08/2016	02/08/2016
	0%	VA		Telecom #4	Committed	- - - -	Matheus, Andreas	Matheus, Andreas	-	-
	0%	VA		Session March 8, 2016	Committed	- - - -	Matheus, Andreas	Matheus, Andreas	03/08/2016	03/08/2016
	0%	VA		Telecom #5	Committed	- - - -	Matheus, Andreas	Matheus, Andreas	03/21/2016	03/21/2016
	0%	VA		Telecom #6	Committed	- - - -	Matheus, Andreas	Matheus, Andreas	04/18/2016	04/18/2016
	0%	VA		Telecom #7	Committed	- - - -	Matheus, Andreas	Matheus, Andreas	05/02/2016	05/02/2016
	0%	VA		Session June 22, 2016	Committed	- - - -	Matheus, Andreas	Matheus, Andreas	06/22/2016	06/22/2016
	0%	VA		Telecom #8	Committed	- - - -	Matheus, Andreas	Matheus, Andreas	07/11/2016	07/11/2016
	0%	VA		Telecom #9	Committed	- - - -	Matheus, Andreas	Matheus, Andreas	08/22/2016	08/22/2016
	0%	VA		Telecom #9	Committed	- - - -	Matheus, Andreas	Matheus, Andreas	08/22/2016	08/22/2016
	0%	VA		Session September 20, 2016	Committed	- - - -	Matheus, Andreas	Matheus, Andreas	09/20/2016	09/20/2016
	0%	VA		Session September 22, 2016	Committed	- - - -	Matheus, Andreas	Matheus, Andreas	09/22/2016	09/22/2016
	0%	VA		Telecom #10	Committed	- - - -	Matheus, Andreas	Matheus, Andreas	10/17/2016	10/17/2016
	0%	VA		Telecom #11	Committed	- - - -	Matheus, Andreas	Matheus, Andreas	11/07/2016	11/07/2016
	0%	VA		Telecom #12	Committed	- - - -	Matheus, Andreas	Matheus, Andreas	11/14/2016	11/14/2016
	0%	VA		Telecom #13	Committed	- - - -	Matheus, Andreas	Matheus, Andreas	12/12/2016	12/12/2016
	0%	VA		Telecom #14	Committed	- - - -	Matheus, Andreas	Matheus, Andreas	01/09/2017	01/09/2017
	0%	VA		Telecom #15	Committed	- - - -	Matheus, Andreas	Matheus, Andreas	01/23/2017	01/23/2017
	0%	VA		Telecom #16	Committed	- - - -	Matheus, Andreas	Matheus, Andreas	02/06/2017	02/06/2017
	0%	VA		Telecom #17	Committed	- - - -	Matheus, Andreas	Matheus, Andreas	02/27/2017	02/27/2017
	0%	VA		Telecom #18	Committed	- - - -	Matheus, Andreas	Matheus, Andreas	03/13/2017	03/13/2017
	0%	VA		Session March 21, 2017	Committed	- - - -	Matheus, Andreas	Matheus, Andreas	03/21/2017	03/21/2017
	0%	VA		Telecom #19	Committed	- - - -	Matheus, Andreas	Matheus, Andreas	03/27/2017	03/27/2017
	0%	VA		Telecom #20	Committed	- - - -	Matheus, Andreas	Matheus, Andreas	04/10/2017	04/10/2017
	0%	VA		Telecom #21	Committed	- - - -	Matheus, Andreas	Matheus, Andreas	04/24/2017	04/24/2017
	0%	VA		Telecom #22	Committed	- - - -	Matheus, Andreas	Matheus, Andreas	05/08/2017	05/08/2017
	0%	VA		Telecom #23	Committed	- - - -	Matheus, Andreas	Matheus, Andreas	05/22/2017	05/22/2017
	0%	VA		Telecom #24	Committed	- - - -	Matheus, Andreas	Matheus, Andreas	06/19/2017	06/19/2017
	0%	VA		Session 28 June 2017	Committed	- - - -	Matheus, Andreas	Matheus, Andreas	06/28/2017	06/28/2017
	0%	VA		Telecom #25	Committed	- - - -	Matheus, Andreas	Matheus, Andreas	07/03/2017	07/03/2017
	0%	VA		Telecom #26	Committed	- - - -	Matheus, Andreas	Matheus, Andreas	07/17/2017	07/17/2017
	0%	VA		Telecom #27	Committed	- - - -	Matheus, Andreas	Matheus, Andreas	07/31/2017	07/31/2017
	0%	VA		Telecom #28	Committed	- - - -	Matheus, Andreas	Matheus, Andreas	08/14/2017	08/14/2017
	0%	VA		Telecom #29	Committed	- - - -	Matheus, Andreas	Matheus, Andreas	08/21/2017	08/21/2017
	0%	VA		Session 13 September 2017	Committed	- - - -	Matheus, Andreas	Matheus, Andreas	09/13/2017	09/13/2017
	0%	VA		Telecom #30	Committed	- - - -	Matheus, Andreas	Matheus, Andreas	10/09/2017	10/09/2017
	0%	VA		Telecom #31	Committed	- - - -	Matheus, Andreas	Matheus, Andreas	11/06/2017	11/06/2017
	0%	VA		Telecom #32	Committed	- - - -	Matheus, Andreas	Matheus, Andreas	11/13/2017	11/13/2017
	0%	VA		Session 04 December 2017	Committed	- - - -	Matheus, Andreas	Matheus, Andreas	12/04/2017	12/04/2017
	0%	VA		Telecom #33	Committed	- - - -	Matheus, Andreas	Matheus, Andreas	01/15/2018	01/15/2018
	0%	VA		Telecom #34	Committed	- - - -	Matheus, Andreas	Matheus, Andreas	01/29/2018	01/29/2018
	0%	VA		Telecom #35	Committed	- - - -	Matheus, Andreas	Matheus, Andreas	-	-
	0%	VA		Session 05 March 2018	Committed	- - - -	Matheus, Andreas	Matheus, Andreas	-	-
	0%	VA		Session 06 March 2018	Committed	- - - -	Matheus, Andreas	Matheus, Andreas	-	-
	0%	VA		Session 06 March 2018	Committed	- - - -	Matheus, Andreas	Matheus, Andreas	-	-
	0%	VA		Session 21 March 2018	Committed	- - - -	Matheus, Andreas	Matheus, Andreas	03/21/2018	03/21/2018
	0%	VA		Telecom #36	Committed	- - - -	Matheus, Andreas	Matheus, Andreas	03/26/2018	03/26/2018

What will happen to the SWG?



- It is chartered as a persistent SWG – so it will not go away
- One of the persistent duties is related to process new authentication code requests
- We now will wait patiently for adopters to write CRs 😊

Call for Action to Voting Members



please

read 17-007 “OGC Web Services Security”

make up your mind

and vote for this standard to make it

the second OGC standard

related to security

Thank you



- Big thank you to all of you, Testbed participants and the members of the OWS Common Security SWG for their long standing to work with me on this
- Special thank you to
 - Dave Wesloh – The initiator of this endeavour
 - Chuck Heazel, Frank Terpstra and Mike Leedahl – The security gurus

Request of an electronic vote



- The OWS Common – Security SWG recommends that the OGC Technical Committee approve an electronic vote to approve release of OGC 17-007r1 “OGC Web Services Security” as an OGC Adopted Standard.
 - There was no objection to unanimous consent
- **Abstract:** The goal of the OWS Common Security Standard is to allow the implementation of Information Assurance controls for OGC Web Services and to advertise their existence in an interoperable way with minimal impact to existing implementations using a backwards-compatible approach



Upcoming TC Meetings



September 2018 TC Meeting

Technical / Planning Committee Meetings



Date	Location	Host/Sponsor
4-8 June 2018	Fort Collins, CO USA	DigitalGlobe, UCAR/NCAR
10-14 September 2018	Stuttgart, Germany	HFT Stuttgart
10-14 December 2018	Charlotte, NC USA	EPRI
Feb/March 2019	Singapore	
June 2019	Leuven, Belgium	
September 2019	Banff, Canada	
December 2019	Toulouse, France TBC	

Who wants to host or sponsor? We are particularly looking for sponsorship assistance (\$,€,£...) for upcoming meetings.



TC Chair Announcements and Motions

GML 3.2.2



- Corrigendum to GML 3.2 is now published
- If you have a local copy of the schema, please go to the OGC schema repository and update to the 3.2.2 version!

Please vote!



- GMLJP2 v 2.1 under ballot now!
- Plenty more votes will start after today



Meeting Sponsors



GMLJP2 v2.1 in a nutshell

107th OGC Technical Committee
Fort Collins, Colorado USA
Emmanuel Devys
7 June 2018

Added value of GMLJP2 v2.1



- GMLJP2 Candidate Encoding Standard defines how the Geography Markup Language (GML) is to be used within JPEG 2000 (ISO 15444-1 + -2) images and other gridded coverage data for georeferencing the image(s) / grid(s) and adding geospatial content to imagery, such as GML features or annotations.
- This revised version 2.1 adds support for referenceable grid coverages via a the Coverage Implementation Schema (CIS 1.0) extension GMLCOVRGRID, which provides:
 - support for geopositioning sensor models described with SensorML 2.0 or
 - Support of GML ReferenceableGridByArray, ReferenceableGridByVectors, ReferenceableGridByTransformation

Geopositioning sensor models (SML 2.0-based)



- Sensor models envisioned for use with GMLJP2 address imaging systems located on satellite, airborne platforms (including UAVs), or in-situ and mobile mapping.
- Examples based on the Community Sensor Model (GWG/CSM)
 - frame camera model is available [here](#) (submitted by KEYW Inc.)
 - RPC00B model for satellite Primary imagery DigitalGlobe WV2 [here](#) and for Airbus D&S Pleiades [here](#) (submitted by DGIWG)
 - SENSRB model for Oblique airborne imagery [here](#) (by DGIWG)
- OGC is about to provide OGC Sensor Model register ready to accommodate Sensor Model definition (and parameters)
- ISO TC211 on-going project for SML2.0 schemas to ISO 19130 standards for imagery sensor geopositioning models (EO, SAR/InSAR, Lidar, Sonar, Aero-triangulation – with GCPs)
- Agencies, Industry (including imagery sensor systems) are welcome to deliver their sensor system documentation

Envisioned usages



- Developers intending to implement geospatially enabled JPEG 2000 encoders and readers
- Web services: WCS and WFS providing support for JPEG 2000 formats;
- Users / industry / infrastructures handling geospatial imagery and gridded data on basis of open standards, using GML, SML and JPEG2000 standard (lossless or near-lossless), including
 - Imagery producers (i.e satellite, airborne imagery)
 - Agencies
 - Military (one single standard for still imagery: orthoimagery, elevation, raster maps and imagery observations from sensors)



TC Meeting structure and DWG clustering

TC Meeting agendas are now set in a new way



- This started with a discussion in the Closing Plenary in Orléans where the TC requested that Working Groups be divided into 8 clusters
- Further discussion in the PC in Orléans directed the meeting to be organized as follows:
 - Organize DWGs and Subcommittees (SCs) into 8 clusters
 - Place all SWGs into two tracks and allow SWGs to reserve sessions before DWGs and SCs
 - Allocate blocks of time for each Cluster and for ad hocs/summits
 - Have DWG/SC chairs work with their fellow cluster-mates (!) to fill their time blocks
 - Release empty SWG track slots to DWGs, SCs, ad hocs

PC review of clustering resulted in 6 Clusters



Cluster 1 Big data, imagery, and sources	Cluster 2 3D and the Built Environment	Cluster 3 Architecture and standards process	Cluster 4 Sciences	Cluster 5 Operational domains	Cluster 6 Data practices
Big Data DWG	3DIM DWG	Architecture DWG	Agriculture DWG	Aviation DWG	Catalog and Metadata DWG
Coverages DWG	Energy and Utilities DWG	CITE SC	Earth Systems Science DWG	Defense and Intelligence DWG	Citizen Science DWG
Discrete Global Grid Systems DWG	Integrated Digital Built Environment SC	Coordinate Reference System DWG	Electromagnetic Spectrum DWG	Emergency & Disaster Management / LEAPS DWG	Data Preservation DWG
Perspective Imagery DWG	Interoperable Simulation and Gaming DWG	DocTeam SC	Geoscience DWG	Health DWG	Data Quality DWG
Sensor Web Enablement DWG	Land Administration DWG	Joint Advisory Group OGC/TC211	Hydrology DWG	Marine DWG	Geosemantics DWG
	Land and Infrastructure DWG	OGC Naming Authority SC	MetOcean DWG	Mobile Location Services DWG	Spatial Data on the Web SC
	Point Cloud DWG	Quality of Service and Experience DWG	Temporal DWG	University DWG	Workflow DWG
	Smart Cities DWG	Security DWG		Unmanned Systems (UxS) DWG	

Growing pains



- The clustering process was somewhat intricate – including consideration of member attendance in sessions
- This process caused a one-time delay in readiness for session reservations
- Staff will facilitate discussion amongst chairs in each Cluster to aid in organizing time for next TC Meeting
- Clusters will be re-evaluated twice per year



Standards Roadmap

You control your own destiny



- All standards work will be tracked through an online tool
- Editors and chairs will control their parts of the workflow
- Standards Program staff will move items through the process where it is their duty
- EVERYONE will have visibility into the process
- Starting right after **this**¹ TC Meeting!

¹this time I really mean “this” unless some curve ball is thrown during this plenary or tomorrow’s PC Meeting



Chair/editor view



OGC Standards Roadmap

 Search

Progress of Official OGC Standards 2018-02-05

	SWG Work	OAB Review	OGC-NA Review	Public Review	Prepare for Approval	TC Approval to Vote	TC Vote	PC Vote	Public Release
Proposed Standards									
Sample Test Standard 2.0 1 new 18-001	✓13d	✓2d	✓11d	✓9d	✓42d	✓40d	✓6d	✓2d	✓1d
3DIM Standard of Some Sort 12 new 17-019	✓32d								
SWG Work Standards working group (SWG) must be created and document must be prepared for OAB approval									
✓SWG Created 2018-01-02									
✓Pending Document Uploaded 2018-01-04									
OAB Review Document must be approved by OAB before going to Public Review									
✓Document ready for OAB review 2018-01-06									
□Document reviewed by OAB new									

Member (public?) view



OGC Standards Roadmap

 Search

Progress of Official OGC Standards 2018-02-05

SWG Work

OAB Review

OGC-NA Review

Public Review

Prepare for Approval

TC Approval to Vote

TC Vote

PC Vote

Public Release

Proposed Standards

Sample Test Standard 2.0 18-001



3DIM Standard of Some Sort 17-019



Corrigenda for other standard types



- The rules for creating a Corrigendum are currently limited to standards in the Full Standards Track: standard and standard with Compliance Suite
- Of course, Abstract Spec Topics or Community standards could also have bugs and require bug fixes
- So how about we fix this little issue identified by the OAB?

