



WORKING PAPER

SATELLITE DISTRIBUTION SYSTEM OPERATIONS GROUP (SADISOPSG)

THIRTEENTH MEETING

Dakar, Senegal, 27 to 29 May 2008

Agenda Item 9: Any other business

SADIS WORKSTATION SOFTWARE EVALUATION CRITERIA

(Presented by the SADIS Provider State)

SUMMARY

The SADIS Provider State proposes minor modifications to the SADISOPSG software criteria following implementation of changes to the SADIS broadcast during the past few years. It is recommended that a further software evaluation is carried out in time for SADISOPSG/14.

1. INTRODUCTION

1.1 At the SADISOPSG/5 Meeting, concern was expressed about the quality of some of the commercially available SADIS visualisation software. It was considered that a number of the software packages did not meet some important requirements, such as the ability to inform users of the arrival of SADIS administrative messages. This view resulted in the group requesting that the SADIS Provider should investigate the feasibility and cost of providing a software testing facility.

1.2 At the SADISOPSG/6 Meeting the SADIS Provider State presented a proposed list of minimum functionalities against which all software should be assessed. Some minor modifications were made to this list by the SADISOPSG/6 meeting. Further amendments to the functionalities list were made at the SADISOPSG/8 and SADISOPSG/10 meetings. These amendments were included in the list available to users via a link from the SADISOPSG website (under “useful websites”). It is against this list that the latest software evaluations were carried out.

1.3 The results from the latest software evaluations were presented to the SADISOPSG/11 meeting and are available via a link from the SADISOPSG website (under “useful websites”). Following the SADISOPSG/11 meeting, further improvements to the quality of software have been made by a number of vendors. At the completion of the most recent software review (2006), the software of eight companies was considered to be being compliant when evaluated against the software criteria.

2. DISCUSSION

2.1 A small number of changes to the SADIS broadcast have taken place since the SADISOPSG/10 meeting. The standards and recommended practices of Amendment 74 to Annex 3 have also necessitated changes to WAFS products. The changes pertinent to the SADIS broadcast include:

- a) display of explicit flight levels, in place of the 'plus/minus' (+/-) notation, of jet depth information on SIGWX charts derived from the BUFR coded forecasts;
- b) withdrawal of T4 formatted WAFS upper-air and SIGWX facsimile charts;
- c) continuation of the provision of WAFS SIGWX charts in the portable network graphics (PNG) format;
- d) withdrawal of amendments to WAFS upper-air and SIGWX forecasts;
- e) elimination of non-CB cloud amount and type from medium-level BUFR SIGWX bulletins;
- f) elimination of surface fronts and well-defined convergence zones (ITCZ) from high- and medium-level BUFR SIGWX bulletins;
- g) display of volcanic ash trajectory/dispersion graphics (VAG) – refinement to include visualisation of portable network graphics (PNG) VAGs, as available; and
- h) revision to text within BUFR SIGWX chart legend box.

The group may wish to agree that the SADIS software criteria should be modified to incorporate the above changes. A list of the proposed updated criteria is provided at the appendix to this paper.

2.2 Considering the number of changes that have been recently introduced, and the fact that these features have not yet been evaluated, the group may wish to agree that it would be beneficial that a further software evaluation to be conducted, where possible, in time for SADISOPSG/14. This evaluation should be against the revised software criteria outlined in the Appendix to this working paper.

2.3 The group will be aware that in addition to the list of changes to the SADIS broadcast outlined above, the SADIS Provider has made gridded icing, turbulence and convective cloud forecasts available on the SADIS FTP service since October 2006, for the purposes of trial and evaluation. The SADIS Provider does not believe that, at this time, it is necessary to incorporate an assessment of a work-stations ability to generate products from these trial products. However, as these products evolve through the World Area Forecast System Operations Group, it may be necessary to re-evaluate this position.

2.4 The group is invited to instruct the SADIS Provider State about the level of detail required when carrying out a further round of software evaluations. The process which has been adopted to date has relied on a certain level of trust between the vendor and the SADIS Provider State, and has taken a fairly high-level approach to the evaluation process. If a more detailed and rigorous approach is required, the SADIS Provider State would have to receive instructions from the SADISOPSG. The group is invited to share the opinion by the SADIS Provider State in that the current approach proved effective

and is sufficiently rigorous for the task. Endorsing this point of view, the SADISOPSG will recall that two important caveat statements have been consistently applied to the results:

- a) The software evaluation process does not certify or endorse any single software application, neither does it recommend one application over another. The software evaluations are the results of software reviews that the Met Office has carried out on behalf of the ICAO SADISOPSG. The purpose of these reviews is to verify whether the applications can deliver certain minimum functions which the SADISOPSG considers are essential for the correct use of the WAFS and OPMET data; and
- b) It remains the responsibility of the user to ensure that procured software meets their full requirements. It is not intended that the software evaluations fulfil this task. The results from the software evaluations may be used as one additional source of information to aid any procurement process but should not be viewed in isolation of other important procurement requirements.

