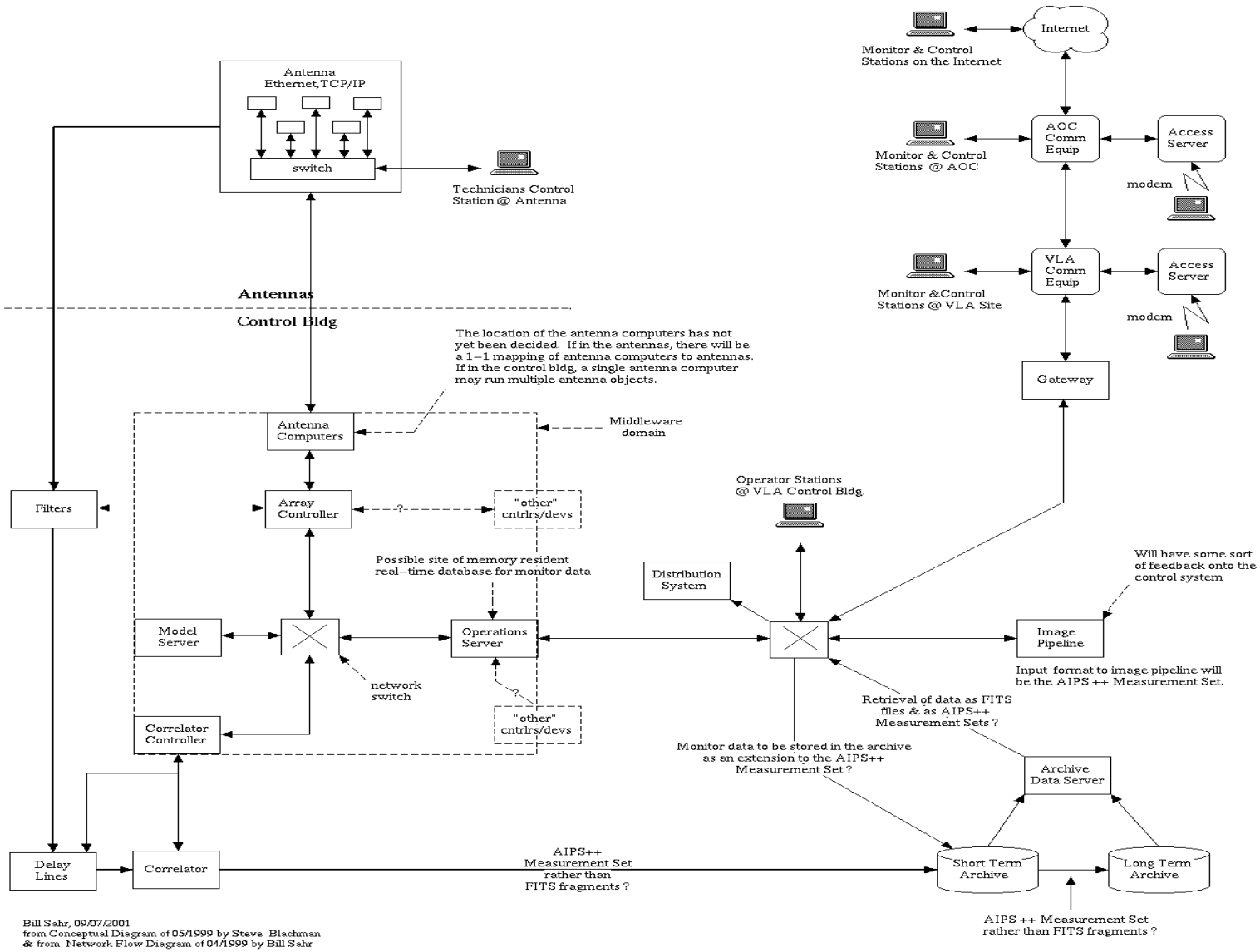
EVLA System PDR

Monitor & Control Computing Systems and Software

EVLA M&C System
Strawman Diagram



Near-Term Timelines

- M & C Software PDR, Feb 20-21, 2002
- WIDAR Correlator Architecture Training, Q1 or Q2 2002
- M & C Software CDR, Jan 2003
- Test & Development support for enhanced (EVLA) antennas ready, Q1 2003
- Tests of 1st EVLA Antenna, Apr 2003
- Interferometry Tests With one EVLA Antenna & one VLA Antenna, Jul 2003
- Correlator Boards documentation available, Q1 or Early Q2 2004, needed for device driver development
- Correlator PDR, Q2 2004