Motion to approve a Policy Directive on the Corrigendum process



- The OGC Architecture Board recommends that the OGC Technical Committee approves a Policy Directive making the corrigendum process applicable to all OGC standard types.
 - Discussion:
 - Andreas: note that some issues with Community standards may be submitted to GitHub
 - Keith: still can use OGC Issue Tracker
 - Scott: will add a foot note to describe process
 - There was no objection to unanimous consent
- Notes:
 - This Policy Directive will not be expressed as an entry in the Policy Directives database, rather the phrase “(Full Standard)” shall be removed from the header of Section 9.11 of the Technical Committee Policies and Procedures



OUR URBAN ENVIRONMENT

Data, Interoperability and our Urban world

25th & 26th September 2018

TO BE FOLLOWED BY:

Integrated Digital Built Environment (IDBE)

26th & 27th Sept

GeoWorks
460 Alexandra Road
Singapore, 119963

#LPUrbanEnviro

Plan to attend plus speaking Opportunities!

<http://www.locationpowers.net/upcomingevents/1809singapore/>

CONVERSATION

As the world's population continues to urbanise , the available space for citizens to live safe and productive lives is under pressure. How do we find better ways to understand and use the space available in our urban communities while taking into account diverse and varied populations and landscapes? The capacity to collect and share high quality Location data is at the heart of understanding how we live, work and play in our urban environments and is key to helping us see the pathways to improving the lives of citizens.

This Location Powers event will explore areas such as transport, public safety , resilience and sustainability , building modelling, underground infrastructure, sensors and the IoT and the ever increasing world of big data and analytics. The event precedes meetings of the Integrated Digital Built Environment - a joint initiative of the OGC and buildingSMART international looking at how we bring into reality concepts , such as the Digital Twin, for our cities.

#LPUrbanEnviro

SUSTAINABILITY

RESILIENCE

BIM

IOT

EFFICIENCY

RESOURCES



WG Reports not to be briefed

Not being briefed today



- 3D Portrayal SWG
- Agriculture DWG
- Big Data DWG
- CDB SWG
- CITE SC
- CityGML SWG
- Cluster 1 joint meeting
- Coverages DWG + Datacubes
- CRS SWG
- D&I DWG
- DGGS DWG
- DGGS SWG
- Distributed Ledgers ad hoc
- ESS DWG
- EDM DWG
- Future Directions
- Geosemantics DWG
- GeoTIFF SWG
- HDF SWG
- IDBE SC
- LandInfra DWG
- LandInfra SWG
- Marine DWG
- Metadata and Catalog DWG
- MetOcean DWG
- NAD ad hoc
- netCDF SWG
- OWS Common SWG
- OWS Common-Security SWG
- OWS Context SWG
- Perspective Imagery DWG
- PipelineML SWG
- Point Cloud DWG
- Spatial Data on the Web SC
- Security DWG
- UxS DWG
- WCS SWG
- WFS-FES SWG
- WPS SWG/Workflow DWG



Z – 3

WG Reports with TC Motions



Meeting Sponsors



Smart Cities DWG

107th OGC Technical Committee

Fort Collins, Colorado USA

Carsten Roensdorf, Dimitri Sarafinof, Jo Abhayaratna, John
Herring, Leif Granholm

7 June 2018

The most important thing for this WG is...



Quote:

"If I have been able to see farther than others, it was because I stood on the shoulders of giants" – Isaac Newton

Purpose:

Create a curated package of knowledge (best practices and playbooks) to support Smart Cities initiatives to “build on the shoulders of giants”.

Reach out to Smart Cities to promote the package

Agenda



- Smart Cities Interoperability Reference Architecture (SCIRA) Landscape Assessment – Josh Lieberman
- Underground Data Benefits Analysis and ROI Model – Josh Lieberman and Alan Leidner
- Water Infrastructure Use Cases – David Arctur
- Chair arrangements and purpose of the DWG – Carsten and Jo
- Smart Citizens for Smart Cities – Steve Liang
- State of the FOAM Geospatial Blockchain Protocol – Kristoffer Josefsson

Activity Summary



- Discussion topics

- Purpose of the group

- Create a package of knowledge which communicates the value of geospatial information and standards to Smart Cities
 - Outreach to cities

- Upcoming deliverables

- Motion to approve SCIRA Architectural Landscape Assessment as ER

- Coordination (ongoing and planned)

- 3D and the Built Environment cluster (3DIM, E&U, IDBE SC, Interoperable Simulation and Gaming, Land Admin, LandInfra, Point Cloud)
 - SensorThings API SWG
 - ISO/IEC JTC 1 WG 11

- Future meetings

- ½ day workshop at Stuttgart

Key activities



WHAT SHAPED THE THOUGHTS ON PURPOSE?

- Resignation of main Chair prompted discussion of purpose
- Broad agreement to keep the DWG running with the four remaining Co-chairs
- Observation: limited connectivity between Smart Cities initiatives (e.g., ESPRESSO and SCIRA), the DWG must help improve this
- Comment: need to promote value of OGC and geospatial information and standards to Smart Cities

SCIRA Architectural Landscape Assessment as an OGC public ER



- The **Smart Cities DWG** recommends that the OGC Technical Committee approve release of 18-044 “**SCIRA Architectural Landscape Assessment**” as an **OGC Engineering Report**.
 - There was no objection to unanimous consent
 - Report assesses the occurrence of Smart Safe City architectural artifacts and elements across a landscape of small to medium sized US cities.



Meeting Sponsors



SLD-SE SWG Working Group Report

107th OGC Technical Committee

Fort Collins, Colorado USA

Jeff Yutzler

7 June 2018

The most important thing for this WG is...



We are hard at work building the successors
to SLD 1.1 and SE 1.0

Agenda



- Roll Call
- Portrayal Concept Development Study – Jeff
- Intro to T14 - D029 Symbology Engineering Report – Sara
- T14 "negotiated & common" symbology conceptual model – Jérôme
- Other topics?

Activity Summary



- Discussion topics
 - What is this emerging standard going to be called? (Probably not SLD2)
 - What goes into the conceptual model?
 - What goes into the basic conformance level (the 80%)?
 - How does Semantically-enabled Portrayal fit into the overall workflow?
- Upcoming deliverables
 - Portrayal CDS
 - D029 (18-029) TB 14 Symbolology ER
- Coordination (ongoing and planned)
 - Testbed 14
 - GeoPackage SWG
- Future meetings
 - TBD

Document Approval Motion



- The SLD-SE SWG recommends that the OGC Technical Committee approve release of 17-049r1 “Portrayal Concept Development Study” as an OGC Engineering Report.
 - There was no objection to unanimous consent
- The goal of this concept development study (CDS) is to advance the standards and guidance that will allow production of high-quality digital maps over the web from existing vector data



Meeting Sponsors



SensorThings API SWG OGC Fort Collins TC Report

107th OGC Technical Committee

Fort Collins, Colorado USA

Steve Liang, Marcus Alzona, Tania Khalafbeigi, Sara Saeedi

7 June 2018

The most important thing for this WG is...



SensorThings API Part 2: Tasking & SensorThings API Part 3 (Next)

SensorThings API SWG #OGC18FC TC Agenda



- Applying SensorThings API in an IoT Platform to Publish Monitoring Messages in Taiwan
 - Chien Fu Jen (Jeffrey) (GIS.FCU)
- Refine SensorThings API Part 2: Tasking – Discuss and Approve Tasking Engineering Report
 - Steve Liang & Tania Khalafbeigi (SensorUp)

Activity Summary



- Discussion topics

- SensorThings API Part 2: Tasking Examples – refinement of text to make sure we answer potential questions without raising new ones
- Error states / response codes (out of range, etc.)
- Date/Time representation – ISO 8601

- Upcoming deliverables

- SensorThings API Part 2: Tasking
- SensorThings API Part 3
- <document to review by WG, OAB, TC, etc.>
- <document to Pending>
- <vote in progress>

- Coordination (ongoing and planned)

- OAB – PubSub & MQTT: All OWS?
- <other WG>
- <other SDO>
- <other organization>

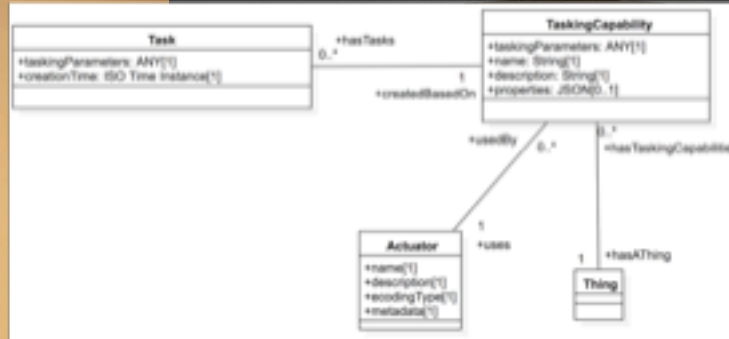
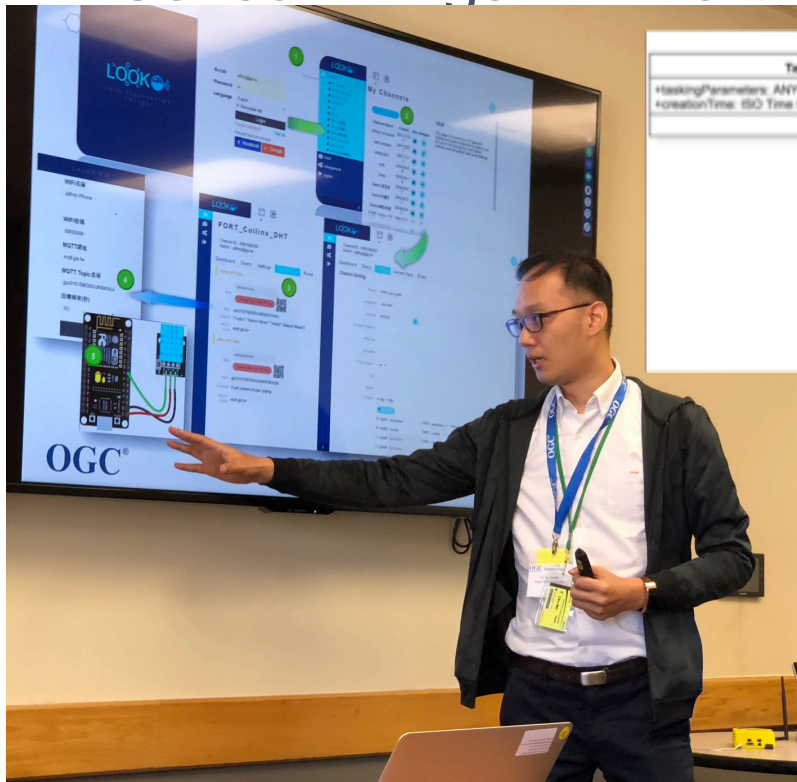
- Future meetings

- <web meeting>???
- SensorThings API Forum at next TC
- <special forum or conference>

Key activities



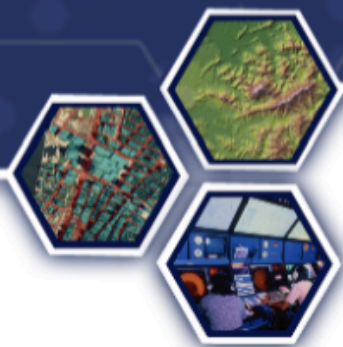
- SensorThings API Part 2: Tasking / ER



SensorThings Document Approval Motion



- The SensorThings SWG recommends that the OGC Technical Committee approve release of OGC18-056 “OGC SensorThings API Tasking Core - Tasking Capabilities Examples” as an OGC Discussion Paper.
 - Discussion: This document was originally submitted as an Engineering Report, but as the document originated in the Standards Program, not the Innovation Program, the document type has been changed in this vote to a Discussion Paper
 - There was no objection to unanimous consent
- Abstract:
 - The engineering report offers descriptions and provides JSON examples of TaskingCapabilities and Tasks.



Meeting Sponsors



OGC Naming Authority

107th OGC Technical Committee
Fort Collins, Colorado USA
Gobe Hobona
7 June 2018

The most important thing for this WG is...



Revision of existing policy documents and proposal of a new
Sensor Model and Parameter Registration policy

Agenda



- Introduction
- Proposed changes to OGC-NA policies and procedures by Gobe Hobona (Doc# 09-046r4 on the Pending Documents page)
- Proposed changes to OGC Name Type Specification - definitions - part 1 – basic name (Doc# 09-048r4)
- Sensor Model and Parameter Registration (Doc# 18-042r1) by Emmanuel Devys and Gobe Hobona
- OGC Definitions Server update by Rob Atkinson

Activity Summary



- Discussion topics
 - Procedures and policy updates
 - Sensor Model and Parameter Registration
 - Update on the OGC Definitions Server

- Upcoming deliverables
 - Initial version of a Sensor Model and Parameter Register
 - Delegation of collections of definitions to appropriate DWGs and SWGs

- Coordination (ongoing and planned)
 - DGGS DWG and SWG
 - D&I DWG
 - ISO TC211

- Future meetings
 - September TC, Stuttgart

Key activities



- Revision of existing policy documents
- Development of a Sensor Model and Parameter Registration policy (tasking from D&I DWG)
- OGC Definitions Server content refactoring and update
- Supporting DGGS, D&I, and other working groups with adoption of the OGC Definitions Server
- Liaison with ISO TC211 on ISO terminology

Motion to approve an e-vote for the release of OGC 09-046r4 as an OGC policy document



- The OGC-NA recommends that the OGC Technical Committee approves an e-vote for the release of OGC 09-046r4, titled “OGC Naming Authority - Procedures”, as an OGC Policy document, subject to editorial changes.
 - There was no objection to unanimous consent
- Notes:
 - This document describes the framework of documents, registers and other resources required for OGC-NA to execute its role. The main changes proposed for this revision include:
 - Added references to the OGC Definitions Server and Github tracker.
 - Added the approval process diagram.
 - Revision of status flags

Motion to approve an e-vote for the release of OGC 09–048r4 as an OGC policy document



- The OGC-NA recommends that the OGC Technical Committee approves an e-vote for the release of OGC 09–048r4, titled “OGC Name Type Specification - definitions - part 1 – basic name”, as an OGC Policy document.
 - There was no objection to unanimous consent
- Notes:
 - This document specifies a rule for constructing OGC names that may be used for identifying definitions, as well as rules for formally representing the meanings of the definitions. The main changes proposed for this revision include:
 - Addition of rules on use of SKOS in describing definitions

Motion to approve an e-vote for the release of OGC 18-042r1 as an OGC policy document



- The OGC-NA recommends that the OGC Technical Committee approves an e-vote for the release of OGC 18-042r1, titled “OGC Name Type Specification - Sensor Models and Parameters”, as an OGC Policy document.
 - Comment: Sensor Model and Parameter policy should be declared formally as a profile of the Definitions policy.
 - Discussion: ensure that requirements can come from any relevant stakeholders
 - There was no objection to unanimous consent
- Notes:
 - This document Provides policy for the creation of a sensor model register that provides an authoritative lookup of identifiers of sensor models and their associated components such as sensor properties, transformation polynomials, and so on.



