

**PARTICLE PHYSICS AND ASTRONOMY RESEARCH COUNCIL**

**VISTA Project Board**

VISTA Data Flow System (Progress since Dec Meeting) Report by VDFS PI

- 1) **VDFS Management Group:** Monthly telecoms and quarterly meetings continue. The 2004Q1 results will be evaluated, and Q2 work plan finalised, on 05 April.
- 2) **v1 Release Milestone:** As expected WFCAM hardware delivery by ATC slipped, now being scheduled to be shipped to Hawaii in June. This impacted the final testing of the summit and standard pipelines with actual data, which should have been complete by end 2003. Various other data, disguised as WFCAM data, were therefore run through both systems to test their performance pending actual data, and all elements of the system were tested successfully. The VDFS-v1 delivery scheduled for end 2003 was thus completed on time, working on the data on which it has been tested, but actual WFCAM data (both Lab and Telescope), is awaited.
- 3) **Future Milestones:** The delay to WFCAM has allowed some v2 work to be brought forward and completed ahead of schedule. By the time WFCAM is actually up and running there will be rather little time available (compared to original plans) in which to shake down v1 of the software with real data before releasing VDFSv2. This will require a reworking of the schedule and content of WFCAM VDFS releases, and of VDFS work in general. This reworking will be done when WFCAM has actually been shipped (so we know the milestone is actually passed). VISTA completion will not be affected.
- 4) **ESO Deliverables PDR:** VDFS was represented at the Camera FDR, and there has been increasing interaction with the camera software team and the Project Scientist. The PDR for the VISTA DFS deliverables for ESO has been agreed for 13 May at ESO. PDR documents are due for dispatch in 2 weeks, just before Easter. The schedule is very tight and JPE has concern that not all the documentation will be up to standard in time. However even if it were to become necessary to delay the PDR there would be no impact on the delivery of the final system to ESO, because we are holding this PDR sufficiently early to allow for just such eventualities. The aim is to ensure that this does not become necessary with the team driving hard to meet the deadline.
- 5) **Users Committee:** As recommended by the PPRP a VDFS Users Committee (VDUC) has been instituted. After discussion with other interested bodies VPB were asked to agree the terms of reference, and there was no dissent. The ToFR were then agreed by PPARC. Prof Tim Naylor (Exeter) has agreed to chair the VDUC and the UKIRT Board and UKIDSS Consortium have nominated members. The VPB needs to nominate a member to the VDUC. I

invite VPB to nominate Steve Maddox (Nottingham), or should he decline to serve Alastair Edge (Durham). A first meeting can then be held.

- 6) **VEGA proposal:** The current VDFS funding (e-science round1) terminates at end of Sep 2004. Continuation of VDFS was sought last spring through an (e-science round2) proposal “VEGA: UK Excellence in Data Processing and Archiving Providing VO Processing for VISTA, Eddington and GAIA”. The proposal’s thrust was to continue VDFS work and, in addition, for other programs to build on, and profit from, its example culminating in GAIA. Gilmore (Cambridge) was the PI of the multi University Consortium involved, and it was agreed that the VDFS component would continue to be led by the current VDFS PI. The VDFS component sought funds for both development of VDFS and for operations.
- 7) **VEGA Funding:** In its first assessment PPRP rejected most of the funding sought for wider aspects of VEGA and asked for a resubmission, limited to a total of £2.3m and including VDFS and support for 2 post docs for GAIA work. VDFS was able to live within the £1.9m thus available (after ~£0.4m to GAIA) by completely removing VDFS Operations from the resubmission. PPRP reviewed the revised £2.32m proposal on 4 Feb and an award of £2.26m for VEGA was amongst those listed on the PPARC web site.
- 8) **VDFS Operations:** PPARC (Vincent) has been informed of the VDFS Operations Budget needed from the Astronomy Budget. The summary page from the spreadsheet is reproduced as an Appendix. VPB should note that this level of support is consistent (after taking inflation into account) with that foreseen in the original JIF bid, and which PPARC then accepted.
- 9) **VEGA Management:** From Oct 2004 VEGA (=VDFS for VPB purposes) has funding for 0.5 of an experienced Software Manager. ATC were able to provide 0.25 of Malcolm Stewart, who will concentrate particularly on the ESO deliverables side of VDFS. The origin of the other 0.25 Software Manager remains, unfortunately, TBD. It is recognised that splitting the Manager post is undesirable, however the scenario may change significantly should GAIA be successful in raising further support, including Management, for that part of VEGA over the summer. By the time the status of this is clear there will still be time to resolve the situation. In any event retaining Stewart’s contribution is crucial to the ESO deliverables.
- 10) **VISTA Survey Scheduling Tool:** ATC have now allocated 3 months of Martin Folger’s time, with more if needed, to begin to take forward this aspect of VDFS work, which has hitherto awaited his availability. ESO also want to progress this and if accepted by them it would be a software contribution in kind. The work plan will be developed over the next month.