Current Focus

- Requirements
  - Science Requirements: Developed by scientific staff – capabilities, observing strategies/experiments. Still under development.
  - Engineering: Primarily intended to address the issue of antenna monitor and control at the device level
  - Operations: User interfaces for operators, observers, engineers, technicians, local & remote
  - Correlator: Correlator Monitor & Control, Correlator Backend Processing
- Initial drafts of Engineering and Operations Requirements documents have been written & released.
- Discussions of correlator software scheduled for 12/6-12/7/2001
- Correlator Backend Processing Software Requirements: Tom Morgan, new hire, start date of Jan 7, 2002

Next Steps, Technical

- Expand the Engineering & Operations Requirements documents in breadth & depth of coverage
- Correlator Requirements document
- Allocation of functionality among Antenna Computer, MIB, and Antenna Devices
- Monitor & Control data streams via Control & Monitor Processor (CMP) to Prototypical Operators Station (testbed, hybrid array)
- Initial design work
- EVLA Software Architecture & Design document

Next Steps, Management

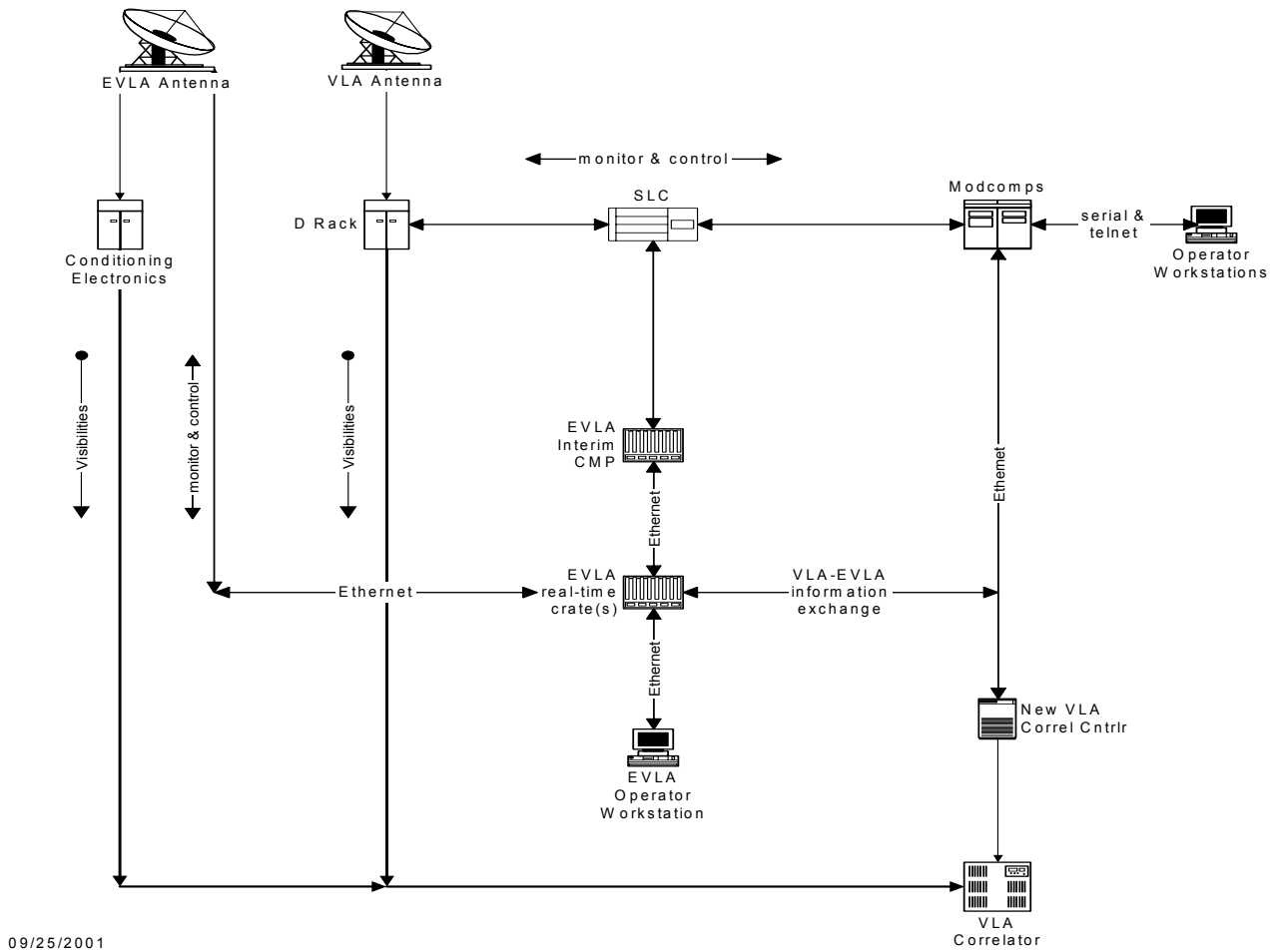
- Manpower
  - Refine labor estimates & manpower allocations over life of project
  - Select individuals to be primarily responsible for
    - Correlator Monitor & Control
    - Correlator Backend Hardware
    - Antenna Monitor & Control
    - Science/Observing Issues
  - Three Vacancies
- Budget constraints on design issues
- Further development & refinement of schedules
- More effort on transition planning/hybrid array issues

