

PDR RID Report

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Originator R. Muller
Organization Code 170
E Mail Address r.muller@gsfc.nasa.gov
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Phone No 301-286-9695

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Review CSMS
Originator Ref Charts SA1-7&8
Priority 2

Section

Page

Figure Table

Category Name Design-ISS

Actionee HAIS

Sub Category

Subject 1999 Bandwidth Estimate

Description of Problem or Suggestion:

LaRC receives 72 Mbps for AM-1 processing. The AM-1 produces only approximately 14Mbps for all instruments (not including ASTER). 72Mbps is an expansion of more than a factor of 5-mcuh more than the various overheads used to size the required bandwidth which is only approximately 2.5. Where did the extra factor of 2 come from?

Originator's Recommendation

Rejustify the large bandwidths between GSFC and LaRC.

GSFC Response by:

GSFC Response Date

HAIS Response by: Forman

HAIS Schedule 2/28/95

HAIS R. E.

HAIS Response Date 4/4/95

The bandwidth estimates shown on CSMS PDR slide SA1-7 lists the estimated bandwidth needed to support the transfer of inter-DAAC production of data from the AM-1 instruments in 1999. These estimates are consistent with the best information provided by the AHWGP for processing of AM-1 instrument data flows and are based on processing scenarios provided by the instrument teams. Specifically, 310.5 GB/day of production data (without any reprocessing) flows on the GSFC to LaRC link. This includes MODIS, VIRS data inputs needed for CERES, MISR, and MOPPIT processing at LaRC. This "raw average" flow when converted into peak flow via a cumulative multiplier of 2.5 (that accounts for protocol overhead, network scheduling contingency and circuit utilization factors) results in a bandwidth requirement of approximately 72 Mbps. If both processing and reprocessing flows, and the inter-DAAC query response flows are considered, then a total of 144.3Mbps are required to support flows on the GSFC to LaRC link in 1999. This is shown in CSMS PDR slide SA1-8.

CSMS PDR slides SA1-7 and SA1-8 were trying to make the point that the estimated bandwidth requirements are high and that optimizations in these flows may be necessary to reduce the WAN costs. It should also be pointed out that the expansion of L0 products into L0 to L4 products is also responsible for the enormous data flows. For example, the total L0 product size for AM-1 platform (not including ASTER) as shown in attachment B of the Technical Baseline for the ECS Project Dated December 1994, is 108GB/day. The corresponding L0-L4 data is 686GB/day; an expansion of nearly 6.

Status Closed

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***** Attachment if any *****