



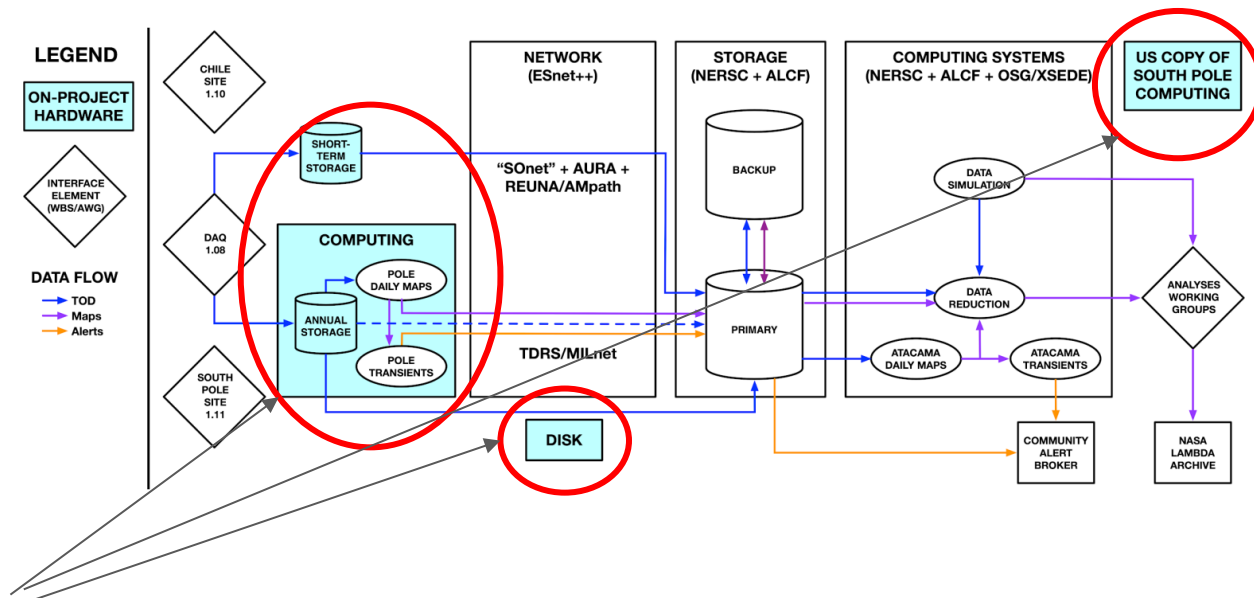
DM - Site Hardware (1.09.07)

Tom Crawford

Site Computing Resources (aka 1.09.07: Site Hardware): Description

What is it and what is it for?

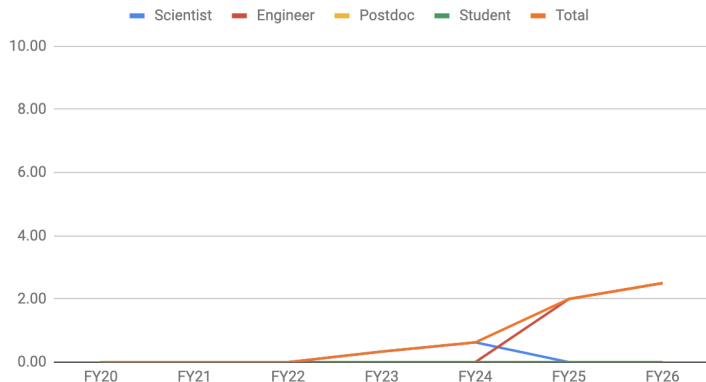
- Computing hardware on-site at South Pole to produce high-cadence (~daily) maps for QA and transient searches.
- Needed because baseline bandwidth from Pole not enough to get full TOD to US in quasi-real time.*
- All the cyan stuff over here.
- Small component of on-site hardware at Atacama too, but budget/requirements dominated by Pole.
- New aspect of pBD: Full copy of Pole hardware in US.



NOTE: Daily map-making / transient search will be a simple scaled-up copy of this same analysis being on SPT-3G data on-site at Pole, so hardware requirements should scale as well.