3. CONCLUSION

3.1 In order to ensure that the software evaluation criteria continue to meet to the user requirements, the group is invited to formulate the following decision and conclusion:

Decision 13/.. — Modified SADIS software evaluation criteria

The SADISOPSG endorse the modified software criteria included as Appendix¹ to this report.

Conclusion 13/.. — Evaluation of available workstation software

That, the SADIS Provider State be invited to:

- a) carry out a further evaluation of the workstation software available from software vendors against updated criteria; and
- b) present the results thereof to the SADISOPSG/14 meeting.

4. ACTION BY THE SADISOPSG

4.1 The SADISOPSG is invited to:

- a) note the information in this paper; and

¹ The SADISOPSG criteria is at the appendix to this working paper.

- b) decide on the draft decision and draft conclusion proposed for the group's consideration.

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APPENDIX

REVISED SADISOPSG SOFTWARE CRITERIA

<i>SOFTWARE FUNCTIONALITY</i>	<i>Available and compliant?</i>	<i>Comments</i>
1. Display of OPMET data and other data types in text format		
2. WAFS GRIB decoder and compliant display package		
3. WAFS SWH and SWM BUFR decoder and compliant display package		
4. Display and ability to prompt users of the arrival of BUFR SIGWX or PNG SIGWX chart corrections		
5. Display and ability to prompt users of the arrival of SADIS administrative messages		
6. Display of tropical cyclone advisory statements		
7. Display of volcanic ash advisory statements		
8. Display of volcanic ash trajectory/dispersion graphics		
9. Display bulletin contents from the WMO header		
10. Display of special AIREPS		
12.11. Ability to receive WAFS SIGWX charts in the PNG (portable network graphics) format from all three SADIS service, and display them using standard visualisation software. Display of WAFS SIGWX charts in the PNG (portable network graphics) chart format.		
11.12. Ability to receive all the SADIS products via FTP from the SADIS FTP server		

Note. – Please refer to the accompanying notes that detail the requirements.

Requirements

The numbers of the notes below correspond to the numbers of the 11-12 items listed in the table above. For a software package to receive a “Y” (“yes”) as opposed to “N” (“no”) in the Available and compliant column on the table, all of the functions detailed below need to be satisfied for each functionality item.

For every workstation provider that is happy for their software to be tested under these criteria, it our intention is to make the information available to all existing and prospective SADIS users via the SADIS web page at URL <http://www.metoffice.gov.uk/sadis/software/index.html>.

Ability for the data to be sourced from SADIS 1G², SADIS 2G or the SADIS FTP service:

1.
 - i) The ability to receive and display OPMET data and other data types in text format (including TAFs, METARs, SPECIs, SIGMETs, EUR region AIRMETs and GAMETs, and ASHTAMs and NOTAMs related to volcanic ash);
 - ii) The ability for a user to display OPMET for aerodromes specified by the user
 - iii) Prompt users of the arrival of a SIGMET, SPECI, ASHTAM and NOTAM related to volcanic ash.
2.
 - i) The ability to receive and display GRIB data, sourced from WAFC London and WAFC Washington³
 - ii) The functionality to enable a user to produce a wind-temperature chart from the GRIB data over a configurable user-specified area. Global coverage is required. The ability to produce charts spanning the International Date Line and including all of the standard ICAO areas is required.
 - iii) A “zooming facility” for GRIB chart areas.
 - iv) The ability to produce a wind-temperature chart from GRIB encoded data that is identical as far as the meteorological content is concerned and largely identical as far as other features (e.g. the position of text boxes) are concerned to a standard T4 the wind and temperature example chart for the same area, and that meets Annex 3 requirements contained in Appendix 1 of Amendment 74 to ICAO Annex 3. The product must clearly display whether the chart is derived from the WAFC London or WAFC Washington GRIB encoded data.

² Until 31 December 2008 (date to be determined by SADISOPSG/13)

³ It should be noted that there are some subtle differences between London and Washington GRIB data. Washington GRIB would only be transmitted over SADIS if there was a major problem with the production of London GRIB. It would only have the purpose of forming a backup to the London GRIB in the event of problems with disseminating the former.