Meeting Sponsors



GeoAI Ad hoc

107th OGC Technical Committee

Fort Collins, Colorado USA

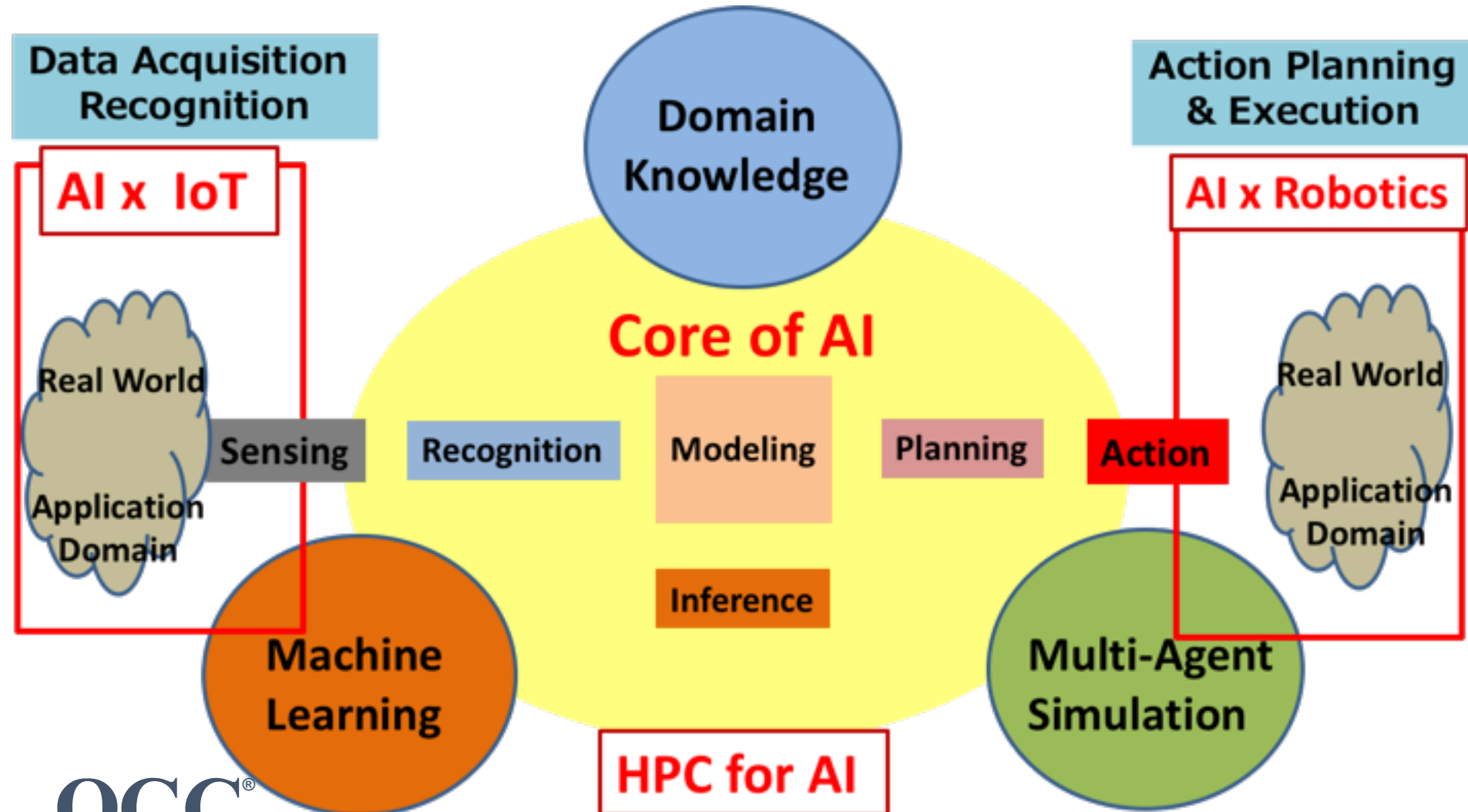
Kyoung-Sook Kim, Tien-Yin (Jimmy) Chou

7 June 2018

The most important thing for this WG is...



AI Embedded in the Real World (Geospatial Contexts)



Agenda



10:15 -12:00, Thursday June 7 @ Rm 324

- 10:15 ~ 10:25 Introduction
- 10:25 ~ 10:35 ISO/IEC JTC1 SC42 report (Kyoung-Sook Kim, AIST)
- 10:35 ~ 10:50 Deep Learning on Event Detection for River Surveillance in Taiwan (Chen-Yu Hao, FCU)
- 10:50 ~ 11:05 Large Scale Aerial Lidar Point Cloud Classification Benchmark (Michael Rosen, Azimetry)
- 11:05 ~ 11:20 Open Collaboration of Deep Learning Applications (Colin George, Real Factors)
- 11:20 ~ 11:35 Future Directions: A Recap of Autonomy in Sensor Webs (Gobe Hobona, OGC)
- 11:35 ~ 12:00 Discussion

Activity Summary



- Discussion topics
 - Training dataset for Geospatial application
 - Creating, Sharing, Managing, etc.
 - Simulation environment based on reinforcement & deep learning for geoAI problems
 - Autonomous applications

- Upcoming deliverables
 - **OGC 18-054 Artificial Intelligence for Geoinformatics (GeoAI) DWG Charter**

- Coordination (ongoing and planned)
 - **ISO/IEC JTC1 SC42**
 - OGC WGs, Testbed14

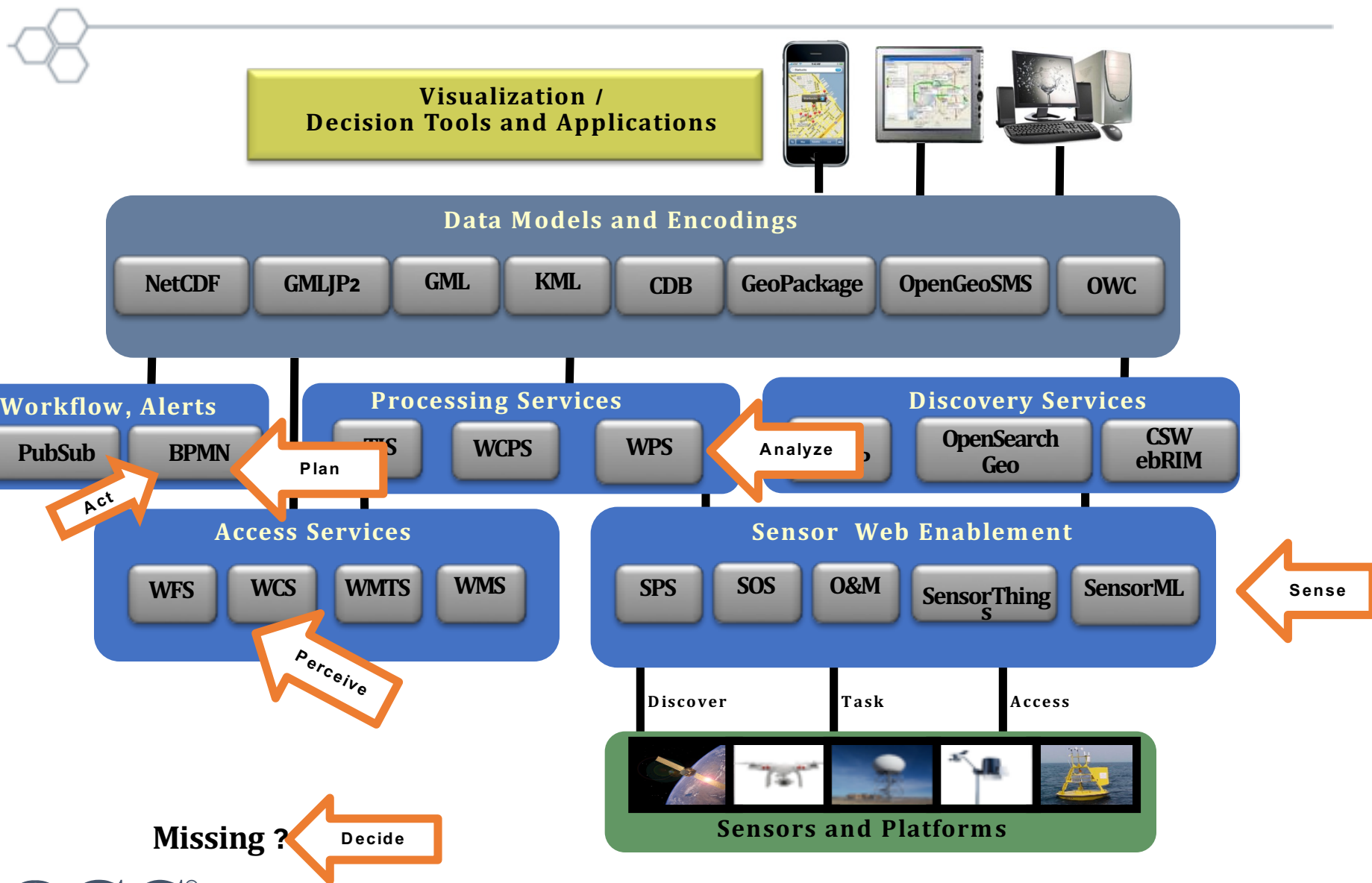
- Future meetings
 - September '18 OGC TC/PC Meetings
 - Stuttgart, Germany

Key activities



- Do we need GeoAI DWG?
- Set the purposes:
 - Interoperability requirements of ...
 - Identify geospatial AI application domains
 - ...
- Identify who's interested in collaborating
 - Charter members, SWG(WPS, WCS, etc.), DWG(BigData, PointCloud, Smart Cities, EDM, etc.)
- Next actions
 - Finalize DWG charter
 - Provide informational presentations and discussions about the use of adopted OGC Standards in the GeoAI market

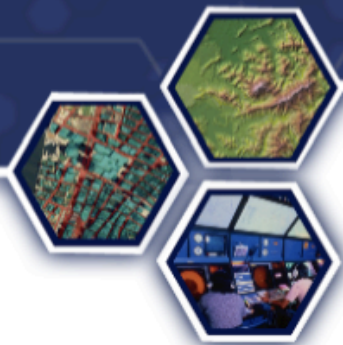
What's Missing from the OGC Service Architecture?



GeoAI Charter document



- OGC 18-054 Artificial Intelligence for Geoinformatics (GeoAI) DWG Charter
- Needs TC Chair review and public comment, then an electronic vote under new TC PnP
- TC Chair will ask to start electronic vote after the public comment ends and any comments (if any) are addressed



Meeting Sponsors



Architecture DWG

107th OGC Technical Committee
Fort Collins, Colorado USA
Gobe Hobona
7 June 2018

The most important thing for this WG is...



OWS Evolution: WFS3.0, WPS and WCS are developing approaches for using REST and web APIs within future OWS. How should OGC ensure that the approach taken is consistent? The Architecture DWG resolved that WFS, WCS and WPS, Testbed-14 ER editors should brief the Architecture DWG at a future meeting.

Agenda



- Call for volunteers for Architecture DWG rep in OGC-NA
- Sensor Integration Framework - Chuck Heazel ([WiSC](#) Enterprises)
- Geospatial Standardization for Distributed Ledgers Discussion Paper - Gobe Hobona (OGC)
- OWS Evolution - Ingo Simonis (OGC)

Activity Summary



- Discussion topics
 - Sensor integration framework and the Integrated Sensor Architecture
 - Distributed ledger technologies and Blockchain
 - OWS evolution – Towards a common approach for web APIs in OGC web services

- Upcoming deliverables
 - Geospatial Standardization of Distributed Ledger Technologies Discussion Paper (motion passed in DWG)

- Coordination (ongoing and planned)
 - DLT study a result of tasking from the OGC Technology Trends activity
 - Action from OAB to discuss OWS Evolution

- Future meetings
 - September TC meeting in Stuttgart, Germany

Key activities



- The Distributed Ledger Technologies and Blockchain study completed
 - Literature review
 - DLT and Blockchain Ad-hoc held during the Orleans TC
 - Discussion Paper
- JSON Best Practice development on-going
 - Document under development on Github
 - Contributors are welcome
- OWS evolution
 - Resolved to invite Testbed-14 engineering report editors to present to the DWG as soon as their findings are ready for discussion
 - Resolved to invite WFS, WCS and WPS editors to discuss their approaches for RESTful and web API-based services

Motion to approve OGC 18-041 as an OGC Discussion Paper



- The Architecture DWG recommends that the OGC Technical Committee approves OGC 18-041 “Geospatial Standardization of Distributed Ledger Technologies Discussion Paper “ as an OGC Discussion Paper.
 - Comment: Include recommendations in the Discussion Paper post-vote, with the following: OGC should base future blockchain work within the Security DWG. Before implementing these recommendations, there should be further discussion in the TC.
 - Gobe: annotate recommendation with output of Distributed Ledger ad hoc
 - Discussion:
 - There was no objection to unanimous consent
- Notes:
 - This document presents a review of Distributed Ledger Technologies, with a focus on Blockchain. The document presents an overview of example projects that use or are studying blockchain within a geospatial context; as well as a selection of standardization initiatives involving blockchain and geospatial data.



