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TITLE:

SAX SCIENTIFIC DATA PROCESSING S/W USERS (OCC) REQUIREMENTS

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Document history

| The Rev. 0.0 of the document has been prepared by:

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| It was issued at the beginning of Phase B2.

| The present revision has been updated in view of the Bridging Phase.

The document has been examined in a number of plenary discussion within the SAX Ground Segment Working Group.

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Note: The text lines marked by a vertical bar on the left margin have been modified or included with respect to the previous version.

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ACRONYMS

1 INTRODUCTION

1.1 SCOPE OF THE DOCUMENT

The scope of the present document is the definition of the OCC software requirements, regarded as user requirements, relative to the scientific data processing.

The other software user requirements on the Ground Segment have been included by Telespazio in the Final "Ground Segment System Specification" document (GSSS).

The Rev.0.0 of this document and the GSS document have been completed at the end of phase B1 and have provided Telespazio with all the user requirements needed to produce, as B2 phase study output, the Ground Segment Software Requirements Document (SRD).

The SRD concerns the software and shows the structure of the system, explaining how the various subsystems will meet the user requirements.

The aim of the present issue is to provide Telespazio with the users requirements for the Bridging Phase study.

As regards the present document it should be noted that:

- All the numerical values given are to be considered as being only indicative.
- The data processing functions here envisaged are subject to change because the configuration and the operative modes of the payload have not been frozen yet.
- Final information on the operative modes of each instrument within the payload should be available from the payload manufacturer through the contractual channels.
- The use of the term "packet" in this document concerns only the data format produced by the experiment controllers with no reference to any telemetry concept (e.g. packet telemetry concept).

1.2 OUTLINE OF THE DOCUMENT

This document concerns the user requirements for the OCC software relative to the following points:

- Class 3 Processing.
- Reformatted Raw Data Production (comprehensive of timing, aspect and orbital data).
- Class 4 Processing.
- Final Observation Tape Production.
- OCC / CDS Interface.

The user requirements in the present document are expressed in terms of input provided, function(s) performed and output expected.

In addition explanations are given concerning the operational environments (man-machine interface, expected outputs formats, minimum and maximum execution time required, etc.). The necessary information to justify the proposed solution are given depending on the specific context.

The document is conceived as completion of the Ground Segment Payload

transferred to the CDS together with the relevant administrative information. The transfer shall occur as soon as the data, after the production of the FOT and the performance of the long trend analysis, are no longer needed at the OCC.

See section 3.4 for the output requirements on the RRD production.

6.4 S/W FOR FOT PRODUCTION

This S/W is routinely used and will be possibly updated at the OCC. It is however expected that the identical S/W be used at the CDS to reextract FOT's when needed (in order not to keep indefinitely in the archive also one of the two copies of the FOT's). This S/W therefore shall be available to the CDS along with the relevant documentation, and any update shall be communicated as soon as implemented and successfully tested.

6.5 COMPATIBILITY AND LINK

From the above it appears that the H/W and S/W for handling and processing the relevant information at the OCC and the CDS should be highly compatible, if not identical.

Concerning the physical link, the type and amount of information to be transmitted electronically is such as to require at least a point-to-point leased line supporting standard transmission bit-rates (according to the status-of-the-art).