- v) Automatic chart production is required, i.e. human intervention is not required to modify a chart to ensure compliancy.
- 3.
- i) The ability to receive and display WAFC SIGWX BUFR encoded data, sourced from WAFC London and WAFC Washington⁴.
 - ii) The functionality to enable a user to produce a SWH and a SWM SIGWX chart from BUFR data over a configurable user-specified area. Global coverage for the SWH data is required. The ability to produce charts spanning the International Date Line and covering all of the standard ICAO areas is required for the SWH data.
 - iii) A “zooming facility” for BUFR chart areas.
 - iv) A de-clutter facility for tropopause heights, whereby the quantity of tropopause data plotted over an area is appropriate to the size of the area, and hence maximises the clarity of the end product.
 - v) The ability to produce a SIGWX chart from BUFR encoded data that is *identical* as far as the meteorological content is concerned (including depiction of non-CB cloud areas and jetstream depth notation), *identical* as far as the chart legend box text, and *largely identical* as far as other features are concerned (e.g. the position of text boxes), to a standard T4 portable network graphics (PNG) SIGWX chart for the same area and meets the latest ICAO Annex 3 requirements. The product must clearly display whether the chart is derived from WAFC London or WAFC Washington BUFR encoded data. If the software allows the user to modify any of the plotted meteorological parameters, reference to either WAFC *must* be automatically removed if such modification is carried out by the end user.
 - vi) The ability to handle BUFR bulletins that contain no data – i.e. bulletins that are empty apart from message header information. In particular, this applies to the BUFR bulletins associated with surface fronts, namely:

JUFE00 EGRR, JUFE00 KKCI, JUJE00 EGRR; and JUJE00 KKCI.
 - vii) Automatic chart production is required, i.e. human intervention is not required to modify a chart to ensure compliancy.

⁴ Note that, WAFC Washington high-level SIGWX (SWH) BUFR data will only be disseminated to the SADIS satellite broadcast when WAFC London is operating in backup mode. The WAFC Washington data is, however, available on SADIS FTP as routine.

4. i) The ability to receive, prompt users and display and prompt users of the arrival of chart WAFS SIGWX amendments corrections. These amendments corrections are text messages issued with the following WMO headers: FXUK65 EGRR T4 for BUFR-code and/or PNG SIGWX chart amendments corrections⁵. ~~FXUK66 EGRR T4 Wind & Temperature Chart amendments.~~

5. i) The ability to receive, display and prompt users of the arrival of SADIS administrative messages. These are text messages issued with the following WMO headers:

NOUK10 EGRR; NOUK11 EGRR; NOUK12 EGRR; NOUK13 EGRR; NOUK31 EGGY; and NOBX99 EBBR

6. i) The ability to receive, display and prompt users of the arrival of tropical cyclone advisory statements. These bulletins are in text format and are of the form FK**** CCCC.

7. i) The ability to receive, display and prompt users of the arrival of volcanic ash advisory statements. These bulletins are in text format, and the WMO headers of those currently available for dissemination of SADIS are listed below. These bulletin headers are of the form FV**** CCCC.

FVAK(20-2425) PANCPAWU; ~~FVUK01 EGRR; FVXX(01-03) EGRR; FVXX05 EGRR; FVXX(20-2927) KWBCKNES; FVAF01 LFPW; FVEU01 LFPW; FVAW01 LFPW; FVXX(01-05) LFPW; FVSV30 FDMS; FVFE01 RJTD; FVCN(01-04) CWAO; FVAU(01-10) ADRM; FVAG01 SBAM;~~ and FVPS01 NZKL.

8. i) The ability to receive and display volcanic ash trajectory and dispersion graphics (VAG). These graphical charts are in standard T4 format or PNG chart format (as available). The products that may be available for dissemination on SADIS have the following WMO headers:

PFXB00 CWAO; PFXD00 CWAO; PFXG00 CWAO; PFXI00 CWAO; PHBE10 KWBC; and PHBI10 KWBC; ~~PURG00 LFPW; PVRE00 LFPW; PVRD00 LFPW; PUAG00 EGRR; and PVAG00 EGRR.~~

PFXD(01-10) ADRM; PFXD(01-03) EGRR; PFXD05 EGRR; PFXD(20-27) KNES; PFXD(05-09) LFPW.

- ii) Additional VAG bulletins over and above those listed above will be broadcast on SADIS as they become available.

9. i) The functionality to enable a user to display the contents of a single bulletin (including all types of bulletins except GRIB and BUFR encoded bulletins) by typing in the WMO header of the bulletin.

⁵ Note that the SIGWX BUFR data and/or PNG chart to which the correction refers will *not* be re-issued by the WAFC. The text bulletin (FXUK65 EGRR) will detail the necessary (corrective) action for users to take.

10. i) The ability to receive, display and prompt users of the arrival of special AIREPS. These bulletins are in text format, and the WMO headers of the bulletins currently available for dissemination on SADIS are listed below. The bulletins are of the form UA**** XXXX.

UANT90 EGRR and UAU90 EGRR

- 12.11. i) The ability to receive WAFS SIGWX charts in the PNG (portable network graphics) **chart** format ~~from all three SADIS services (1G, 2G and SADIS FTP Service),~~ and display them using standard visualisation software, e.g. web browser.

- 11.12. i) The ability to receive all of the operational SADIS data (detailed in items 1 - 4011 above) via FTP over the Internet from the SADIS FTP server, and to display it using the same interface. ~~In addition, the ability to receive and display PNG (portable network graphics) versions of the SIGWX charts from the SADIS FTP server.~~

— END —