Areas to be Addressed

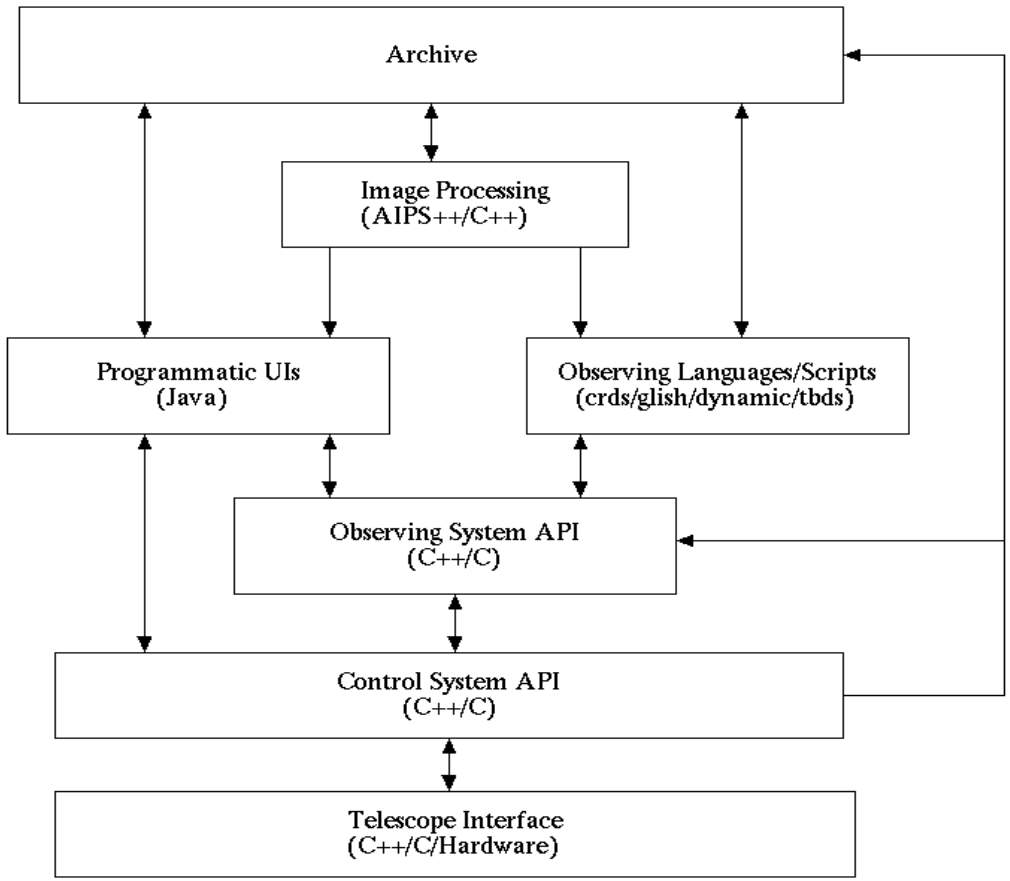
- Timelined Hybrid Array/Transition Planning
- Interfaces between components of the M&C System and components of the E2E software
  - Observation Scheduling Software
  - Real-Time Observing Toolkit
  - Data Archive
  - Image Pipeline
- EVLA Antenna Phone System

