

Herschel	<b>PIPE GW SOW</b>	<b>Doc. no.</b> : SRON-U/HIFI/SP/2003-001
<b>HIFI</b>		<b>Issue</b> : Draft 2
		<b>Date</b> : May 8, 2003
		<b>Category</b> :
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**Title**            **Herschel EGSE router SOW**

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File:            SRON\_U\_HIFI\_SP\_2003\_001 Draft 2.doc

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**1 SCOPE OF WORK**

The purpose of the PIPE-GW as described in this document is to establish a connection between the CCS and the Instruments-EGSE.

The PIPE-GW has the following functions:

- Forward packets from the CCS to the EGSE-Router
- Forward packets from the EGSE-Router to the CCS

**2 APPLICABLE DOCUMENTS**

- AD-1.** H-P-ASPI-IS-0121 EGSE interface requirements specification.
- AD-2.** SRON-G/HIFI/ICD/2001-001 Herschel EGSE Packet Router ICD

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### 3 REQUIREMENTS SPECIFICATION

#### 3.1 Router connection

- REQ- 3.1-1 The PIPE-GW shall connect to the EGSE-Router. The name is PIPE\_GW.  
REQ- 3.1-2 Upon connection the PIPE-GW shall request for a configurable list of packet-addresses.  
REQ- 3.1-3 In case the connection dies, the PIPE-GW shall try to re-establish the connection.

#### 3.2 CCS connection

- REQ- 3.2-1 The PIPE-GW shall expect a request from the CCS to establish a connection or to re-establish the connection. (IFRQT-0050)  
REQ- 3.2-2 The PIPE-GW shall raise an alarm in case the connection dies.  
REQ- 3.2-3 The PIPE-GW shall send its own RM packet as soon as the connection is (re)established. (IFRQT-0110, IFRQT-0562)  
This way the PIPE-GW is considered as a SCOE/DFE/IS on its own, generating its own HK-packet.  
Specification of this RM-packet TBD- 3.2-1.  
Rate of this RM-packet is TBD- 3.2-2.

#### 3.3 Data distribution

- REQ 3.3-1 The PIPE-GW shall forward all packets (the body message of the PIPE-messages) received from the CCS to the EGSE-Router.  
Note: The PIPE-GW does not read or interpret the content of the body message. This implies that the PIPE gateway does not expect any commands from either the CCS or the EGSE-Router.  
REQ 3.3-2 The PIPE-GW shall acknowledge the receipt of an RC packet (IFRQT-0161)  
REQ 3.3-3 The PIPE-GW shall forward all packets received from the EGSE-Router to the CCS. These packets shall be forwarded as RM packets.  
Note: The PIPE-GW only receives packets with the packet address requested at startup.

#### 3.4 Test with CCS-sim

During the preliminary test-phase cooperation with Industry is requested to allow an efficient development. This implies that we expect that industry makes a CCS-client available (either to install local or to test remote). This CCS-system must be capable of testing the requirements in section 3.2 and 3.3.

More specifically, this CCS-simulator shall comply to the following requirements:

- CCS-sim-REQ 3.4-1 The CCS-sim shall be able to request the (re-)establishment of the connection to PIPE\_GW  
CCS-sim-REQ 3.4-2 The CCS-sim shall be able to break the connection to PIPE\_GW  
CCS-sim-REQ 3.4-3 The CCS-sim shall be able to receive RM packets from PIPE\_GW  
CCS-sim-REQ 3.4-4 The CCS-sim shall be able to send packets to PIPE\_GW to be forwarded via the EGSErouter to a final destination  
CCS-sim-REQ 3.4-5 The CCS-sim shall be able to receive acknowledgment of RC packet reception  
CCS-sim-REQ 3.4-6 The CCS-sim shall be able to receive RM packets from PIPE\_GW

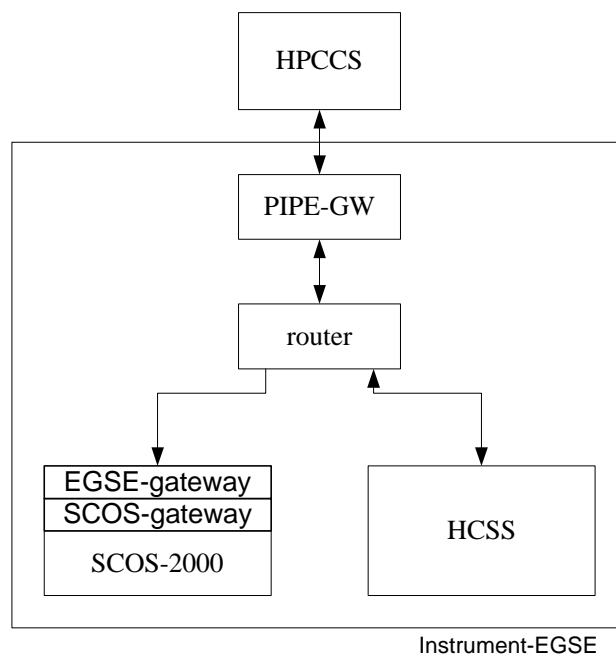
The contents of packets to be used in the tests 3.3.1 and 3.3.3 can be simple TBS patterns used only for the purpose of this test.

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#### 4 WORK DESCRIPTION

The work to complete the PIPE-GW consists of the following items:

1. Design and code implementation
2. Preliminary test
3. Design documentation and user manual
4. Acceptance test



**Figure 1 Context of the PIPE GW**