Meeting Sponsors



3DIM DWG

107th OGC Technical Committee
Fort Collins, Colorado USA
Carsten Rönsdorf, David Graham
7 June 2018

The most important thing for this WG is...



That whilst keeping quite a low profile this week, we connected 3D-related activities across a number of projects

Agenda



- Establishment of a CityGML ADE Registry, Kavisha Kumar, TU Delft
- 17-090 MUDDI Conceptual Model, Josh Lieberman
- Indoor Standards Survey - Indoor Venue Mapping: disruptive tech at a tipping point - a draft OGC White Paper, George Percivall
- Indoor Pilot, George Percivall
- Next Gen Thread in OGC Testbed 14: Engineering Report (ER) on CityGML & Augmented Reality, Jérôme St-Louis
- Determine OGC-NA rep

Activity Summary



- Discussion topics
 - CityGML ADE registry
 - Upping the game in indoor
 - MUDDI – underground data integration model

- Upcoming deliverables
 - Review of TB14 CityGML & AR

- Coordination (ongoing and planned)
 - Need better link to IndoorGML

- Future meetings
 - Stuttgart

Document Approval Motion



- The 3DIM DWG recommends that the OGC Technical Committee approve release of 17-090 MUDDI Conceptual Model as an OGC Engineering Report.
 - There was no objection to unanimous consent

The document describes the design and development at a conceptual level of such a model (Model for Underground Data Definition and Interchange or MUDDI). The goal of MUDDI is not to replace existing models but to serve as the basis for integration of datasets from different models, at the levels of detail required to address application use cases.



“Important Things” discussion

Questions about other WG reports?



Topics



- Should we have more demonstration sessions for domains or implementations of OGC standards like the Point Cloud demos in Fort Collins?
- OWS Evolution: WFS3.0, WPS and WCS are developing approaches for using REST and web APIs within future OWS. How should OGC ensure that the approach taken is consistent?
 - continue the modernization of the Web Feature Service standard as API building blocks in a way that can be extended with API buildings blocks for other types of OGC resources using an open, implementation-driven process
- While GeoPackage is emerging as an important geospatial standard, we want to see more public data published in the format. We set up <http://www.geopackage.org/data.html> for this purpose but it is virtually empty now. Let's change that.



Meeting Sponsors



Working Group reports with no motions for the TC

107th OGC Technical Committee

Fort Collins, Colorado USA

WG Chairs

7 June 2018



Meeting Sponsors



3DPS SWG

107th OGC Technical Committee
Fort Collins, Colorado USA
V. Coors & G. Gesquiere
07 June 2018

Agenda



Thursday, 7.6.2018, 8 – 9:45 AM

- P. Cozzi: 3D Tiles 1.0 Community Standard update
- P. Hogan: NASA Web World Wind 3D globe
- T. Belayneh: draft specification of Point Cloud Scene Layer in I3S
- V. Coors & G. Gesquiere: 3DPS next steps
- AOB

Activity Summary



- Discussion topics
 - I3S extension on point clouds
 - 3D Tiles community standard 1.0 and future extensions
 - Next steps: time & version, conceptual model of a hierarchical scene graph, point cloud extension, extended queries

- Upcoming deliverables
 - 3D Tiles community standard v1.0 public comment soon

- Coordination (ongoing and planned)
 - GeoPackage
 - Vector Tiling

- Future meetings
 - Stuttgart



Meeting Sponsors



Agriculture DWG Report

107th OGC Technical Committee

Fort Collins, Colorado USA

Josh Lieberman

7 June 2018

The most important thing for this WG is...



To connect with / lead a compelling initiative in data interoperability for agriculture

Agenda



- Karel Charvat: DataBio Architecture for Big Data and Big Data Visualisation
- Will Chih-Wei Kuan: Using Data Standards to Solve the Problem of Rural Community Resource Allocation
- Luis Bermudez: Overview and discussion of the Precision Agriculture Pilot
- Discussion of group leadership and direction

Activity Summary



- Discussion topics
 - DataBio ag data model

- Upcoming deliverables
 - None

- Coordination (ongoing and planned)
 - Precision Agriculture Pilot
 - UAV GeoTIFF interoperability coordination with Ag Gateway
 - Soil model coordination with GODAN

- Future meetings
 - Session on European ag data initiatives at Stuttgart TC

Key activities



- Add co-chairs



Meeting Sponsors



BigData.DWG

107th OGC Technical Committee

Fort Collins, Colorado USA

Peter Baumann

7 June 2018

The most important thing for this WG is...



...in this meeting's focus:

Big **Datacubes** trending:
analysis-ready data for EO and beyond.

Different implementations known, OGC **WCS** establishes
datacube **interoperability** and gives implementation
guidance.

Agenda



- Coverages and Scalable Datacubes - How's That Possible? (P. Baumann)
- Making the case for better spatial support from cloud infrastructure providers (C. Roensdorf, M. Gordon)
- OGC Big Geo Data White Paper - status and what's next? (G. Percivall)
- The experience and application on OpenDataCube in Taiwan (Jimmy)
- EarthServer: Lessons Learnt on WCS-Based Petascale Datacubes - Peter Baumann (Jacobs U.)

Activity Summary



- Discussion topics
 - Datacubes are Coverages
 - OGC Big Geo Data White Paper: next steps
 - Datacube implementations: rasdaman, ODC
- Upcoming deliverables
 - EO BP & Datacube BP, trans-WG activity
- Coordination (ongoing and planned)
 - Via WG member participation & exchange in various WGs and SDOs, including DGIWG and ISO
- Future meetings
 - next TC Meeting



Meeting Sponsors



CDB SWG Closing Plenary Report

107th OGC Technical Committee

Fort Collins, Colorado USA

David Graham

7 June 2018

The most important thing for this WG is...



Assessing the ‘way forward’ and impact of a ‘mashup’ of
OGC CDB and OGC Geopackage

Agenda



- **Turn on GTM recording**; Patent Call; roll call; quorum;
- Minutes from last meeting
- SWG Roadmap update
- Update: Multi-spectral Imagery Adoption Vote; Comment (!)
- Update: CDB 1.1 received no comments; motion to TC Chair to start electronic adoption vote
- Sara Saeedi: CDB OpenAPI
- Jay Freeman: OGC CDB and Geopackage Mashup
- Glen Johnson: VATC extensions
- CRP's, Testbed 13, comments in standardstracker
- Decision framework for CDB V1.2
- Other Business / New Business
- Short term meeting schedule



Meeting Sponsors



CITE Sub-Committee

107th OGC Technical Committee

Fort Collins, Colorado USA

Chuck Heazel

7 June 2018

The most important thing for this WG is...



New tools and new types of standards are driving change in the compliance domain.

Agenda



- OGC Validation Tools – Status Report (lat/lon)
- Testbed 14 Compliance ER (GeoSolutions)
- WFS 3.0 Compliance Tests (lat/lon)
 - Testing OpenAPI Services
 - Issues with the ATS
- DGIWG CAT 2.0.2 Tests (lat/lon)
- Secure Client Test ER (Calgary)

Activity Summary



- Discussion topics

- Nothing Significant To Report

- Upcoming deliverables

- Ongoing updates to the Team Engine and compliance test suites

- Coordination (ongoing and planned)

- Testbed 14
 - Compliance ER
 - Secure Client Test ER

- Future meetings

- September 2018 TC Meeting



Meeting Sponsors



CityGML SWG

107th OGC Technical Committee
Fort Collins, Colorado USA
Carsten Rönsdorf, Steve Smith
7 June 2018

The most important thing for this WG is...



We are on track towards publishing CityGML v3.0
Conceptual model in Q1/2019. Disposition of all change
requests agreed.

Agenda 1/2



- Welcome members/observers/OGC staff
- Patent call
- Roll Call – Do we have quorum?
- Communications
 - Where are latest docs? – GitHub
 - Issues -> GitHub *Issues* (not wiki)
 - Discussions -> CityGML SWG email list
 - Existing unaddressed comments and questions -> Issues
 - New/modified GitHub content -> Pull request
- Nominate representative to OGC Naming Authority
- Disposition of CityGML 2.0 Change Requests (Smyth)
 - Original assignment to work packages, Status of work packages
 - Assignment of CRs (v3.0, v3.1, v3.X, $X > 1$, Will not be addressed in CityGML)
 - Vote on a motion to approve the assignments agreed to by SWG

Agenda 2/2



- Finalisation of UML model (TU Munich)
 - Current status – version on GitHub
 - Discussion
 - Plan for any remaining work
- Conceptual model 3.0 document
 - Structure,- sample chapter
 - Table of contents
 - Editors
 - Document, Sections
- Preliminary announcement and discussion of plans for XML encoding standard
- Developers
 - Engagement
 - Compilation of breaking changes for developers – what/who/when
- Metadata ADE proposal and reference to presentation in 3DIM (Stoter)
- Expectations for Stuttgart meeting
- Any Other Business

Activity Summary



- Discussion topics
 - Use of collaborative work environment (GitHub)
 - UML model
 - Metadata ADE
 - Document structure
 - Use of feature class definitions

- Upcoming deliverables
 - CityGML v3.0 Conceptual Model in Q1/2019

- Coordination (ongoing and planned)

- Future meetings
 - Stuttgart

Motion



To approve the resolution of the existing CityGML change requests according to the following table (next slide):

Discussion: about CR 176 after presentation of the Metadata ADE by TU Delft.

Disposition for CR 176 changed to 'Ongoing work in Metadata ADE. Implementation in v3.1.' to acknowledge

Motion passes

Motion



ID new [and old] system	Description of change request	Resolution
198 [10-050] and [13-096]	Surface Property specification	Deferred to future version.
10-062	Hamonisation with the modelling themes in INSPIRE took place	Implemented in v3.0
535	Noise ADE	Implemented in v3.0 as an addition to the NoiseADE (non-normative part of the specification)
110 [11 -101]	Clearer guidelines for extending CityGML	Implemented in v3.0
11-102	LoD0 footprints for all CityGML classes	Implemented in v3.0 (new LoD concept)
11-104	Additional class for constructions other than buildings	Implemented in v3.0
373 [12-044]	CityGML:Storeys and LoD for BIM interiors	Implemented in v3.0 (combination of LoD concept and space concept]
177 [13-025]	Allow LoD0 footprints that will be determined by the connection of the terrain and building	Implemented in v3.0
178 [13-028]	Enforce LoD1 and LoD2 buildings to be solid	Enforcement will not be implemented (for example we allow the building to be represented by a point cloud)
193 [13-089]	Revision of the CityGML LoD concept	Implemented in v3.0
194 [13-091]	Integration of utility networks into CityGML	Ongoing work in Utility Network ADE, as it is not deemed to be stable it will not be included in v3.0. Deferred to later versions.
203 [13-127]	Dynamic properties; improved support for simulations	Implemented in v3.0 (Dynamizer)
223	Integration of the horizontal and vertical geometric references in the metadata of LoD1 and LoD2, and adoption of INSPIRE references	Implemented in v3.0 (Construction module)
176 [13-029]	Metadata for CityModel	Ongoing work in Metadata ADE. Implementation in v3.1.
199 [13-097]	Add Metadata to CityGML (deemed to be indential to 176)	Same as 176



Meeting Sponsors



Cluster 1 DWGs Report

(Big Data, Coverages, DGGS, Oblique Imagery, SWE DWGs)

107th OGC Technical Committee

Fort Collins, Colorado USA

Matthew Purss

7 June 2018

The most important thing for this WG is...



One of the important issues facing the coverages related working groups is the identification of cross-cutting issues and the harmonization of the definitions of Feature, Coverage and DataCube between all of these groups.

Agenda



- Discussion of cross-cutting issues and linkages between working groups in Cluster 1.
 - Are we duplicating effort?
 - Are there cross-cutting issues that are causing incompatibility between coverages related standards?
- community update
 - * Coverages.DWG status brief
- highlighting projects, activities, etc
 - * BigDataCube project
- general discussion
 - * what functionality should a datacube service offer?

Activity Summary



- Discussion topics

- The linkage between the abstract descriptions of Feature, Coverage, Datacubes and DGGs
- Is it appropriate for the OGC to begin work now to codify definitions and implementation of datacubes?

- Upcoming deliverables

- Nil

- Coordination (ongoing and planned)

- Coordination with other working groups of the “coverages related cluster” of DWGs (i.e. Cluster 1) to ensure synergies between the related standards activities of these groups.

- Future meetings

- September TC - Face-to-Face meeting

Key activities



- Broad consensus was achieved within the group on the hierarchies of concepts associated with the coverages domain. That being: Features -> leading to Coverages (i.e. the application of functions on features) -> leading to Datacubes (i.e. multi-dimensional arrays of data).
- Given the general confusion related to a common Definition of a Datacube between the various communities working datacube technologies it is currently unclear as to whether it is appropriate for the OGC to attempt to codify an Abstract Definition of a Datacube.
- These discussions should continue to both foster a closer engagement between the “Cluster 1” working groups and to assess the merits and need for an OGC lead standards activity related to datacubes.



Meeting Sponsors



Coverages.DWG + Datacubes

107th OGC Technical Committee

Fort Collins, Colorado USA

Peter Baumann

06 June 2018

Agenda



- Status overview (P. Baumann)
- What is a "Federation"? (P. Baumann)
- ~~Towards a Coverage Polygon Clipping Extension (P. Baumann)~~

Agenda



- Coverages and Scalable Datacubes - How's That Possible? (P. Baumann)
- Making the case for better spatial support from cloud infrastructure providers (C. Roensdorf, M. Gordon)
- OGC Big Geo Data White Paper - status and what's next? (G. Percivall)
- The experience and application on OpenDataCube in Taiwan (Jimmy)
- EarthServer: Lessons Learnt on WCS-Based Petascale Datacubes - Peter Baumann (Jacobs U.)

Activity Summary



- Discussion topics
 - Datacubes are Coverages
 - OGC Big Geo Data White Paper: next steps
 - Datacube implementations: rasdaman, ODC
- Upcoming deliverables
 - EO BP & Datacube BP, trans-WG activity
- Coordination (ongoing and planned)
 - Via WG member participation & exchange in various WGs and SDOs, including DGIWG and ISO
- Future meetings
 - next TC Meeting



Meeting Sponsors



CRS SWG Closing Report

107th OGC Technical Committee

Fort Collins, Colorado USA

Keith Ryden

7 June 2018

The most important thing for this WG is...



