

Session V.3

Item 5(2)/1 - WIS 2.0 implementation plan
Jeremy Tandy (chair TT-eWIS, UK)

with an update by Rémy Giraud (Sept. 2018)

Commission for Basic Systems (CBS)
Technical Conference 2018
(Geneva, 26-29 March 2018)



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World Meteorological Organization
Organisation météorologique mondiale

Outline

- Issues
 - Issue 5(2)/1 - WIS 2.0 implementation plan – TECO version
 - WIS 2.0 implementation plan – post EC-70

Issue 5(2)/1	WIS 2.0 implementation plan (as presented at TECO)		
References	<ol style="list-style-type: none"> 1. WIS 2.0 strategy. 2. Outline implementation plan for WIS 2.0. CBS TECO 2018 Inf 5(1) WIS2-Implementation-Approach 		
Background	<p>EC-69 endorsed the WIS 2.0 strategy (Ref 1). WIS 2.0 seeks to make it easier for Members to publish, exchange and receive information through the WMO Information System, and to make information from Members more readily available to users. Recognizing that WMO information will continue to grow in size to the extent that it is unlikely that users will be able to transfer all the data they need to their own computing facilities, WIS 2.0 standards will allow computing facilities co-located with the data to be used to reduce the volume of information that has to be transferred. The same facilities would also allow Members that are unable to operate their own computing facilities to create products tailored to their own needs.</p>		
Rationale	<p>TT-eWIS (the Task Team on the evolution of WIS) is developing an outline implementation plan for WIS 2.0. Ref 2 gives the current draft of this document. This will be developed further during 2018, issued for consultation in the final quarter of 2018, and prepared for endorsement by eighteenth Congress. These documents will then be used to guide the implementation of WIS 2.0.</p>		
Advice for CBS-MG	<i>What</i>	<i>By whom</i>	<i>Deadline</i>
	Provide feedback for TT eWIS on the outline plan for WIS 2.0. Use email wis-help@wmo.int.	Members	30 Jun 2018
Advice on rec. to EC and Congress	<i>What</i>	<i>To whom</i>	<i>Time frame</i>
	Include the WIS 2.0 implementation plan in the agenda for Cg-18	EC-70	Jun 2018
	Recommendation on WIS 2.0 implementation	Cg-18	Mar 2019

Issue 5(2)/1	WIS 2.0 implementation plan
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Background:

[WIS 2.0 strategy](#) (Ref 1) endorsed by Resolution 8 (EC-69) [...]

Rationale:

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This will be developed further during 2018, issued for consultation in the final quarter of 2018, and prepared for endorsement by eighteenth Congress.

These documents will then be used to guide the implementation of WIS 2.0.

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Background
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Rationale
 TT-eWIS (the Task Team on the evolution of WIS) is developing an outline implementation plan for WIS 2.0 (Ref 2) for circulation to Members of this document. This will be developed further during 2018, issued for consultation in the final quarter of 2018, and prepared for endorsement by eighteenth Congress. These documents will then be used to guide the implementation of WIS 2.0.

And now – introducing Ref 2:

CBS TECO 2018 Inf 5(1) WIS 2 implementation approach

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What is WIS?



WIS connects demand for authoritative weather, water and climate information with supply from approved Centres.”

discovery | access | collection | exchange

WIS Catalogue. Global Telecommunications System.

NC. DCPC. GISC.



Why WIS needs changing

- Meet needs of all WMO Programmes (not just WWW)
- UN global agendas: sustainable development, climate change and disaster risk reduction
- Draft WMO Strategic Plan (2020-2023)
- CBS Led Review on Emerging Data Issues

- Improve discoverability and accessibility of data
- Technology advances: explosion of data, changing modes of use, operational efficiencies



Key goals

<p>A. Increase the discoverability and accessibility of authoritative weather, water and climate data and information beyond the traditional institutional NMHS user base.</p>	<p>B. Ensure that the WMO community is equipped to derive benefit from the explosion in data volumes resulting from continued investment in earth-system modelling and observing systems.</p>
<p>C. Cost reduction for WIS Centres from retirement of the legacy systems and infrastructure, and consolidation of how core WIS functions are provided.</p>	<p>D. Improve access to data and services in developing countries and, through regional and global cooperation, strengthen the capacity of Members to provide meteorological, hydrological, marine and climate services.</p>

WIS 2.0 vision

“*WIS 2.0 is a collaborative system of systems using Web-architecture and open standards to provide simple, timely and seamless sharing of trusted weather, water and climate data and information through services.*”

- The functions of WIS remain largely unchanged – how those functions are delivered is changing.
- WIS 2.0 embodies a fundamental shift in the approach used for data sharing: from data-oriented GTS distribution to service-oriented access via the Web.



