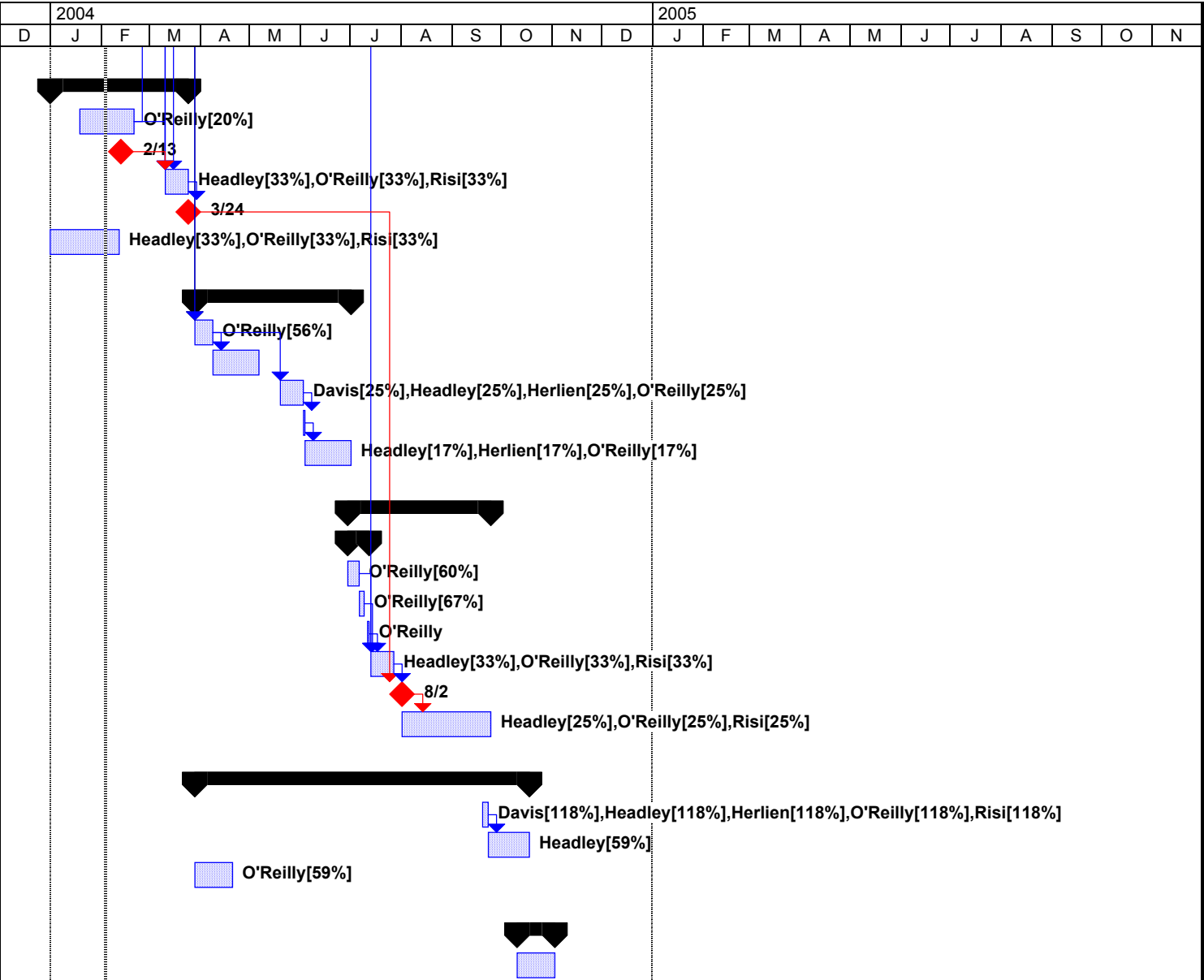


ID		Task Name	Work	Duration	Start	Finish	Predecessors	2004														2005													
								D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N				
49																																			
50		MTM	45 days	60 days	Thu 1/1/04	Wed 3/24/04																													
51		Wave sensor checkout	5 days	25 days	Mon 1/19/04	Fri 2/20/04																													
52		Deployment hardware ready for integration	0 days	0 days	Fri 2/13/04	Fri 2/13/04																													
53		MTM Integration and test	10 days	10 days	Thu 3/11/04	Wed 3/24/04	51,18,19,21,52																												
54		MTM Deployment	0 days	0 days	Wed 3/24/04	Wed 3/24/04	53																												
55		MTM Post-deployment support	30 days	30 days	Thu 1/1/04	Wed 2/11/04																													
56																																			
57		CIMT	37 days	69 days	Mon 3/29/04	Thu 7/1/04																													
58		CIMT Instrument services	5 days	9 days	Mon 3/29/04	Thu 4/8/04	12,22																												
59		CIMT Instrument Uis	12 days	20 days	Fri 4/9/04	Thu 5/6/04	58																												
60		CIMT Integration and test	10 days	10 days	Thu 5/20/04	Wed 6/2/04	58																												
61		CIMT deployment	0 days	1 day	Thu 6/3/04	Thu 6/3/04	60																												
62		CIMT post-deployment support	10 days	20 days	Fri 6/4/04	Thu 7/1/04	61																												
63																																			
64		MTM BIN	46 days	63 days?	Wed 6/30/04	Fri 9/24/04																													
65		Benthic instrument services	6 days	9 days?	Wed 6/30/04	Mon 7/12/04																													
66		RDI ADCP service	3 days	5 days	Wed 6/30/04	Tue 7/6/04																													
67		HydroScat service	2 days	3 days	Wed 7/7/04	Fri 7/9/04																													
68		Seabird CTD service	1 day	1 day?	Mon 7/12/04	Mon 7/12/04																													
69		MTM BIN integration and test	10 days	10 days	Wed 7/14/04	Tue 7/27/04	66,67,68,35																												
70		MTM BIN deployment	0 days	0 days	Mon 8/2/04	Mon 8/2/04	69,54																												
71		MTM BIN post-deployment support	30 days	40 days	Mon 8/2/04	Fri 9/24/04	70																												
72																																			
73		Handoff to users	40 days	145.4 days	Mon 3/29/04	Mon 10/18/04																													
74		Documentation	20 days	3.4 days	Mon 9/20/04	Thu 9/23/04																													
75		Training	10 days	17 days	Thu 9/23/04	Mon 10/18/04	74																												
76		Instrument service builder	10 days	17 days	Mon 3/29/04	Tue 4/20/04																													
77																																			
78		Conferences/journals	10 days	17 days	Mon 10/11/04	Tue 11/2/04																													
79		Oceans 2004	10 days	17 days	Mon 10/11/04	Tue 11/2/04																													