The GDAL Project has initiated and obtained funding to upgrade/modernize PROJ4. The CRS SWG wants to ensure the latest 19111 and 19162 standards are utilized for that work.

Agenda



- Roll call.
- Summary of 19111 and 19162 meetings at ISO TC211 meeting in Copenhagen (Roger).
- Temporal CRS WKT temporal origin default (Mark).
- Collation of OGC comments for 19111 ballot (Roger).

Activity Summary



- Discussion topics

- ISO 19111 revision status and discussion of ISO TC211 meeting
- ISO 19162 issue review and next steps to move the document forward
- Verification of ISO 19162 through prototype parser implementation

- Upcoming deliverables

- ISO 19111 additional comments from TC211 meeting
- Updates to ISO 19162 for final public comment document

- Coordination (ongoing and planned)

- ISO for delivery of ISO 19162 comments
- TC Chair for release of ISO 19162 for public comment

- Future meetings

- Next planned project meeting is Wednesday July 11 1400UTC
- Meeting is contingent on receiving consolidated ISO comments document.

Key activities



- Completion of issue review for ISO 19111, and getting that document through the final steps of the OGC and ISO acceptance process.
- Preparation of ISO 19162 for OGC public comment period
- Defining next steps including prototyping the CRS WKT parsing for new capabilities



Meeting Sponsors



Defense & Intelligence Domain Working Group

107th OGC Technical Committee

Fort Collins, Colorado USA

Roy Rathbun

8 June 2018

Agenda



- DGIWG status update
- DGIWG imagery "RPC00B and SENS RB Sensor Models (proposed) and GMLJP2 v2.1"
- Innovation Program activities advancing D&I Profiles
- D&I SWG charter presentation

The most important thing for this WG is...



...to increase adoption of **DGIWG** and **NSG Profiles** throughout the D&I community.

“Need to simplify the effort software companies have to expend each time a new format/encoding is available and speed the adoption process of the new encoding by improving the user experience in quickly and efficiently accessing the data through OGC services.”

The OGC has this policy....



... that a Standard [Profile] with Compliance Suite may say....

“This is a mature OGC standard for which there is evidence of implementation and for which Compliance tests exist. A standard with Compliance Suite may start as a Community standard or as a standard.”

*“A standard proposed to be approved as a standard with Compliance Suite must be submitted by the [DWG] to the TCC with written documentation that the standard meets the criteria for **Reference Implementations** and presence of a **Compliance Test** per [Section 9.3.1](#). The candidate standard with Compliance Suite must then proceed with the **OAB Review** through Voting steps highlighted in Sections [9.5.6.4](#), [9.5.6.5](#), [9.5.6.6](#), [9.5.6.7](#), [9.5.6.8](#), and [9.5.6.9](#).”*

OGC standards profiles presently developed by this community:



- DGIWG Web Feature Service (DGIWG WFS) 2.0 - Beta
 - DGIWG Web Map Service (DGIWG WMS) 2.1.0 – Beta
 - NSG GeoPackage 2.1- Beta
 - NSG WFS 2.0 Profile 1.0 – Beta
 - NSG WMTS 1.0 Profile1.0 – Beta
 - NSG Web Map Service (NSG WMS)1.0 – Beta
-
- These will be submitted to the relating **SWGs for review / to the TC** for electronic vote.

Activity Summary



• Discussion topics

- DGIWG status update
 - Stefan Strobel
- DGIWG imagery "RPC00B and SENS RB Sensor Models (proposed) and GMLJP2 v2.1"
 - E. Devys IGN
- Innovation Program activities advancing D&I Profiles
 - Luis Bermudez OGC
- D&I SWG charter presentation
 - L. Colaiacomo EU Satcen
- Submission of DGIWG/NSG Profiles to SWGs for review/approval

• Upcoming deliverables

• Future meetings

- OGC – Germany, Sept '18
- DGIWG – RAF Wyton, Oct '18
- OGC – Charlotte, NC, Dec '18

• Coordination (ongoing & planned)

- WFS SWG
- WMS SWG
- GeoPackage SWG
- WMTS SWG



Meeting Sponsors



DGGS DWG Report

107th OGC Technical Committee

Fort Collins, Colorado USA

Matthew Purss

7 June 2018

The most important thing for this WG is...



The DGGS DWG views as important the beginning of a discussion regarding the specification of higher dimensional DGGS implementations. The initial view of the DWG is that there is not likely to be any substantive changes to the Conceptual Data Model required and that the description of higher dimensional DGGS could potentially be achieved via the addition of an annex to Topic 21.

Agenda



Presentations:

- “Real Factors” presentation
- DGGS-to-DGGS protocol(s) standards
 - DGGS generic language (Perry Peterson)

Discussion:

- Higher Dimensional DGGS
- DGGS Registry Update

Activity Summary



- Discussion topics

- Real Factors presented on some of the work they are planning to do to implement 3D/4D DGGS infrastructures into their technology suite. This led to a broader discussion on 3D/4D DGGS.
- Perry Peterson led a discussion on the development of a generic API language for DGGS. This has implications for a wider discussion on DGGS and Datacubes.

- Upcoming deliverables

- Present a populated pilot implementation of the DGGS Registry to the TC during the September TC Meeting.
- Aiming to publish (or be ready to publish) the initial Registry of OGC Compliant DGGS implementations by the end of 2018.

- Coordination (ongoing and planned)

- Coordination with other working groups of the “coverages related cluster” of DWGs (i.e. Cluster 1) to ensure synergies between the related standards activities of these groups.

- Future meetings

- 04 July Teleconference
- September TC - Face-to-Face meeting

Key activities



- Establishing and publishing an OGC DGGS Registry of OGC Compliant DGGS implementations is a key activity of this working group.
- Elaborating the requirements for the codification of a generic DGGS API Language and higher dimensional DGGS. The DGGS SWG will be tasked with drafting work around these topics as they are progressed.



Meeting Sponsors



DGGS SWG Report

107th OGC Technical Committee

Fort Collins, Colorado USA

Matthew Purss

7 June 2018

The most important thing for this WG is...



The DGGS SWG is currently focused on pursuing the adoption of the DGGS Abstract Specification – Topic 21 by ISO and providing appropriate input to the revision of ISO 19123-1.

Agenda



- Status Update ISO DIS ballot for Topic 21
- Revision of ISO 19123-1 and how that will impact on Topic 21
- Best Practice Guide Discussion
- Other Business

Activity Summary



- Discussion topics

- Comments from the ISO ballot of the draft New Work Item Proposal (NWIP) to publish OGC Topic 21 as an ISO Standard were reviewed with a view to providing responses from the DGGS SWG to the next phase of the ISO adoption process.

- Upcoming deliverables

- Response text to the ISO draft NWIP ballot comments to be circulated to the DGGS SWG for comment and agreement within the next 2 weeks. They will then be forwarded to the ISO TC-211 secretariat via TCC ahead of the formal NWIP vote in August/September 2018.

- Coordination (ongoing and planned)

- Coordination with other working groups of the “coverages related cluster” of DWGs (i.e. Cluster 1) to ensure synergies between the related standards activities of these groups.

- Future meetings

- 20 June Teleconference
- September TC - Face-to-Face meeting

Key activities



- Work is progressing to present OGC Topic 21 for adoption by ISO as a published consensus based international standard in accordance with the liaison partnership agreement between ISO and OGC.
- Work is progressing to provide appropriate text to the revision process of ISO 19123-1 that will enable greater linkage between the conceptual data model of ISO 19123-1 and Topic 21.



Meeting Sponsors



Distributed Ledgers Ad-hoc

107th OGC Technical Committee

Fort Collins, Colorado USA

Gobe Hobona, Trevor Taylor, Bart de Lathouwer

7 June 2018

The most important thing for this WG is...



Use cases, mission and role of a possible DWG for
Blockchain and Distributed Ledger Technologies

Agenda



- Introduction to Blockchain and Distributed Ledger Technologies
- Drafting of DLT DWG

Activity Summary

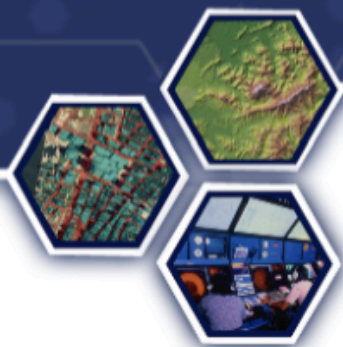


- Discussion topics
 - Blockchain basics
 - Potential relationship to other DWGs e.g. Security DWG
 - Example use cases
 - Mission and role of a possible DWG

- Upcoming deliverables
 - Draft charter

- Coordination (ongoing and planned)
 - Architecture DWG
 - Security DWG

- Future meetings
 - At least one more teleconference
 - At least one more ad-hoc session



Meeting Sponsors



Earth Systems Science DWG Report

107th OGC Technical Committee

Fort Collins, Colorado USA

Chair: Jeff de La Beaujardière, NOAA

7 June 2018

Agenda



- Ocean In situ data Interoperability Project (OIIP)
 - Sean Arms (Unidata)
- Standardization initiative for GEOSS DAB APIs
 - Mattia Santoro (CNR-IIA)
- Preliminary assessment of standard services and formats reported by data.gov
 - Jeff de La Beaujardiere (NOAA)
- Citations for HDF Data and Software
 - Ted Habermann (HDF Group)

Discussion



- Interesting presentation on OIIP by first-time OGC attendee. Already using some standards and interested in continued coordination with OGC.
- Discussion about possibly bringing GEOSS DAP APIs into OGC for standardization.
- Interest in results of standards adoption rate assessment. Potential to correlate in future with results from Canadian web-crawling software.
- No motions, no votes.



Meeting Sponsors



EDM DWG Report

107th OGC Technical Committee

Fort Collins, Colorado USA

Don Sullivan

7 June 2018

The most important thing for this WG is...



One thing that is most important for this WG is coordination with other OGC WGs and entities outside the OGC focused on cooperative topics.

Agenda



- Terry Idol
- Brief out the CDS Workshop
- Mark Reichardt
- OGC staff is working with ANSI on a broad FAA funded UASSC standards inventory
- Jimmy Chou
- The Collaboration Project between Taiwan-Thailand on Establishing Domain Ontology and Application for Water Disaster Reduction
- Kuo-Yu slayer Chuang
- Showcase with Copernicus data + OSM for emergency/disaster response & assessment
- (remote)
- Lucia Lovison
- Big Data and Services for Disasters

Activity Summary



- Discussion topics
 - Track and help guide the FGDC funded, OGC led, Disasters Concept Development Study workshops.

- Upcoming deliverables
 - None

- Coordination (ongoing and planned)
 - This WG needs to develop better coordination with other State Government and NGO disaster management agencies.

- Future meetings
 - Stuttgart TC PC
 - Potentially at the Latin American Geospatial Forum in Mexico City in the Fall.

Key activities



- No upcoming milestones.
- This DWG needs to track, and help guide, the FGDC funded, OGC led Disasters Concept Development Study workshops. There is a potential to expand them from the currently planned workshops in North America and Europe, to additional workshops in Latin America and Asia.



Meeting Sponsors



Future Directions: Geospatial Cloud-Native Computing

107th OGC Technical Committee
Fort Collins, Colorado USA
Gobe Hobona
7 June 2018

The most important thing for this WG is...



The potential role of metadata in cloud-native computing environments

Introduction



- Cloud-native computing is about using a variety of software to build systems that are:
 - Containerized
 - Microservice oriented
 - Dynamically orchestrated
- Why consider geospatial cloud-native computing?
 - Allows organizations to deploy and run applications scalable, agile, distributed environments

Cloud-Native Trail Map



CLOUD NATIVE TRAIL MAP

The Cloud Native Landscape [Landscape](https://landscape.cncf.io) has a large number of options. This Cloud Native Trail Map is a recommended process for leveraging open source, cloud native technologies. At each step, you can choose a vendor-supported offering or do it yourself, and everything after step #3 is optional based on your circumstances.

HELP ALONG THE WAY

A. Training and Certification

Consider training offerings from CNCF and then take the exam to become a Certified Kubernetes Administrator or a Certified Kubernetes Application Developer cncf.io/certification

B. Consulting Help

If you want assistance with Kubernetes and the surrounding ecosystem, consider leveraging a Kubernetes Certified Service Provider cncf.io/csp

C. Join CNCF's End User Community

For companies that don't offer cloud native services externally cncf.io/enduser

WHAT IS CLOUD NATIVE?

Cloud-native technologies, such as containers and microservices, empower organizations to develop and deploy scalable, agile applications and services in dynamic, distributed environments. By taking into account these characteristics, such systems are designed to be resilient, elastic, and loosely coupled, via manageable abstractions and declarative APIs, thereby enabling effective, reliable automation. This allows engineers to observe the applications and to safely make impactful changes, and results in processes and workflows that fully take advantage of these environments and minimize toil.

The Cloud Native Computing Foundation seeks to drive adoption of these technologies by fostering an ecosystem of open-source, vendor-neutral projects that align with these objectives, and which are portable to public, private, and hybrid clouds. We demonstrate the state-of-the-art patterns and practices to ensure innovations remain open and accessible for everyone.

[Landscape.cncf.io](https://landscape.cncf.io)

v20180425



1. CONTAINERIZATION

- Commonly done with Docker containers
- Any size application and dependencies (even PDP-11 code running on an emulator) can be containerized
- Over time, you should aspire towards splitting suitable applications and writing future functionality as microservices

3. ORCHESTRATION

- Kubernetes is the market leading orchestration solution
- You should select a Certified Kubernetes Distribution, Hosted Platform, or Installer
- cncf.io/kubernetes



5. SERVICE MESH AND DISCOVERY

- CoreDNS is a fast and flexible tool that is useful for service discovery
- Envoy and Linkerd each enable service mesh architectures
- They offer health-checking, routing, and load balancing



7. DISTRIBUTED DATABASE

When you need more resiliency and scalability than you can get from a single database, Vitess is a good option for running MySQL at scale through sharding.



9. CONTAINER RUNTIME

You can use alternative container runtimes. The most common, all of which are OCI-compliant, are containerd, rkt and CRIO.