EVLA Hybrid Array

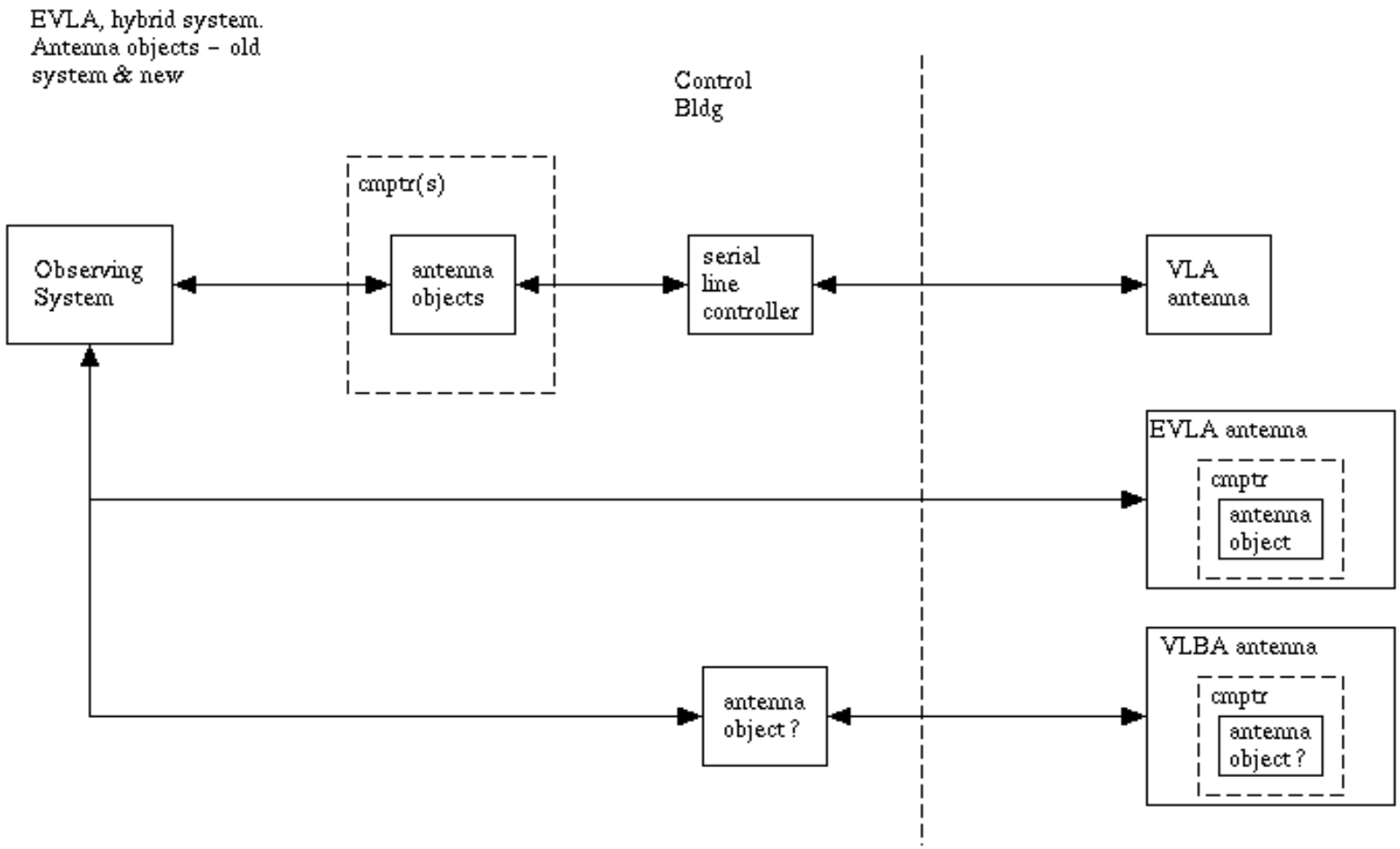
The hybrid array after the introduction of EVLA antennas, and before the arrival of the EVLA correlator.



VLA Expansion Software Layers



Role of antenna object in handling multiple antenna types



Principal EVLA Subsystems