recode weather

BUFR and IWXXMA are knocking on your door: We will help you to open!

Smooth migration

Time to discover the n**ew era of Weather information**

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OVERVIEW

“After November 2014, the TAC may be used only for the exchange of data between two NMHS under bilateral agreement.”
WMO-No. 1070. Commission for Basic Systems Extraordinary session – Final report, 2010

Recode Weather is designed to help you resolve some of the severe issues with development of your National Migration Plan, allowing to generate BUFR/IWXXM observations without an immediate upgrade of observing hardware/software, and at the same time to provide backward compatibility for legacy systems based on Traditional Alphanumeric Codes until those are upgraded or replaced.

In accordance with the WMO TDCF Migration Plan, migration to TDCF (Table Driven Code Forms such as BUFR) was completed in November 2010. Dual dissemination of BUFR and TAC was terminated by November 2014. Meteorological observations such as SYNOP, TEMP, PILOT, CLIMAT should not be disseminated to GTS network (many countries has already terminated dissemination of TAC SYNOP bulletins). Instead, observations all over the world should be transmitted in BUFR.

In accordance with ICAO Annex 3, Amendment 80, OPMET data can be (based on a bilateral agreement) exchanged using IWXXM, an extensible markup language developed by WMO expert teams in cooperation with ICAO. Recode Weather comes with full support of IWXXM, it allows you to convert your OPMET TAC bulletins (METAR/SPECI, TAF, SIGMET, AIRMET, Advisories) to IWXXM and vice-versa.

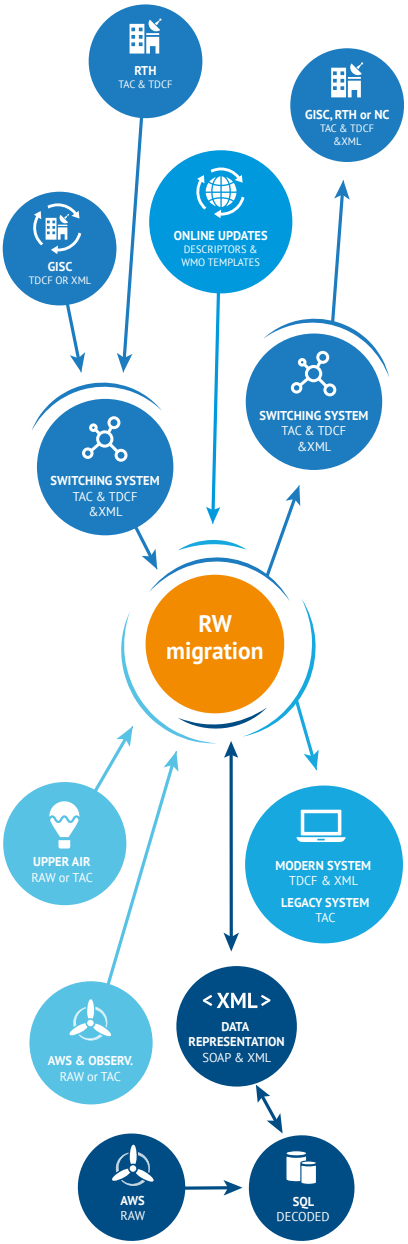
IF YOU DO NOT MIGRATE...

Besides category 1 data migration, WMO plans to have all other meteorological data being interchanged in TDCF in the following years. Therefore without reliable support of TDCF in your system you will not be able to communicate with rest of the meteorological world, to understand the data received as well as to send data to others.

KEEP UP AND BE PREPARED

Recode Weather is designed to help National Meteorological Services in their process of migration to Table Driven Code Forms (TDCF)/IWXXM and to play a key role in developing the National Migration Plan. It is based on „Migration by Zones“ concept which allows continuous use of your current systems until they are upgraded or retired.

With Recode Weather your way to TDCF/IWXXM will be much smoother and less complicated. Recode Weather offers you standalone solution for transparent, fully-automated bi-directional conversion while adding proper metadata. TDCF descriptor tables and TM templates can be updated without software change.



Are you ready for BUFR and IWXXM?

