

# NCSA's View of the Plan

Don Petravick & Margaret Gelman



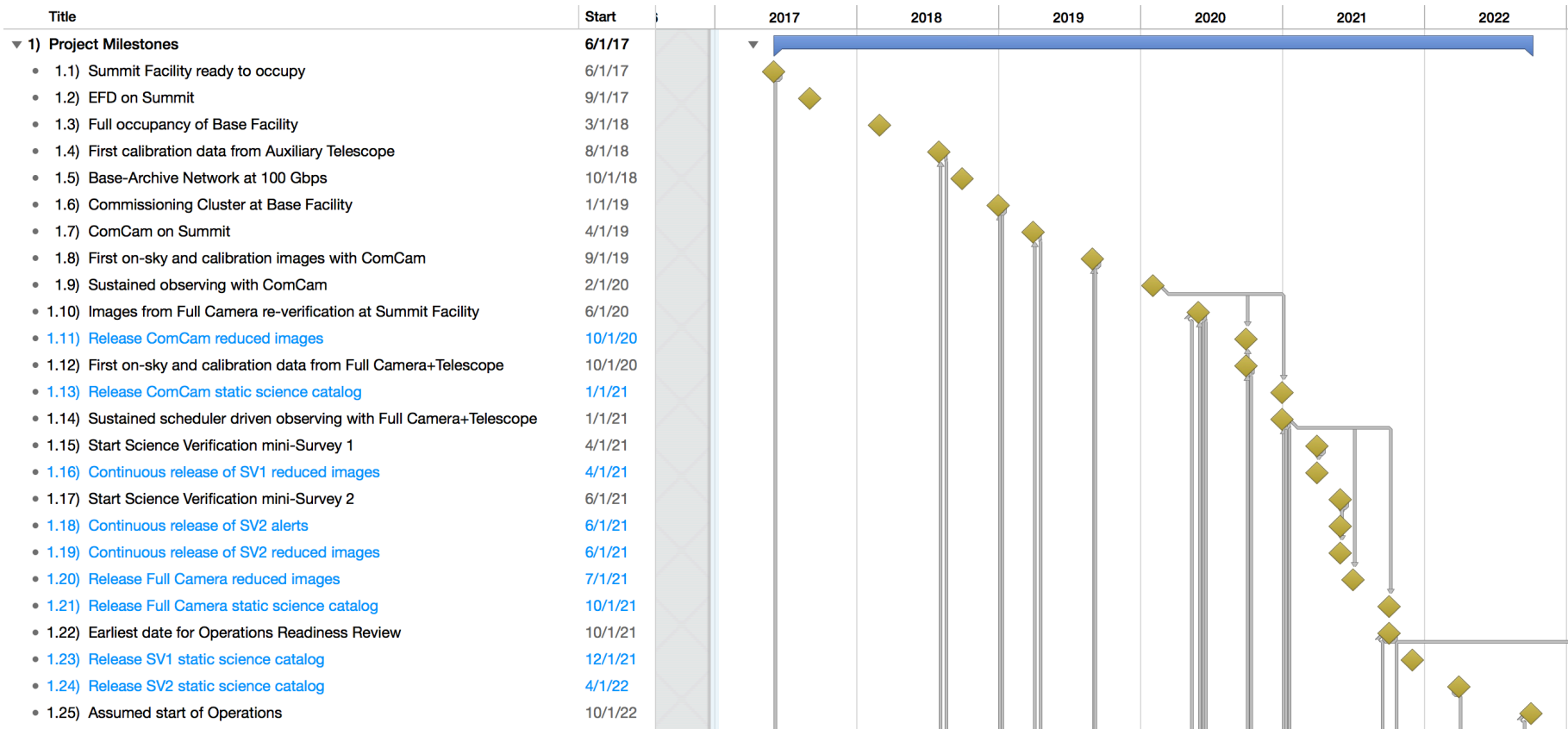
*Large Synoptic Survey Telescope*

# Main milestones (in one slide)



- Services for Observatory Operations:
  - Milestones track the commissioning schedule.
- Services for Designated Offline Campaign Processing:
  - Milestones can be tied to commissioning and pre-ops milestones.
  - Internally, late 2017 – a service façade for main system elements → continuous improvement.
  - Need to integrate into plan – operationally-oriented “dress rehearsals.”
- Data Access Services for Authorized Users:
  - Milestones can be tied to Beth’s pre-ops milestones. Require statement about commissioning.
  - NCSA deployment leads Chilean deployment.
- Services for General Staff:
  - Assessed annually.
- Tier 2 Service Desk:
  - Not yet scheduled. (Service manager on-boarded).

# DPP services traced to milestones with defined business goals



# Overview of primary external dependencies

- **Main goal is to get an initial service façade up, then production, dress rehearsals, and refinements/scaling.**
- Services for Observatory Operations – OCS, EFD, CDS, Wide Area Networks, ICD's, internal alert distribution, AP pipeline.
- Batch Production Use Cases – Demarcations with pipeline build and test, specific first order QA.
- Batch Production Systems – Butler interface, “supertask” interface, pipeline parallelism requirements, demark with SQUARE/QA/QC environment, various databases.
- DAC – Interfaces supporting provisioning and operations.
- Data Backbone (file services) – Provenance and meta-data catalogs.
- Data Backbone (DB services) – Much to be specified (e.g., consolidated DB?, etc.).
- AA – Data and EPO requirements.

# Rolled up overview of resources



- We see our work as completing construction tasks and effectively standing up DPP for commissioning and pre-operations.
- Effort estimation for DPP at beginning of operations project: 39 FTE w/about 31 at NCSA (subject to ongoing discussions with DOE).
  - TBD contributions from DM, commissioning, and pre-ops budgets.
- By the commissioning of main camera (2020), many aspects of the system will require operations at a similar level.
- Estimation of construction WBS (~1800 lines) gives similar result.
- We fear non-labor construction budget is problematic (sizing model framework rework in next iteration).

- System is factored into minimum number of reusable services, and able to exploit additional satellite computing centers for bulk computing.
- Value Engineering Assumptions (integrated into plan):
  - Database consolidation
  - Elimination of “DM” copies of EFD
- Value Engineering Opportunities/Investigations:
  - Alternative to tape at Base Center, re-use of Illinois tape libraries at NCSA, more economical management software.
  - Alternate disaster recovery in place of “dead tape disaster recovery copy.”
  - Third-party file management/replication package.
  - Software package for proposal system for use of DAC.
  - Late deployment of Chilean DAC.
  - Use of other leveraged computing resources at Illinois.

# Operations descope options having corresponding construction savings



- Derived from ops descope narrative supplied to Beth.
- Constrain mission of the DAC (large)
  - To LPM-73 goals
  - Limit retention of user-generated data
- Altered annual release cadence (small)
- Virtualized Chilean DAC (involves MoU negotiation) (large)
- Reduced WAN infrastructure (TBD)
- Reduced L1 availability and/or increased L1 latency (large)
  - Significant science implications.
- Early phase out of LSST mini-broker (large)
- Actively working on costing these descope options.