Financial summary	VDFS Operations costs					
	FY04-05	FY05-06	FY06-07	FY07-08	FY07-08	FY08-09
Costs in £k	Oct'04	Apr'05	Apr'06	Apr'07	Oct'07	Apr'08
	to Mar'05	to Mar'06	to Mar'07	to Sep'07	to Mar'08	to Mar'09
Period	6 months	12 months	12 months	6 months	6 months	12 months
Pipeline (fte)	0.68	1.90	2.65	1.45	1.45	2.90
Science Archive (fte)	0.75	1.50	1.63	1.25	1.25	2.50
Management (fte)	0.10	0.20	0.30	0.20	0.20	0.40
<b>Total direct staff years on VDFS</b>	<b>1.53</b>	<b>3.60</b>	<b>4.58</b>	<b>2.90</b>	<b>2.90</b>	<b>5.80</b>
Secretarial support @8% secty salary/yr/pdra fte	0.12	0.29	0.37	0.23	0.23	0.46
System support @10% sys manager salary/yr/pdra	0.15	0.36	0.46	0.29	0.29	0.58
<b>Total support staff years</b>	<b>0.27</b>	<b>0.65</b>	<b>0.82</b>	<b>0.52</b>	<b>0.52</b>	<b>1.04</b>
Pipeline direct staff cost (£k)	25.65	73.10	104.63	57.89	59.34	120.16
Science Archive direct staff cost (£k)	33.95	68.74	76.40	59.44	60.93	123.37
Management direct staff cost (£k)	6.13	19.26	12.50	13.07	13.21	26.42
<b>Total direct staff cost (includes NI+USS+46% overhead)</b>	<b>65.73</b>	<b>161.10</b>	<b>193.54</b>	<b>130.40</b>	<b>133.47</b>	<b>269.95</b>
<b>Total Support staff cost (includes NI+USS +46% overhead)</b>	<b>8.43</b>	<b>19.90</b>	<b>25.29</b>	<b>16.03</b>	<b>16.03</b>	<b>32.06</b>
<b>Total Staff (direct+support) cost (Apr-Mar) £k</b>	<b>74.16</b>	<b>181.00</b>	<b>218.82</b>	<b>146.43</b>	<b>149.50</b>	<b>302.01</b>
Hardware for Pipeline Operations (Disks & CPU mainly)	46.00	41.00	198.00	48.00	12.00	36.00
Hardware for science archive operations (Disks & CPU mainly)	28.00	39.00	86.00	70.00	52.00	100.00
Staff Travel	2.00	4.00	4.00	2.00	2.00	4.00
Consumables & maintenance	10.80	24.15	26.85	14.70	14.86	32.28
<b>Total non-staff cost</b>	<b>86.80</b>	<b>108.15</b>	<b>314.85</b>	<b>134.70</b>	<b>80.86</b>	<b>172.28</b>
<b>Operations Totals</b>	<b>160.96</b>	<b>289.15</b>	<b>533.68</b>	<b>281.13</b>	<b>230.36</b>	<b>474.29</b>
units	k£	k£	k£	k£/6 mo	k£/6mo	k£
<b>GRAND TOTAL esci rd 2 period</b>				<b>1264.91</b>		
The above is based on estimates of the cost to run the pipeline & archive.						
These costs may need revision (up or down) in the light of experience with the pipeline & archive running with real data.						
Note annual VISTA data volume is ~8 time volume of WFCAM data.						
The synergy between WFCAM & VISTA processing allows operations cost increase on adding VISTA to be relatively small.						