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# Steps to IWXXM implementation

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## Steps to IWXXM implementation

- Currently all producers of OPMET have an established set of production tools and recipients have equivalent display tools. In between producers & recipients are established transmission systems like AFTN / AMHS
- Initially IWXXM will likely not be used in many operational display systems. There will be parallel flow to (or towards) them.
- There will not likely be many benefits to the move to IWXXM until systems have moved to using it AND display systems think of better ways of using the data – something more than just showing the current TAC to users.
- Making IWXXM operational from November 2020 is only the first step in a longer process.



## High level expected future timeline

<b>Nov 2020</b>	Supposedly all producers start producing operational versions of OPMET in both TAC & IWXXM
<b>2021</b>	Data transmission routes get on board in both technology & capacity All producers get on board or make arrangements Missing product analysed
<b>2022 - 2023</b>	Production tools mature Consumers systems start to mature and evolve Recipients of data start to migrate to preferring IWXXM
<b>2024 - 2026</b>	Both production & display tools start to choose other ways than TAC Other products start to be on the horizon
<b>2027 -</b>	TAC no longer mandatory



## Each producer/Receiver should do an analysis of existing capability:

- Some third party tools now support production of both TAC and IWXXM. Look at existing systems/tools and analyse what they are capable of.
- Do you ever want to do the work required in each of them for them to support IWXXM?
  - If so then start to prepare for that work
  - If not prepare a plan for alternatives for 2026
- Not all data types need to have the same plan or the same timeline  
eg. METAR/SPECI might need a different approach to TAFs etc. One system might be worth moving to IWXXM while another might not.



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Do you ever want to do the work required in each of them for them to support IWXXM?

- If so prepare for that work
- If not prepare a plan for what needs doing before 2026

Not all systems need to have the same approach



## Decide the approach to manage IWXXM:

Here are some strategies:

- **Treat the IWXXM data as separate from the equivalent TAC – at least initially. Treat it as different data**
- If all systems are capable of managing IWXXM then you just need to set up appropriate management of IWXXM data.
- If many/most of your systems are not IWXXM capable then leave the current TAC flow unchanged but analyse and decide where IWXXM can be in your systems. This will almost certainly be at a minimum close to where your comms & meteorological systems meet. That is where IWXXM will arrive/leave from.
- Consider storage capacity. IWXXM is about 10 X larger in size than TAC and there will be 2 of everything.
- Prepare for a time when there needs to be a decision to switch to IWXXM - but that might be a few years away



## Example plan (NZ Met production)

product	Nov 2020	Dec 2020	June 2021
<b>METAR (/SPECI)</b>	Translate in nsMHS switch TAC -> IWXXM		
<b>TAF</b>	Translate in nsMHS switch TAC -> IWXXM		Produce IWXXM from source. Translate in nsMHS switch IWXXM -> TAC
<b>SIGMET</b>	Translate in nsMHS switch TAC -> IWXXM	produce both from VisualWeather	
<b>VAA</b>	Translate in nsMHS switch TAC -> IWXXM	Co produce from VisualWeather	
<b>TCA</b>	Translate in nsMHS switch TAC -> IWXXM	Co produce from VisualWeather	



## Data distribution:

- The traditional TAC/OPMET distribution via AFTN is not possible. It cannot handle the characters in IWXXM & it cannot handle the size of the messages. It must be upgraded to AMHS that can handle FTBP. This may involve an increase in network bandwidth
- If current distribution is by other technologies (email, FTP etc) then it is advised to consider extending its use to cover delivery/receipt of IWXXM. AMHS with TPBP is not essential to start IWXXM production
- Start sending data flagged as “TEST”. No receiving system should have problems with this approach
- Possibly arrange with neighbouring NOCs/ROCs to assist exchanging test data, from one-off samples to a regular feed



## Systems capability for production.

- If current production tools cannot handle IWXXM then consider what options there are to translate. While it is not considered ideal it will get production started and give space to consider how do things in the longer term.
- **Self translation:** if this is technically possible then consider what tools are available and how they could be plugged in to the existing distribution system.
- **Other party translation:** this should almost certainly be done up the data distribution chain. Preferably one step higher (production point -> NOC -> ROC-> RODB) as that minimises data flow complexities. If you want to explore another party offering it as a service then would the IWXXM come back to you or would that provider send it on?
- **Not all data needs the same approach.** Eg you might have a production system that can make IWXXM TAFs but you have no such possibility for METARS



## IWXXM/TAC management

- Some third party tools now support both TAC as well as IWXXM. Most existing third party tools will have their own strategic pipeline for the transition to IWXXM. Look to fit your timelines with them if possible.
- Third party tools may lower the work of production and validation, both initially and later. Validation is not a simple task.
- It is an acceptable strategy to manage a mix of TAC & IWXXM in any system for the foreseeable future. But for each datatype it is best to use only one.
- Eventually there will need to be monitoring systems in place to enable a decision to retire TAC but that's quite some time off.



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THANK YOU