2. CI/CD

- Setup Continuous Integration/Continuous Delivery (CI/CD) so that changes to your source code automatically result in a new container being built, tested, and deployed to staging and eventually, perhaps, to production
- Setup automated rollouts, roll backs and testing

4. OBSERVABILITY & ANALYSIS

- Pick solutions for monitoring, logging and tracing
- Consider CNCF projects Prometheus for monitoring, Fluentd for logging and Jaeger for Tracing
- For tracing, look for an OpenTracing-compatible implementation like Jaeger



6. NETWORKING

To enable more flexible networking, use a CNF-compliant network project like Calico, Flannel, or Weave Net.



8. MESSAGING

When you need higher performance than JSON-RPC, consider using gRPC. NATS is publish/subscribe message-oriented middleware.



10. SOFTWARE DISTRIBUTION

If you need to do secure software distribution, evaluate Notary, an implementation of The Update Framework.



Source:
<https://github.com/cncf/landscape/blob/master/README.md#trail-map>

Agenda



- Introduction by Gobe Hobona (OGC)
- Testbed 13 Summary by Luis Bermudez (OGC)
- Testbed 13 Cloud by Tom Landry (CRIM)
- Ordnance Survey Cloud Computing by Carsten Roensdorf and Michael Gordon (Ordnance Survey)
- Unidata Cloud Computing Research by Julien Chastang (UCAR)
- HDF Cloud by Ted Habermann (HDF Group)
- Discussion

Activity Summary



- Discussion topics
 - Cloud-native computing case studies
 - Containerization
 - Orchestration and workflow
 - Metadata

- Upcoming deliverables
 - None

- Coordination (ongoing and planned)
 - OAB is consulted on Future Directions topics

- Future meetings
 - September TC, Stuttgart



Meeting Sponsors



Geosemantics DWG Report

107th OGC Technical Committee

Fort Collins, Colorado USA

Josh Lieberman, Linda van den Brink, Simon Cox

7 June 2018

The most important thing for this WG is...



Ontologies are presently central to representing domain knowledge. Should UML still be the authoritative conceptual model language? What additions to OWL practice are needed to more usefully represent knowledge (e.g. SHACL)? What role should OGC play as an ontology authority? How does that coordinate with the OGC NA?

Agenda



- 10:15am - 10:55am
 - Johannes Echterhoff: Introduction to the Testbed-14 Data Modeling Engineering Study and Report
 - Sara Saeedi: Introduction to the Testbed-14 Symbology Study and Report
 - Gobe Hobona: Update on OGC Knowledge Management
 - Peter Baumann: Wormholes Between Worlds: OGC Coverages to RDF, and Back Again
- 11am - 12 noon (Joint session with the W3C Spatial Data on the Web Interest Group (SDWIG))
 - Summary of SDWIG F2F Tuesday and Wednesday sessions
 - Geospatial Web Roadmap
 - SSN extensions
 - Other topics

Activity Summary



- Discussion topics
 - Portrayal model tests of encoding interoperability, style hierarchy
 - UML -> OWL model conversion
 - OGC Knowledge management definitions server, full-text search
 - SDWIG Roadmap and tasks
 - MapML and Drag n Drop overlays
 - SSN extensions
 - WebVMT
 - Time Ontology amendments, e.g. XML Schema
 - Statistical data on the Web

- Coordination (ongoing and planned)
 - W3C SDWIG

- Upcoming deliverables
 - TB-14 Portrayal ER
 - TB-14 Data modeling ER
 - SDWIG drafts / Notes

- Future meetings
 - Stuttgart TC
 - SDWIG F2F

Key activities



- Represent domain models, model components, and modeling practices within OGC
- Coordinate with OGC NA
- Coordinate with Spatial Data on the Web Interest Group, e.g. <https://github.com/w3c/sdw/projects>, [Roadmap](#), [Strategy Funnel](#)
- **Call to OGC membership for implementations of the SDW Best Practices**
- Alignment between SOSA / SSN and SWE / SensorThings
- Linked Building Data / CityJSON / Indoor Navigation coordination (e.g.
- Linking activities via common concepts such as space.



Meeting Sponsors



GeoTIFF SWG

107th OGC Technical Committee

Fort Collins, Colorado USA

Ted Habermann

7 June 2018

The most important thing for this WG is...



Finishing the first draft of the standard by resolving changes and challenges related to ESPG codes, existing geoTIFFs, and current understandings and practice.

Agenda



- Discussion of Lott comments and related items
- Discussion of conformance classes and tests
- Discussion of lunar example

Activity Summary



- Discussion topics

- Lott comments and related items
- Conformance classes and tests
- Extra-terrestrial example

- Upcoming deliverables

- first draft of document

- Coordination (ongoing and planned)

- none

- Future meetings

- Progress will be reflected in git repository and email list

Key activities



- We had a detailed discussions of the current state of EPSG codes and the EPSG Registry and the connections to the geoTIFF standard.
- First draft of the standard will be done by end of June 2018



Meeting Sponsors



HDF SWG

107th OGC Technical Committee
Fort Collins, Colorado USA
Ted Habermann
7 June 2018

The most important thing for this WG is...



Releasing the OGC Hierarchical Data Format Version 5 (HDF5) Core Standard for public comment.

Agenda



- Discussion of OGC Hierarchical Data Format Version 5 (HDF5) Core Standard – Aleksandar Jelenak and Ted Habermann
- Citing HDF Format and Software – Ted Habermann

Activity Summary



- Discussion topics
- OGC Hierarchical Data Format Version 5 (HDF5) Core Standard

- Upcoming deliverables
- OGC Hierarchical Data Format Version 5 (HDF5) Core Standard

- Coordination (ongoing and planned)
 - We are looking for partners in other SWGS or DWGS that are using HDF with their conventions.

- Future meetings
 - OAB Discussion

Motion



- The HDF.SWG recommends that the OGC Technical Committee approve release of 18-043, OGC Hierarchical Data Format Version 5 (HDF5) Core Standard for public comment.
 - There was no objection to unanimous consent
 - The HDF5 data model is simple yet versatile, capable of supporting complex data relationships and dependencies through its grouping and linking mechanisms. It is also self-describing by accommodating user-defined metadata.



Meeting Sponsors



IDBE SC

107th OGC Technical Committee
Fort Collins, Colorado USA
Carsten Rönsdorf
7 June 2018

The most important thing for this WG is...



We are getting more clarity about the conceptual differences between IFC, LandInfra and CityGML and will publish these in a short paper in due course

Agenda



- Report from IDBE workshop in April (Scott Simmons)
- Approach for Planning Committee meeting (Carsten Rönsdorf)

Activity Summary

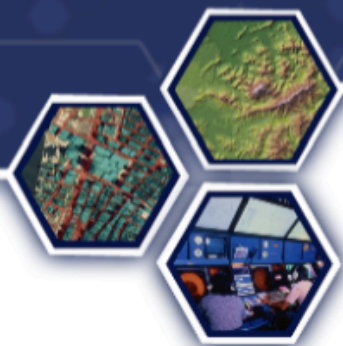


- Discussion topics
 - Munich workshop in April 2018
 - Planning committee arrangements

- Upcoming deliverables
 - Paper explain conceptual differences and overlaps between IFC, LandInfra and CityGML

- Coordination (ongoing and planned)
 - Building Smart Internationally
 - LandInfra, IndoorGML, CityGML

- Future meetings
 - Singapore (September 2018) – workshop and planning committee in conjunction with Location Powers
 - Tokyo (October 2018) – 2nd planning committee in conjunction with bSI summit



Meeting Sponsors



LandInfra DWG

107th OGC Technical Committee
Fort Collins, Colorado USA
Leif Granholm
7 June 2018

The most important thing for this WG is...



The most important thing for LandInfra DWG is to redefine the scope as it now is based on continuation of LandXML. Implementations need to be supported and work on version 2.0 started.

Agenda



- Short presentation of ISO TC 211 JWG 14 BIM_GIS meetings in Oslo and Copenhagen
- Water infrastructure use cases. David K Arctur.
- Possibly presentation of efforts in ISO TC 127 and discussion of using LandInfra for machine control by Geoffrey Kirk from Trimble machine control team.
- Presentation and discussion by John Tisdale, Pipeline ML of requirements for utility infrastructure.
- Discussion on TC 211 position of InfraGML role and position in LADM. Erik Stubkjær
- Continued discussion on content for LandInfra 2.0

Activity Summary



- Discussion topics
 - Support for utilities
 - positioning LandInfra with other standards
 - Relationship with BIM-Geospatial initiatives

- Upcoming deliverables
 - **Revised scope statement**

- Coordination (ongoing and planned)
 - **Pipeline ML, CityGML**
 - **buildingSMART**

- Future meetings
 - **Maybe together with SWG?**
 - **Stuttgart**

Key activities



- Very clear that support for utilities needed in next version
- BIM-Geospatial interoperability, IDBE and ISO TC 59/TC 211 JWG 14 activities discussed. Pipe network requirements and use cases presented. It was concluded that all requirements cannot be satisfied in one standard, support is needed in several standards and lining support between them.
- It was discussed that we need to model what requirements (lifecycle phase, material, function, representation) go to which standard in a three dimensional matrix.



Meeting Sponsors



LandInfra SWG

107th OGC Technical Committee
Fort Collins, Colorado USA
Hans-Christoph Gruler
7 June 2018

The most important thing for this WG is...



Get some feedback and push implementations for InfraGML 1.0 – Get aligned with other WG and define the scope and collect the requirements for the next version.

Agenda



- 1. Verify membership / proxies / quorum / patent call
- 2. Approve agenda
- 3. Approve previous meeting Draft Minutes
- 4. Project Tasks
 - Build a matrix with the scope of different WG and standards
 - Send out template to get feedback who has implemented InfraGML 1.0
 - bSI Update form JJ
 - LandInfra 2.0 Candidates
 - Utilities (E&U DWG) wet infrastructure vs. Utilities (prio 1)
 - bSI – Tunnel, Bridge (options: omit, profile) (prio 2)
 - Extensions: does it make sense to adopt the CityGML's ADE approach
 - Road, Rail Elements
 - Road Design
 - Machine Control....
 - Site
- 5. Next Meeting(s)
- 6. Adjourn

Activity Summary



- Discussion topics
 - New definition of the Scope
 - Feedback of version 1.0
 - How to manage overlaps with other WG

- Upcoming deliverables
 - none

- Coordination (ongoing and planned)
 - CityGML, PipeML, IndoorGML
 - IDBE
 - bSI

- Future meetings
 - Bi monthly Web meetings starting 25.June
 - Fort Collins TC

Key activities



- Continue on Site
- Scope from DWG
- Coordination with other WG for new topics
- Push for implementation and collect feedback version 1.0
- Requirement collection



Meeting Sponsors



Marine DWG Report

107th OGC Technical Committee
Fort Collins, Colorado USA
Andy Hoggarth, Sebastian Carisio
7 June 2018

The most important thing for this WG is...



The Marine DWG is currently monitoring/involved with the following initiatives:

S-121 Pilot

Marine SDI-Concept Development Study

GEBCO Seabed 2030 engagement

Agenda



- Introductions and Agenda
- Update on the CDS for MSDI [Sebastian Cariso, NGA]
- Update on the S-121 Interoperability Pilot [Doug O'Brian, IDON]
- Web services supporting S-100 based data services [Andy Hoggarth, Teledyne CARIS]
- Review GEBCO Seabed 2030 initiative and review letter regarding OGC MDWG involvement [Andy Hoggarth, Teledyne CARIS]
- Update on correspondence with IOC [Jonathan Pritchard, IIC]
- Any other business

Activity Summary



- Discussion topics
 - S-100 as Web Service
 - Metadata profiles for bathy and other marine datasets
 - Cost Benefits of survey work
 - Election of new Co-Chair

- Upcoming deliverables
 - Letter to GEBCO Seabed 2030 for Marine DWG involvement

- Coordination (ongoing and planned)
 - IHO MSDIWG
 - GEBCO
 - UN-GGIM MGIWG

- Future meetings
 - Stuttgart, Germany TC (SEP 2018)
 - Singapore (FEB 2019)

Key activities



- Letter to GEBCO Seabed 2030 will be finalized and sent next week.
- MSDI-CDS estimated to start shortly.
- No motions or votes recommended to the Technical Committee.



Meeting Sponsors



Metadata & Catalog DWG

107th OGC Technical Committee
Fort Collins, Colorado USA
Danny Vandembroucke
7 June 2018

The most important thing for this WG is...



The Metadata & Catalogue DWG is alive and kicking: draft charter in the make, 4 (!) chairs and many activities around DCAT/GeoDCAT-AP

Who said metadata and portals were boring ...?

Agenda



- Co-chairs + motion (Scott Simmons, OGC) – 10'
- Revision and merging of charters (Scott Simons, OGC & Danny Vandenbroucke, KU Leuven) – 10'
- Latest metadata developments in ISO/TC211 (Ted Haberman, HDF Group) – 20'
- Results of the voting on the BP GeoDCAT-AP doc and comments received (Danny Vandenbroucke, KU Leuven & Lieven Raes, Information Flanders) – 20'
- Report on the status of DCAT (work on 1.1) and relevant actions by W3C/OGC DXWG (Stijn Goedertier, GIM) – 20'
- OGC Testbed-14 DGIWG CAT 2.0.2 – (Emanuele Tajariol, GeoSolutions) - 10'
- Discussion on next steps: GeoDCAT-AP as OGC community standard? + ISA relationship (Danny Vandenbroucke, KU Leuven) – 15'
- Conclusions and AOB - 1'

Activity Summary

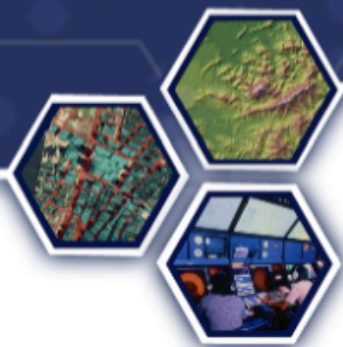


- Discussion topics
 - Important ISO developments, e.g. new version of 19115
 - Handling of the comments on the GeoDCAT-AP document (voting)
 - Important developments DCAT 1.1
 - GeoDCAT-AP as community standard?
- Upcoming deliverables
 - Draft charter MD&C DWG
 - Voting process on the BP document (2018-001) was finalized
 - GeoDCAT-AP BP/ER
- Coordination (ongoing and planned)
 - OGC Testbeds (14 ...)
 - ISA programme / EC JRC
 - W3C DXWG
 - Projects: POLIVISU, NEXTGEOSS, new project Information Flanders
- Future meetings
 - Intermediate Telco
 - Stuttgart meeting

Key activities



- Establish the merged Metadata & Catalogue DWG
 - Draft charter to be ready by next TC
- Work on guidance and recommendations based on some of the implementation examples
 - Place to put this (TBD)
- Follow-up of the W3C DXWG
- Making GeoDCAT-AP a community standard ?
 - Continue the discussion
- In parallel several activities around GeoDCAT-AP
 - Within projects: POLIVISU, Testbed-14, ...
 - Mapping GeoDCAT-AP and new version ISO 19115 (TBC)



Meeting Sponsors



Met Ocean DWG Report

107th OGC Technical Committee
Fort Collins, Colorado USA
Chris Little, Steve Olson
7 June 2018

The most important thing for MetOceanDWG is...



