DEVICES & SOFTWARE	Min Price	Max Price	HAND MARKED PAPER BALLOTS			BALLOT ON DEMAND SYSTEMS			BALLOT MARKING DEVICES		
			# Devices	Min $	Max $	# Devices	Min $	Max $	# Devices	Min $	Max $
Electronic Poll Book	$995	$1,200	7,095	$7,059,525	$8,514,000	7,095	$7,059,525	$8,514,000	7095	$7,059,525	$8,514,000
Ballot Marking Device	$3,500	$7,200	2,365	$8,277,500	$17,028,000	2,365	$8,277,500	$17,028,000	30,745	$107,607,500	$221,364,000
On Demand Ballot System	$4,500	$4,895	0	$0	$0	4,730	$21,285,000	$23,153,350	0	$0	$0
Precinct/County Scanner	$5,750	$7,900	4,890	$28,117,500	$38,631,000	4,890	$28,117,500	$38,631,000	4,890	$28,117,500	$38,631,000
County Hi Speed Scanner	$25,000	$111,500	160	$4,000,000	$17,840,000	160	$4,000,000	$17,840,000	160	$4,000,000	$17,840,000
County Tabulation Server	$17,954	$17,954	160	$2,872,640	$2,872,640	160	$2,872,640	$2,872,640	160	$2,872,640	$2,872,640
County Training Days	$1,700	$2,000	480	$816,000	$960,000	480	$816,000	$960,000	480	$816,000	$960,000
		PURCHASE COSTS		$51,143,165	$85,845,640		$72,428,165	$108,998,990		$150,473,165	$290,181,640
		MINIMUM SAVINGS		$99,330,000			$78,045,000				
Poll Book Licensing Fee	$51	$51	7,095	$361,845	$361,845	7,095	$361,845	$361,845	7,095	$361,845	$361,845
Ballot Marking Device License	$65	$228	2,365	$153,725	$539,220	2,365	$153,725	$539,220	30,745	$1,998,425	$7,009,860
Ballot on Demand Licenses	$195	$390		$0	$0	4,730	$922,350	$1,844,700		$0	$0
Precinct Scanner License	$80	$228	4,730	$378,400	$1,078,440	4,730	$378,400	$1,078,440	4,730	$378,400	$1,078,440
Hi Speed Scanner License	$1,575	$2,575	15	$23,625	$38,625	15	$23,625	$38,625	15	$23,625	$38,625
County Election Mgmt License	$4,082	$7,500	160	$653,120	$1,200,000	160	$653,120	$1,200,000	160	$653,120	$1,200,000
Poll Book Maintenance	$51	$51	7,095	$361,845	$361,845	7,095	$361,845	$361,845	7,095	$361,845	$361,845
Ballot Marking Device maint.	$75	$235	2,365	$177,375	$555,775	2,365	$177,375	$555,775	30,745	$2,305,875	$7,225,075
Ballot on Demand Maint.	$195	$390		$0	$0	4,730	$922,350	$1,844,700		$0	$0
Precinct Scanner Maint	$110	$135	4,730	$520,300	$638,550	4,730	$520,300	$638,550	4,730	$520,300	$638,550
Hi Speed Scanner Maint	$1,500	$1,895	15	$22,500	$28,425	15	$22,500	$28,425	15	$22,500	$28,425
County Election Mgmt Maint.	$4,082	$7,500	160	$653,120	$1,200,000	160	$653,120	$1,200,000	160	$653,120	$1,200,000
Per Device Ballot Testing	$50	$100	14,365	$718,250	$1,436,500	18,920	$946,000	$1,892,000	42,745	$2,137,250	$4,274,500
Per Device Storage/Transport	$75	$100	14,365	$1,077,375	$1,436,500	18,920	$1,419,000	$1,892,000	42,745	$3,205,875	$4,274,500
Avg Maint. & License Increase			14,365	$291,610	$701,371	19,095	$387,629	$932,313	42,745	$867,724	$2,087,025
County Election Support Avg	$4,500	$4,675	272	$1,224,000	$1,271,600	272	$1,224,000	$1,271,600	272	$1,224,000	$1,271,600
Ongoing County Training Days	$1,700	$2,000	320	$544,000	$640,000	320	$544,000	$640,000	320	$544,000	$640,000
Auditing Per Precinct Average	$100	$250	4,021	$402,050	$1,005,125	4,021	$402,050	$1,005,125	4,021	$402,050	$1,005,125
Per Paper Ballot Printing	$0.20	$0.45	0	$0	$0	5,567,803	$1,113,561	$2,505,511	5,567,803	$1,113,561	$2,505,511
Per Paper Ballot Pre-Printing	$0.28	$0.55	6,681,363	$1,870,782	$3,674,750	0	$0	$0	0	$0	$0
Pre Print Admin/Distribution	$0.10	$0.20	6,681,363	$668,136	$1,336,273	0	$0	$0	0	$0	$0
		ANNUAL EXPENSES		$10,102,057	$17,504,843		$11,186,794	$19,830,675		$16,773,514	$35,200,926
		MINIMUM SAVINGS		$6,671,457			$5,586,720				

See Next Page for Variables and Assumptions

DRE = Direct Recording Electronic System   BOD = Ballot on Demand System   BMD = Electronic Ballot Marking Device

Variables	Count
# Counties + SOS:	160
#Precincts:	2,365
Registered Voters	6,550,356
Average Annual Elections	1.70
Average Tunrout	50.00%
Annual Average Demand Ballots	5,567,803
Pre-Printed Excess Factor	20%
Scanners Per Precinct	2
Poll Books Per Precinct	3
BOD Systems Per BOD Precinct	2
BMDs Per HMPB Precinct	1
BMDs Per BMD Precinct	13
Annual Maint/License Increase	3.50%
Maint & Licensing Term Years	10
High Scan Volume Counties	15
Initial County Training Days	3
Ongoing County Training Days	2

Pre printed paper ballots marked by hands of voters or by assistive technology for disabled voters

Ballot on Demand printers that print ballots for voters to hand mark as they check in at any polling location

Ballot Marking Devices used by all voters to mark and print paper ballot selections

ALL BALLOTS ARE INSERTED INTO THE SCANNER BY THE VOTER AND ACCUMULATED ELECTRONICALLY

Assumptions

1.- Estimates include new pollbook system that integrates with electronic BMDs or BOD systems
2.- At least 10% more BMDs than DREs are needed in BMD estimate for voter ballot printing time
3.- Estimates include tabulation and ballot building server for each county and one central site
4.- Minimum and maximum costs are derived from vendor responses received and released to date
5.- Spreadsheet accounts for cost differences in types of voting systems but not all election costs
6.- At least one BMD is needed at each precinct in HMPB estimate to provide assistive technology
7.- At least two BOD systems are needed at each precinct in BOD estimate in case of malfunction

Sample cost sheet from incumbent vendor linked in PDF

DRE = Direct Recording Electronic System   BOD = Ballot on Demand System   BMD = Electronic Ballot Marking Device