Site Computing Resources (aka 1.09.07: Site Hardware): Cost & BOE

Site Hardware FTEs



	Labor (\$K)	Travel (\$K)	Laptops (\$K)	Hardware (\$K)
FY20	\$300	\$22	\$16	
FY21	\$1,500	\$25	\$9	
FY22	\$2,363	\$26	\$4	
FY23	\$3,150	\$27	\$19	
FY24	\$3,275	\$29	\$15	
FY25	\$5,146	\$33	\$18	\$500
FY26	\$5,848	\$36	\$27	\$700
TOTAL	\$21,581	\$198	\$107	\$1,200

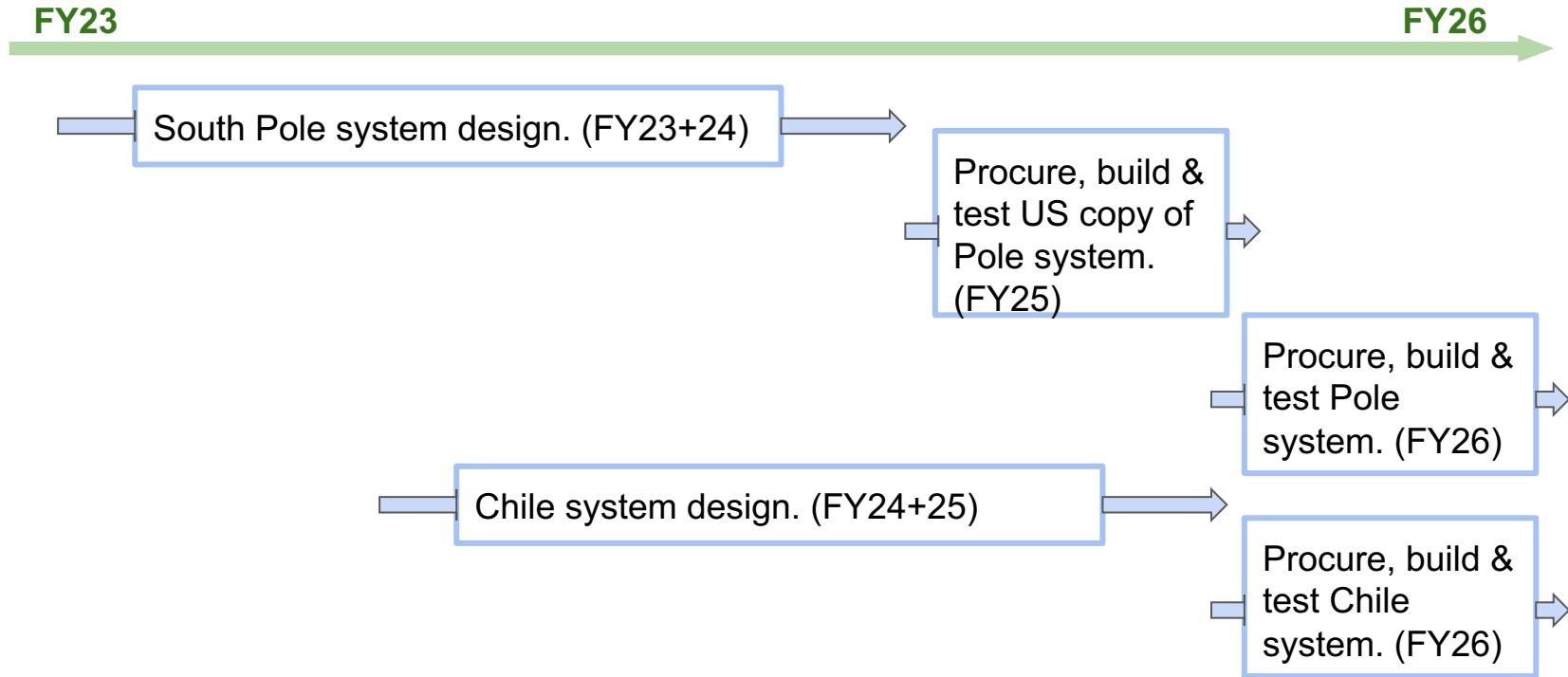
Labor: Scale from SPT-3G Pole computing design, procurement, installation, and testing effort.

- 4.5 non-scientist, on-project FTE years, all in FY 2025 & 2026.
- This will probably change soon as personnel responsibilities get worked out between Sites and DM.

Non-Labor (Hardware): Scale from SPT-3G Pole computing hardware budget using ratio of # of detectors and assuming disk costs go down by ~30%.

- Roughly \$400k of compute + \$280k of disk for Pole hardware, slightly less for US copy (less disk needed).

Site Computing Resources (aka 1.09.07: Site Hardware): Schedule



Site Computing Resources (aka 1.09.07: Site Hardware): Interfaces and Opportunities

- Major interfaces:
 - Sites:
 - power, space, network, cooling
 - Requirements described in Chile-DM and South Pole-DM ICDs (CMBS4 Documents 432 and 433 in docdb).

- Opportunities:
 - If Pole bandwidth is upgraded significantly, Pole Site Hardware requirements and budget decrease (almost to zero).
 - Is this an opportunity or a requirement?

2. CMB-S4 Opportunity Registry				Data Management
Opportunity Identification				
Subsystem	Component	SS ID	Title	Opportunity Description (if/then)
DM	Data movement	ODM-001	Increased South Pole bandwidth	IF the bandwidth from the South Pole increases sufficient to transfer the data to the US in real time THEN the South Pole site hardware requirements decrease.