Where to develop and implement simple RESTful APIs for common Met Ocean Data and Services patterns and report results in an ER?

E.g. standard in OWS Common SWG? Or BP in MODWG?

E.g. OGC? W3C? WMO?

Met Ocean DWG Agenda



- Welcome, Introduction and Technology Struggles
- Progress Reports:
 - WCS2.1 Met Ocean Profile
 - WCS2.1 GRIB Encoding
 - WMS1.3 Forecast Ensembles Best Practice
- Measures of Success. *Trevelyan, Olson, Hershberg*
- Data APIs versus Product APIs. *P Trevelyan.*
- RESTful APIs for Met Ocean Data. *P Trevelyan, S Olson*
- Remarks on Slicing n-D spaces. *Jürgen Seib*
- Changes to Charter Annex D (workplan)
- Weather on the Web Proposal. *Richard Carne.*
- Agenda for Friday's Met Ocean Workshop. *S Olson*
- Open API Engineering Report and Discussion. *All.*

Activity Summary



- Discussion topics

- Where should open APIs for data be standardized in OGC? OWS Common SWG?
- URL patterns: short vs long, complex vs simple, readable vs opaque

- Upcoming deliverables

- Engineering Report of first implementations of Met Ocean APIs
- Previous docs in publishing pipeline
- Updated Charter Workplan Annex

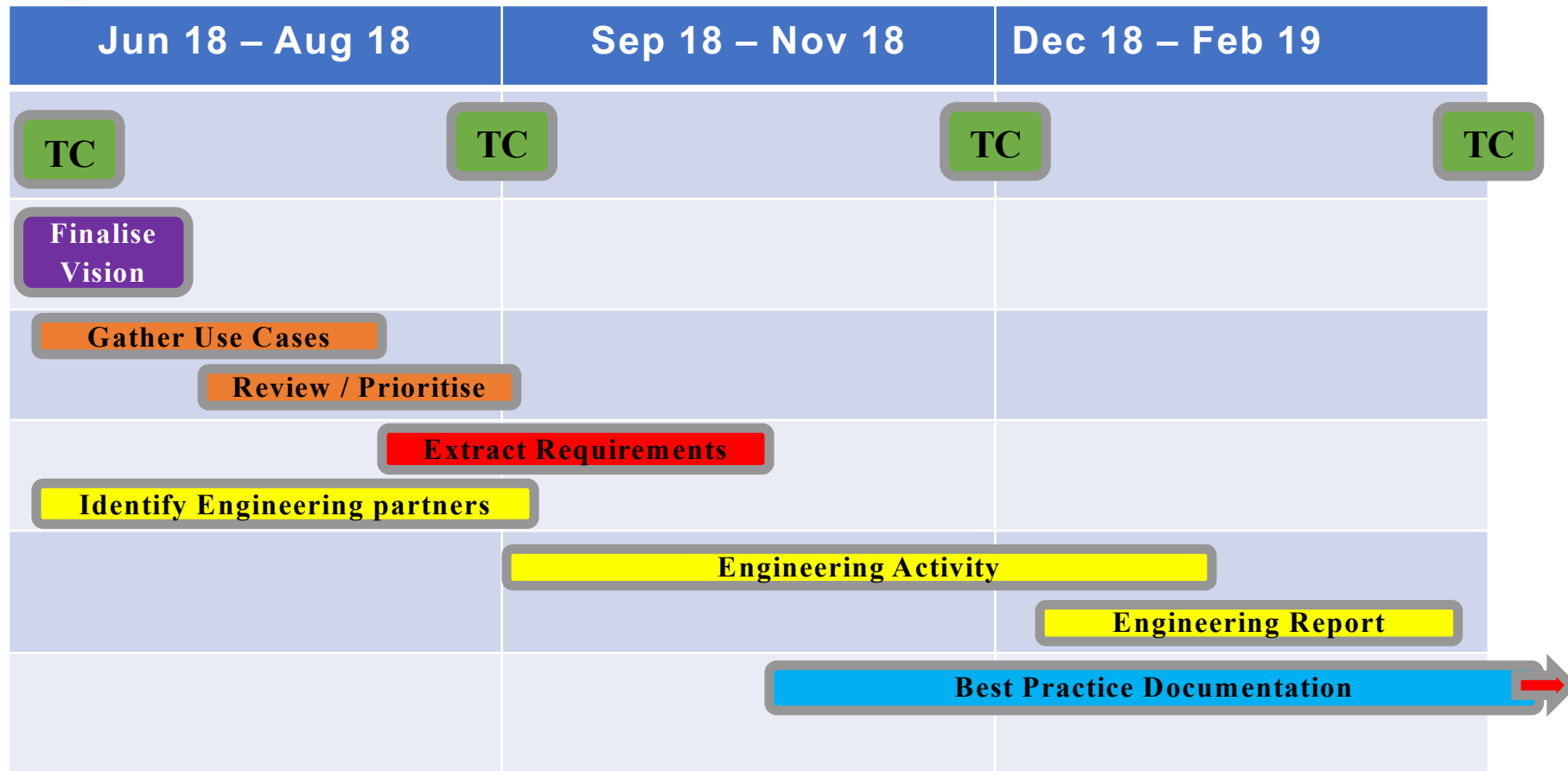
- Coordination (ongoing and planned)

- WCS SWG possible extension for oblique slice and trim of a Coverage
- Underpinning ontologies W3C SDWIG
- WMO for Weather on the Web APIs
- Use GitHub public repository

- Future meetings

- Tomorrow. Workshop here
- OGC TC Stuttgart
- EGOWS Workshop, Reading, UK

Key Activities: Project Plan





Meeting Sponsors



NAD ad hoc

107th OGC Technical Committee

Fort Collins, Colorado USA

Anne Bowser, Ivana Ivanova, Jo Abhayaratna, Joan Maso,
Matt Beare, Sam Meek

7 June 2018

The most important thing for this ad hoc is...



There's many OGC members who either are, or about to be, combining information from non-traditional sources with their more traditional sources. We're keen to consider what we need to facilitate this in a manner that enables fitness for decision making.

Agenda



- Set the purpose (quick recaps)
 - Describe Earth Challenge 2020 (Anne Bowser)
 - NGA's NOME prototype (Roy Rathbun)
 - PSMA's interest in user-contributed content (Jo Abhayaratna)
- Seek interest from others with imminent projects for collaborative exploration
- Discussion
 - Icebreaker - World Bank report: https://opendri.org/wp-content/uploads/2018/05/Crowdsourcing_VGI_Full_Report.pdf
- Identify who's interested in collaborating
- Establish mechanism for collaboration
- Next actions

Activity Summary



- Discussion topics
 - What are people doing?
 - What is the minimal metadata requirements to help us warrant the veracity of the data?
 - What service interfaces might help us achieve interoperability?
 - What already exists for these?

- Upcoming deliverables
 - Re-charter the Citizen Science DWG to include crowdsourcing/VGI
 - Establish GitHub repo for collaboration

- Coordination (ongoing and planned)
 - Citizen Science DWG
 - Data Quality DWG
 - Earth Challenge 2020

- Future meetings
 - Will organize a telecon shortly after GitHub repo is established (~2wks)
 - Desire for these to be open



Meeting Sponsors



netCDF SWG

107th OGC Technical Committee

Fort Collins, Colorado USA

Ethan Davis, co-chair

7 June 2018

Agenda

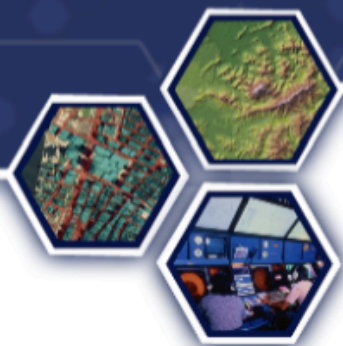


- Update on netCDF-CF activities (Ethan Davis)
 - Proposals for CF extensions
 - Future CF extension proposals
 - Two upcoming netCDF-CF Workshops
- Update on netCDF with Linked Data (Mark Hedley)
- Discussion

Key activities



- Coordination with CF community
- Drafting encoding standard document for encoding linked data in netCDF files, including interpretation of existing datasets as linked data.
- Evaluating need for updating OGC netCDF documents given advances to CF specification



Meeting Sponsors



OWS Common SWG

107th OGC Technical Committee

Fort Collins, Colorado USA

Joan Masó

7 June 2018

The most important thing for this WG is...



We are curious about how to generalize the WFS 3.0 new approach based on OpenAPI to other standards and if we will be able to extract **common** patterns

Agenda



- OWS Common 3.0: Geospatial Web API common design patterns (Andreas Matheus, Secure Dimensions)
- Exploring WFS 3.0: Trying to understand and extract what could be “common”. (Joan Masó, UAB-CREAF)

Activity Summary



- Discussion topics
 - Are the Andreas “principles for APIs” ok?. Yes but No.
 - Is it possible to recommend extract a set of principles from WFS 3.0?
- Upcoming deliverables
 - Contribute to the WFS GitHub issue tracker with our doubts or findings
 - Start our own GitHub project?
- Coordination (ongoing and planned)
 - With WFS 3.0, Testbed 14 and other groups that working on OpenAPI
- Future meetings
 - next TC Meeting



Meeting Sponsors



OWS Common – Security SWG

107th OGC Technical Committee
Fort Collins, Colorado USA
Andreas Matheus
7 June 2018

The most important thing for this WG is...



We have finished #17-007

„OGC Web Services Security“ Implementation Standard

and have a motion for adoption vote

Agenda



- Creation of final package for approval vote
 - * standard in .docx
 - * AuthnCodeList.xml
 - * WMS_1_1_ExtendedSecurity.dtd
 - * WMS_1_3_ExtendedSecurity.xsd
- Motion to approve the voting package

Activity Summary



- Discussion topics
 - General discussion about the standard before motion for adoption vote

- Upcoming deliverables
 - 17-007 ready for adoption vote

- Coordination (ongoing and planned)
 - Security DWG for considering re-chartering
 - OGC NA for implementing authentication method list and the resolving of authentication methods

- Future meetings
 - Next TC

Key activities



- 17-007 is ready for adoption vote
- The Standard as PDF comes with a set of normative files to be used by OGC staff:
 - AuthnCodeList.xml (the initial authentication codes to fill the resolver)
 - WMS_1_1_ExtendedSecurity.dtd (additional DTD to go into the official repo at schemas.opengespatial.net)
 - WMS_1_3_ExtendedSecurity.xsd (additional XML Schema to go into the official repo at schemas.opengespatial.net)

List of Things we could do



- This SWG is persistent to be able to
 - maintain the authentication code list
 - work on CRs that might come out of the CITE work in Testbed 14
- Digital Signatures
 - XML, JSON, HTTP
 - PKI
- Encryption
 - PKI, BLOBs
- Abstract Spec with patterns how to apply security
 - The abstract spec defines what we mean by security
 - Pyramid of IA controls
 - Vision what we are “thinking” about



Meeting Sponsors



OWC Working Group Report

107th OGC Technical Committee

Fort Collins, Colorado USA

Roger Brackin

7 June 2018

The most important thing for this WG is...



Socialisation of OWS Context.

OWS Context is used in a number of significant solutions (SATCEN, ESA, UK MOD etc)...

but has not been taken up by vendors to a significant degree (They are happy with their own, non-interoperable solutions).

Yet customers describe its need without knowing what it is.

Conclusion is we need to increase awareness.

Agenda



- Discussion of Socialization of OWS Context
- Discussion of GeoPackage exploitation of OWS Context (Discussion paper by Jeff Yutzler).

Activity Summary



- Discussion topics
 - Socialization of OWS Context
 - GeoPackage Implementation of OWC

- Upcoming deliverables
 - Discussion Paper on OWC in GeoPackage
 - Revised OWSContext.org

- Coordination (ongoing and planned)
 - On-going collaboration with GeoPackage

- Future meetings
 - Next WG Telecon to be arranged in June (Post FC) in order to discuss potential experiment using Discussion Paper.



Meeting Sponsors



Perspective Imagery DWG

107th OGC Technical Committee

Fort Collins, Colorado USA

Eric Hirschorn

7 June 2018

The most important thing for this WG is...



This new DWG is discussing a variety of ideas involving perspective imagery, including:

1. many-image data sets and an associated web image processing service,
2. an OGC motion imagery standard, and
3. support of the Augmented Reality Pilot.

Agenda



- GMLJP2 v2.1 candidate standard
 - Supports perspective imagery!
 - Vote ongoing until June 22
 - Presentation (Emmanuel Devys, IGN)
 - OGC imagery standards future work?
- Discussions
 - Perspective imagery / Data sets
 - Augmented reality
 - Motion imagery standard
 - Panoramic imagery
 - ...
 - Stuttgart TC

Activity Summary



- Discussion topics
 - SensorML development with the DWG
 - GMLJP2 version 2.1 candidate, capabilities for representing perspective imagery

- Upcoming deliverables
 - Discussion Paper describing the goals of the DWG, with recommendations towards standards work.
 - New charter for the DWG based on the DP

- Coordination (ongoing and planned)
 - OGC D&I, SWE, and UxS (for sensor models)
 - Future discussions with Peter Baumann (Coverages DWG) on the possibility of building a web image processing service from WCS.

- Future meetings
 - Stuttgart TC, September 2018

Key activities



- Discussion from Emmanuel's talk reemphasized that the DWG is not to be directly involved in development of sensor model descriptions.
- GMLJP2 version 2.1 candidate will be available upon approval as an OGC imagery format supportive of perspective imagery.
- Recommendation from Lucia Lovison-Golos for the chair to develop a BP for SensorML 2.0 use with the ReferenceableGridCoverage Extension.
 - Activity would be done under D&I or SWE.
- Recommendation from Stan Tillman that the DWG be given full (not half) sessions for future TCs.



