
To : EGSE working group
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Re : Requirements on EGSE packet router

EGSE packet routing system requirements

In order to link together the components of the EGSE system, a packet routing system (PRS) has to be part of it.

Requirements

- 1 PRS shall supports Windows and Unix platforms for clients
- 2 PRS shall define a format and protocol to exchange PUS packets between software programs (clients) across a TCP/IP network.
- 3 It shall be possible to run PRS on a network containing only Windows platforms, and on a network containing only Unix platforms.
- 4 PRS shall route packets based on their packet type. Packet type shall be based on the TM/TC distinction and APID only.
- 5 PRS shall define an interface that enables the clients to communicate with the PRS. The interface shall offer the following functions:
 - 5.1 Packet exchange functions:
 - 5.1.1 Register the client with the PRS
 - 5.1.2 Revoke the registration of the client
 - 5.1.3 Indicate the ability of the client to receive certain packet types by specifying a call back function, thereby instructing the PRS to forward any such packets to the application
 - 5.1.4 Revoke the ability to receive certain packet types.
 - 5.1.5 Send any packet
 - 5.1.6 Receive a packet
 - 5.2 Router administration functions:
 - 5.2.1 Inspect the registered clients.
 - 5.2.2 Block a forwarding route based on sender, destination and/or packet type
 - 5.2.3 Remove a block on a forwarding route
 - 5.2.4 Inspect the blocked routes
- 6 The client interface shall be available in a C language binding on both Unix and Windows platforms.
- 7 PRS shall provide an interface with SCOS-2000 enabling SCOS-2000 to receive all TM packets and to send any TC packet.

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- 8 PRS shall provide a user interface with the following functions:
 - 8.1 Inspect the registered clients and the packet types they handle
 - 8.2 Block and unblock the exchange of specified packet types for specified clients

 - 9 The PRS user interface shall be optionally available on any system using the PRS.