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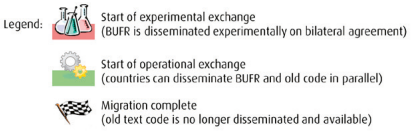
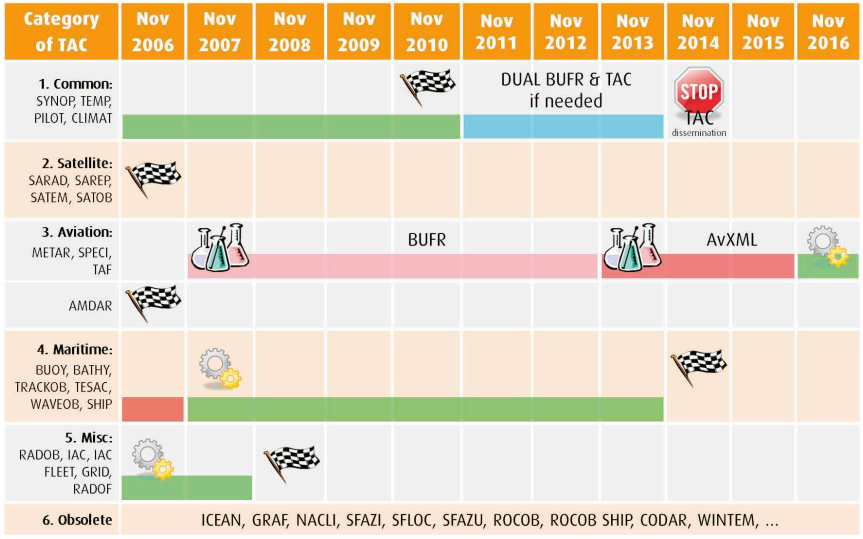
KEY BENEFITS OF RECODE WEATHER

- FlexibleFlexible way towards TDCF/IWXXM codes – it brings bidirectional bridging between TDCF/IWXXM and TAC which allows you to generate TDCF/IWXXM bulletins without an immediate upgrade of observing hardware/software (leading to cost saving). You can issue your observations in BUFR/IWXXM simply by re-creating them from existing TAC codes with additional metadata or data
- Support legacy systems – continue using your TAC-consuming systems until they are upgraded or retired as scheduled, because TDCF/IWXXM data arriving from other RTH/NMC's can be converted back to their TAC for legacy systems, where possible. Please consider that existing systems might not be easy to upgrade because:
  - they are not maintained or developed any longer,
  - they cannot be adapted to new compilers or operating systems,
  - original developers are no longer available,
  - implementing the change is too expensive.

- Re-creating old codes from BUFR/IWXXM prolongs usability of your current systems to allow proper development of new tools and migration when ready part-by-part.
- Service Oriented Architecture – the Recode Weather provides REST, SOAP or file input/output interfaces, so it can be easily integrated with your message switching system.
- External SQL database integration – together with Moving Weather switching system it allows direct compilation of BUFR/IWXXM bulletins out of your external observation database, as well as to decode TDCF/IWXXM data and store it directly into your SQL tables.
- Open for updates – system is driven by XML-based configuration, new formats can be simply supported just by adding new transformation rules.
- Generated data fully conforms to relevant WMO and ICAO standards and recommendations – Output is compliant with WMO IPETCM templates. Input is backward compatible with various BUFR editions and template revisions. Therefore you can be sure you are producing TDCF/IWXXM messages in accordance with current standards while you can still understand other parties not on the same level of compliance.





METADATA ENRICHMENT

Plain TAC to TDCF Conversion is not a Migration, because converted data lacks important metadata.

Therefore Recode Weather provides more by Enriching BUFR with proper metadata, in order to deliver added value and step forward over straight conversion.

For instance SYNOP metadata are enriched with additional metadata – station coordinates, station name, elevation, height of all sensors above ground, type of sensors, and so on. SYNOP (in FM-12 alphanumeric code) it does not carry any required metadata, so they are added by the Recode Weather during encoding in order to produce fully rich & valid BUFR Synoptic observation.

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IBL Software Engineering builds its reputation on 45 years of tradition in the field of Meteorological IT development. Dating from its first Automated Meteorological Message Switching Systems, the branch in Frankfurt, Germany, was established in 1988, while the branch in Bratislava, Slovakia was opened in 1997. IBL Software Engineering is employing IT specialists working exclusively in the Meteorological IT Environment with a high level of professional expertise.

IBL Software Engineering is ISO 9001:2015, ISO 27001:2013, and ISO 14001:2015 certified in the scope of development, supplying, installation, and maintenance of software for meteorological information systems. As a representative of Hydro-Meteorological Equipment Industry it is recognized by WMO and IBL's experts are participating in the number of WMO Expert Teams. IBL pays close attention to the advancements in BUFR, IWXXM, Amendment 81, GRIB3, etc. and its products fully comply to the following standards:

- WMO Manuals on Codes 306, on Global Telecommunication System 386, on Global Data Processing System 485
- ICAO Annex 3 up to Amendment 81 and ICAO Regional SIGMET Guides as of 2023
- SADIS workstation requirements 1.1 April 2021

PRODUCT PORTFOLIO

If the integration of all meteorological data processing systems is the key factor for the effective operation of your business, then with the IBL product portfolio your integration efforts are minimized, because IBL systems are designed to closely cooperate to provide the desired synergy.

No meteorological office is an island, entire of itself.

visual weather

numeric weather

aero weather

satellite weather

climate weather

online weather

swim weather

open weather

moving weather