Meeting Sponsors



PipelineML SWG Report

107th OGC Technical Committee

Fort Collins, Colorado USA

John Tisdale

7 June 2018

The most important thing for this WG is...



The PipelineML SWG voted to submit the PipelineML Conceptual and Encoding Model Standard proposal (18-061) to the OGC Architecture Board for consideration.

Agenda



1. Welcome
2. Rollcount for voting members
3. Proposed harmonization strategy between PipelineML and LandInfra
4. Recent SWG activities and model developments
5. Discussion on vote to submit PipelineML technical specification to OAB
6. Call for vote on submission of PipelineML technical specification – 18-061
7. Next steps

Activity Summary



- Discussion topics
 - A CollectionMember concrete class was added to conceptual model
 - Harmonization with other utility infrastructure initiatives was discussed
 - Impact of clusters and how they may factor into our pending decision on which DWG to bring our SWG under

- Upcoming deliverables

- Coordination (ongoing and planned)
 - We will be working closely with LandInfra to harmonize PipelineML with LandInfra
 - The idea of using linking to harmonize PipelineML and LandInfra was raised

- Future meetings
 - Next TC Meeting

Key activities

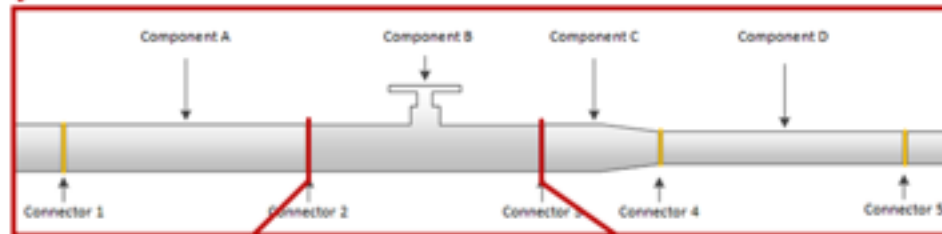


- We discussed our strategy to harmonize our centerline use cases with LandInfra and other utility infrastructure groups and there was good consensus that this is the right direction forward



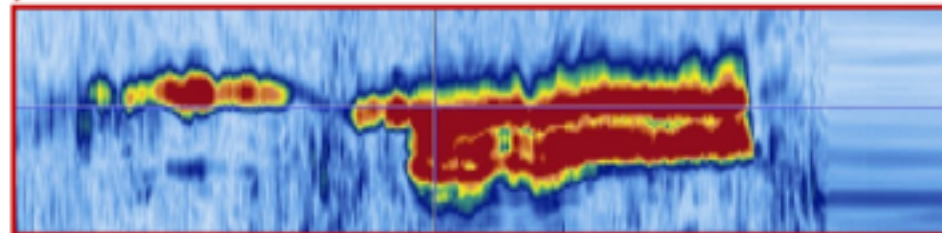
Centerline Use Cases

Work toward harmonization with other OGC infrastructure work groups.



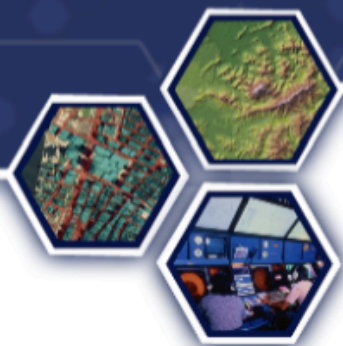
Component Use Cases

Specific needs of pipeline industry require definition of components schema.



Anomaly Use Cases

Specific needs of pipeline industry require definition of anomalies schema.



Meeting Sponsors



Point Cloud DWG Report to TC

107th OGC Technical Committee
Fort Collins, Colorado USA
Stan Tillman, Hexagon
7 June 2018

The most important thing for this WG is...



The biggest activity for this meeting was the demonstrations by many organizations that allowed us to see the innovative work being done with Point Cloud visualization. It was very successful in regards to participation and hopefully it will lead to further discussion in upcoming meetings.

Agenda



- Point Cloud Visualization Demonstrations (10:15 – 12:00):
 - Frederic Houbie (Hexagon)
 - Ilan Penn (Fantasmo)
 - Jason Stoker (USGS)
 - Keith Ryden (Esri)
 - Howard Butler (Hobu, Inc.)
- Point Cloud Visualization Demonstrations (10:15 – 12:00):
 - Volker Coors (HFT Stuttgart)
 - Thomas Kolbe (TUM)
 - Andy Hoggarth (Teledyne)
 - Patrick Cozzi (AGI)

Agenda



- Point Cloud Visualization Demonstrations (2:45 – 4:15):
 - Bill Veteto (Textron Systems)
 - Jeff Young (LizardTech)
 - Rico Richter (Point Cloud Technology)
- Additional presentation:
 - Testbed 14 Point Cloud Engineering Report Status Update
 - Howard Butler, Hobu, Inc.

Activity Summary



- Discussion topics
 - 10 Demonstrations by a variety of organizations showing their capabilities in point cloud visualization
 - A status of the Testbed ER regarding Point Cloud

- Upcoming deliverables
 - Testbed ER will be made available for working group review
 - We will begin to build a roadmap on top of that ER.

- Coordination (ongoing and planned)
 - Several other WGs

- Future meetings
 - September TC Meeting
 - Future demonstration topics will include:
 - Storage
 - Processing/Analytics



Meeting Sponsors



Security DWG

107th OGC Technical Committee

Fort Collins, Colorado USA

Andreas Matheus

7 June 2018

The most important thing for this WG is...



Testbed 14

has „proposed“ 4 ERs for consideration

- * Security ER
- * Secure Client Compliance ER
- * Secure Resource Oriented Geospatial Data Handling ER
- * Authorisation, Authentication, & Billing ER

Agenda – Session I



- 13:00 - 13:10: Practical proposal to adopt Testbed 14 process
- 13:10 - 13:25: Testbed 14: Security Engineering Report
 - (Juan Jose Doval and Hector Rodriguez, DEiMOS Space S.L.U.)
- 13:25 - 13:40: Testbed 14: Secure Client Compliance Thread in OGC
 - (Sara Saeedi, University of Calgary)
- 13:40 - 13:55: OGC Testbed 14: Secure Resource Oriented Geospatial Data Handling Engineering Report
 - (Peter Vretanos, Cubewerx)
- 13:55 - 14:10: OGC Testbed 14: Authorisation, Authentication, & Billing Engineering Report
 - (Vincent Heurteaux, Geomatys)
- 14:10 - 14:25: ArcGIS in a Cybersecurity Environment
 - (Lance Marrou, Leidos)

Agenda – Session II



- 14:45 - 15:00: Digital Signatures in OGC Encoding Standards
 - (Andreas Matheus)
- 15:00 - 15:15: A Secure REST Federation
 - (Chuck Heazel)

TB14 ER ...



- Problem Statement
 - TB14 material is restricted to a participant / observer
 - Security DWG members are not necessarily a participant / observer
- Clash
 - How can a loose group of people – aka Security DWG – fulfil the “duty” requested by TB14?
 - And, at the end of TB14 make a motion to release an ER that was “restricted content” until it was uploaded to pending documents?
- Recommended procedure
 - TB14 editors shall subscribe to the security.wg@opengeospatial.org email list and use the list for any in-progress communication
 - Publish a preliminary version of the ER to Pending Documents for the 3 week rule for the Stuttgart and Charlotte meetings. This allows the members of the group to provide feedback.

Implication of a TB14 ER



- Security ER
 - Accepted. Feedback by Chuck, Don and Mike
- Secure Resource Oriented Geospatial Data Handling ER
 - Accepted, Feedback by Chuck
- Authorisation, Authentication, & Billing ER
 - Accepted, Feedback by Mike
- Secure Client Compliance ER
 - This group is tasking the OWS Common – Security SWG to review and provide feedback

Activity Summary



- Discussion topics
 - Security in TB14

- Upcoming deliverables
 - Review of TB14 ERs

- Coordination (ongoing and planned)
 - no

- Future meetings
 - next TC Meeting

Key activities



- Review Testbed 14 ERs



Meeting Sponsors



Spatial data on the Web interest group

107th OGC Technical Committee
Fort Collins, Colorado USA
Jeremy Tandy, Linda van den Brink
7 June 2018

The most important thing for this WG is...



Collecting implementation reports of the Spatial data on the
Web Best Practice

- Have you implemented 1 or more best practice? Let us know!

Agenda and minutes



- See <https://www.w3.org/2017/sdwig/meetings/f2f-2.html>

Activity Summary



- Discussion topics

- Spatial Data o/t Web BP:
 - Start work on implementation reports
 - Start work on 'cookbook'
- Statistical data o/t Web BP:
 - Liaising with Statistics DWG
- Creation of a Geospatial Web Roadmap

- Upcoming deliverables

- Nothing in the very near future

Coordination (ongoing and planned)

- On strategy funnel i.e. sheparded towards standardization by SDWIG: MapML, CityJSON, Web video geotagging format **[new items]** SSN v2, Linked building data ontology, CoverageJSON
- Review of OGC technology trends

- Future meetings

- No web meetings, but collab days the first week of every month
- W3C TPAC, Lyon, October 2018
- SDI.Next in NL, October 31st



Meeting Sponsors



UxS DWG Report

107th OGC Technical Committee
Fort Collins, Colorado USA
Don Sullivan, Marcus Alzona
7 June 2018

The most important thing for this WG is...



One thing that is most important for this WG is the coordination with other working groups or entities pursuing complementary activities, I.e. OGC Aviation, RDA small UAS, ESIP Drone.

Agenda



- Scott Simmons
- Draft UASSC Roadmap Submission on Climate Change and Several Horizontal Issues
- Lucia Lovison
- Big Data and Services for Disasters
- Terry Idol
- Invitation to the Aviation Workshop and EDM session
- Brief discussion on "Disasters and UxS"
- Don Venable and Kyle Kauffman (AFRL) Presented by Scott Simmons
- ICD for All Source Positioning and Navigation
- Jane Wyngaard
- RDA sUAS data IG session call: Cross disciplinary drones for good in the developing world, ESIP Lab drone Minimal Information framework project
- (Remote)

Activity Summary



- Discussion topics
 - We need greater involvement

- Upcoming deliverables
 - None

- Coordination (ongoing and planned)
 - Aviation WG
 - RDA small UAS
 - ESIP Drone

- Future meetings
 - Stuttgart TC PC
 - International Data Week

Key activities



- UxS DWG: coordination, coordination, coordination
- No upcoming milestones



Meeting Sponsors



WCS.SWG

107th OGC Technical Committee
Fort Collins, Colorado USA
Peter Baumann
7 June 2018

The most important thing for this WG is...



The OGC **Coverage** data & service model – CIS & WCS – is a mature, Big Data proven framework for n-D **regular & irregular grids (“datacubes”), point cloud, meshes** offering XML, JSON, RDF, and many binary encodings. Large and growing uptake by MapServer, GeoServer, QGIS, rasdaman, ESRI, and many more.

Agenda



- Status overview (P. Baumann)
- Towards a Coverage Polygon Clipping Extension (P. Baumann)
- IER for Swath Coverage (Eugene Yu)
- Status Update on MetOcean (Peter Trevelyan)
- RESTful APIS for MetOcean Data (Peter Trevelyan)

Activity Summary



- Discussion topics
 - WCS REST
 - Polygon clipping, including curtain & corridor queries

- Upcoming deliverables
 - WCS 2.1 adopted
 - ISO 19123-2 adopted from CIS 1.0
 - ISO 19123-1 progressing
 - MetOcean Profile progressing
 - Polygon Clipping spec progressing

- Coordination (ongoing)
 - ISO TC211
 - INSPIRE

- Future meetings
 - next TC Meeting
 - Harmonization of SWE and TimerseriesML with CIS/WCS
 - ...



Meeting Sponsors



WFS/FES SWG

107th OGC Technical Committee
Fort Collins, Colorado USA
Clemens Portele
7 June 2018

The most important thing for this WG is...



... to continue the modernization of the Web Feature Service
standard as API building blocks
in a way that can be extended with API buildings blocks for
other types of OGC resources
using an open, implementation-driven process

Agenda



- Status update
- OGC Testbed 14 updates
- CRS extension
- OpenAPI 3.0 status update
- Discussion of open issues

Activity Summary



- Discussion topics
 - Actions to ensure that the WFS 3.0 approach is consistent with other OGC resource types
 - CRS support (Part 2)
 - Updates from the OpenAPI initiative

- Upcoming deliverables
 - Public review of Part 1 (Core)
 - First draft of Part 2 (CRS support)

- Coordination (ongoing/planned)
 - Several Testbed 14 deliverables will provide valuable input
 - ISO/TC 211 ballot for new work item for Part 1 (Core) ongoing
 - Discuss resource structure with other OGC WGs
 - Discussions in OpenAPI initiative

- Future meetings
 - Periodic web-meetings every 2nd or 3rd Monday

Key activities



- **2018** – Continue work and collect feedback through public review, developer feedback, Testbed 14, etc.
- **2019** – Consolidate comments and feedback, prepare release candidate ready for adoption ballot in OGC and ISO
- **In parallel** – Work on additional parts, e.g., CRS support



Meeting Sponsors



WPS/Workflow Closing Plenary Report

107th OGC Technical Committee
Fort Collins, Colorado USA
Benjamin Pross, Stan Tillman
7 June 2018

The most important thing for this WG is...



WPS 2.0 REST/JSON Binding

Agenda



- Update on the Master Thesis on WPS orchestration, Diogo Rafael Lopes Ferreira, Instituto Superior Técnico
- Transactional Extension for the WPS REST/JSON binding, Patrick Jaques, Spacebel
- WPS REST/JSON binding - general update and discussion, Benjamin Pross, 52° North
- AOB

Activity Summary



- Discussion topics
 - Workflow Validation
 - REST/JSON
 - Coordination with WFS 3.0 work

- Upcoming deliverables
 - N/A

- Coordination (ongoing and planned)
 - WFS/FES
 - Architecture DWG
 - Testbed-14

- Future meetings
 - TBA

Key activities



- Work on WPS REST/JSON Binding
- Coordination of Testbed-14 activities
 - WPS-T/WPS-T REST
 - Workflow subtopic