Technical approach

- Web-centric
- Service ecosystem: system of systems, open standards
- Encourage cloud-hosting to mitigate Big Data challenges (strong alignment with future DPFS approach)
- Replace costly private networks with Internet connections for GTS network links (where SLA can be met)
- Adopt commodity, open standard, messaging solutions for real-time data distribution (cease legacy message switching activities)
- Consolidate WIS infrastructure – Core Services hosted in a cloud environment, operated as shared services by Global Information System Centres (GISC)



Policy landscape

- Free and open approach to data sharing
- Resolutions 40 (Cg-XII), 25 (Cg-XIII) and 60 (Cg-17)
- Encourage use of open licenses to promote re-use
- WIS Centres require endorsement of their PR – data shared on WIS is authoritative
- WIS Centres are subject to periodic audit – as per provisions on Quality Management (WMO-No. 49 Vol I. Part VII)
- WIS Part C: Information Management
- Gaps? service usage, cost recovery, business models ...
- As per emerging principles from WMO, WIS 2.0 should provide a level playing field for both public and private sectors to operate



WIS 2.0 implementation

- Governance:
 - Project Office at Secretariat (with full-time project manager)
 - Oversight from ITT-WIS
 - Industry recognised approach to P3M
- Timescales: 2019 – 2025
- Evolutionary approach: no abrupt changes
- Actively engagement with flagship WMO initiatives: seamless GDPFS, GMAS (DRR), CSIS (Climate), ODIS (Ocean), WHOS phase 2 (Hydro) etc.
- Key activities:
 - Standards, regulation & guidance
 - Ecosystem development – working with WIS Centres to provide data services & connect them to the WIS Core Services
 - Development of Core Services with associated financial & governance models:
 - Portal and Catalogue
 - Real-time data distribution and cache*
 - Monitoring of WIS ecosystem
 - Outreach, capacity building and pilot projects

* *building on the Cache in the Cloud project*

Outreach, capacity building & pilot projects

- WIS 2.0 Project Office will work through Regional Associations to:
 - Identify how best to engage Members;
 - Raise awareness about WIS 2.0;
 - Gather and disseminate feedback on WIS 2.0 implementation progress;
 - Understand and, where possible, mitigate the operational, technical, political, financial and cultural challenges and perceived risks concerning the adoption and exploitation of WIS 2.0;
 - Identify any region-specific requirements;
 - Determine opportunities for pilot projects to inform, evolve, validate and refine the concepts and implementation approach of WIS 2.0;
 - Coordinate information sharing about WIS 2.0 pilot projects and their outcomes.



Outcome of EC-70 (1) (September 2018)

- Draft Resolution 7.2(1)/4
- WMO INFORMATION SYSTEM 2.0

- THE EXECUTIVE COUNCIL,
- Recalling that:
 - ...
- Noting further that:
 - ...
 - (3) some Members are keen to ensure that WIS 2.0 be developed without such restrictions, making full use of the new information technology and the public/private partnerships environment and practices available to achieve the requirements of Members for the full cycle of information management building on the investments of Members in the initial development and roll-out of WIS,
 - Requests the Commission for Basic Systems, in collaboration with the private sector and involving those Members who currently operate GISCs, to analyze the data exchange needs for WIS in order to provide reliable data access to all users considering the availability of new technologies, architectures and communication techniques including cloud based solutions, web services, application programming interfaces, modern messaging protocols etc., and to study how they would support or contribute to the evolution to WIS 2.0 and report back;
- Requests the Secretary-General to provide the resources to support this work;
- Urges Members to provide resources for development of potential solutions and feasibility studies.



Outcome of EC-70 (2) (September 2018)

- Draft Decision 7.2(1)/2
- The Executive Council noting the WMO Information System 2.0 Strategy, endorsed by Resolution 8 (EC-69) and the Draft WMO Information System 2.0 implementation approach as described in the document presented to the Commission for Basic Systems (CBS) Technical Conference (TECO) 2018 (CBS-TECO-2018-Inf-5(1)-WIS2-Implementation-approach_draft1),
- Noting further that CBS Management Group recommended EC-70 consideration for referral to Congress,
- Requests the CBS:
 - (1) To consult with Members on amendments needed to further develop the Strategy and Implementation Approach and specific design requirements;
 - (2) To provide Congress with the updated Strategy and Implementation Approach and a plan to document specific design requirements;
 - (3) To provide more information to Members about the technical infrastructure supporting WIS 2.0 and a comparison of the functional architectures for the original WIS and WIS 2.0;
- Encourages Members to provide feedback to CBS on amendments needed to further develop the Strategy and Implementation Approach;
- Agrees to consider the status of WIS 2.0 at Cg-18 with a view toward implementation and;
- Decides to request from Congress to authorize EC to make a decision on implementation once the updated documents, including design requirements, are submitted by CBS.



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Thank you Merci



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