- 3

SIAM users group meetings, including prep
SIAM uses a rapid prototyping approach, with feedback from system users in Observatory Support and Science. SIAM user meetings are held twice monthly, and require that users invest in the process by actually using the prototype software. So far this approach has proven very beneficial. Hence SIAM is formally requesting labor resources from DMO and Science.
- 4

Mock deployment/mobilization exercise
Involve science and OSG in mock mobilization/deployment exercise; will build confidence that system is truly operational and deployable
- 5

Test procedure setup
The rapid prototyping approach relies on automated testing - "black box" and "white box" to quickly verify that the system remains functional as it evolves. Project will adopt approach JTest-like approach for automated unit testing.
- 8

RF console power management
RF is periodically powered on, providing users the opportunity to access the node.
- 10

Phase 2 power management
Implement power prediction and "adaptive" power management; measure and/or estimate onboard energy resources, allocate and prioritize accordingly.
- 17

CF2 logger service
Persistor data logger inside controller can. Assume this is similar to SmartStar. Will provide snapshots, but also need to log all raw data.
- 18

Power subsystem service
Utilizes Persistor CF2 hardware. Provides power subsystem telemetry; snapshots as well as raw data. Also logs strain gauge data.
- 19

Compass turns counter service
Assume that turns counter is implemented by MMC project on MSP430
- 21

Node diagnostics packets
Packets include DPA temperature, current... Optical link health and status...
- 22

Instrument control interface
How should 'standard' interface for instrument service/device control be implemented? Could use setProperties() approach, where args are strings: property name and new value. Or could use a 'typed' approach (e.g. 'setPowerPolicy()'); method arguments are appropriately typed. Note that remote instrument control is required for CIMT and MTM-BIN.
- 24

Event propagation and response
implement architecture/framework for deployed event propagation and "event response" applications. Work estimate assumes design complete in 2003.
- 25

Device synchronization implementation
Mechanism to synchronize instruments, pumps, actuators... Work estimate assumes design complete in 2003.
- 26

Multi-node via DPA-uplink port
Implement straightforward configuration and use of TCP/IP over RS485 link
- 27

Service discovery
Implement distributed device discovery. Work estimate assumes design complete in 2003.
- 28

APIs to retrieve on-instrument data
Many instruments collect data in "raw" proprietary format, and store them internally to the instrument itself. Scientists often want to retrieve this data in addition to the ISI packets logged on the MMC. SIAM will design an efficient interface for retrieval of this data.
- 29

Onboard environmental alarm handling
Enclosure humidity, temperature, pressure, and ground-fault currents are monitored by the Sidearm's MSP430 processor, and are indicators of the

- exceeds nominal limits, a message must be efficiently routed to shore and the appropriate personnel must be notified.
- 30 Ethernet instruments**
Instruments such as NOSA will be powered through a DPA, but will use Ethernet rather than serial communications.
- 36 Metadata and puck tools**
Review puck metadata requirements. Resolve differences between puck metadata and SSDS metadata schema. Improve puck configuration tools.
- 41 System diagnostics UI**
Implement user-requested enhancements to operator GUIs.
- 43 Shoreside environmental alarm handling**
Enclosure humidity, temperature, pressure, and ground-fault currents are monitored by the Sidearm's MSP430 processor, and are indicators of the health and status of the system. When one or more of these parameters exceeds nominal limits, a message must be efficiently routed to shore and the appropriate personnel must be notified.
- 44 Store-and-forward commands**
Store user commands and forward from Operations to Deployed subsystem when communications link is available.
- 45 Security**
Implement security mechanisms to prevent unauthorized use of system
- 47 Document fault tolerance**
Document system degradation for various fault scenarios.
- 51 Wave sensor checkout**
Code ported to SIAM; must be tested
- 58 CIMT Instrument services**
Assumes instrument services from CIMT 2003 will be deployed, possibly retrofitted for metadata capability
- 66 RDI ADCP service**
Add support to switch "water 12" mode on and off
- 67 HydroScat service**
Apparently very similar to HydroRad service developed for CIMT
- 74 Documentation**
Comprehensive user documentation, similar to the OASIS-3 documentation
- 75 Training**
Train users in system operation and instrument service software development.
- 76 Instrument service builder**
Tool would simplify development of instrument service software