



West Safety Services Google ELS Pilot

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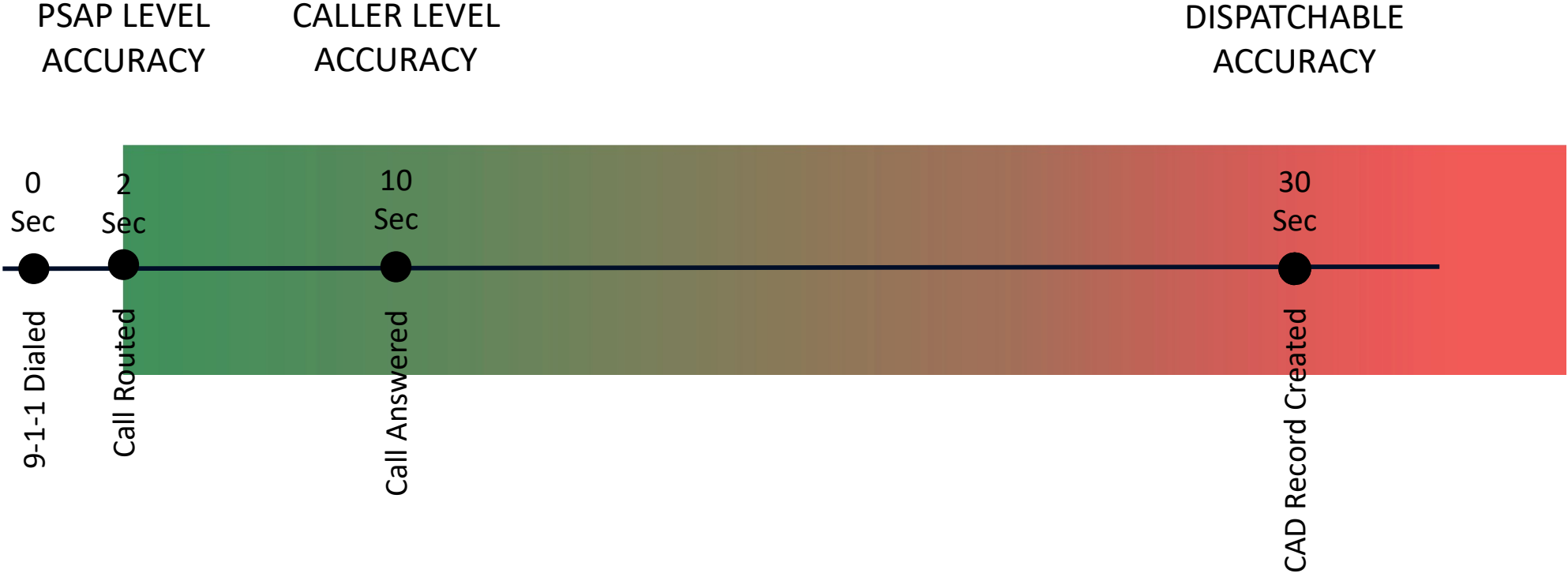
West ELS Pilot



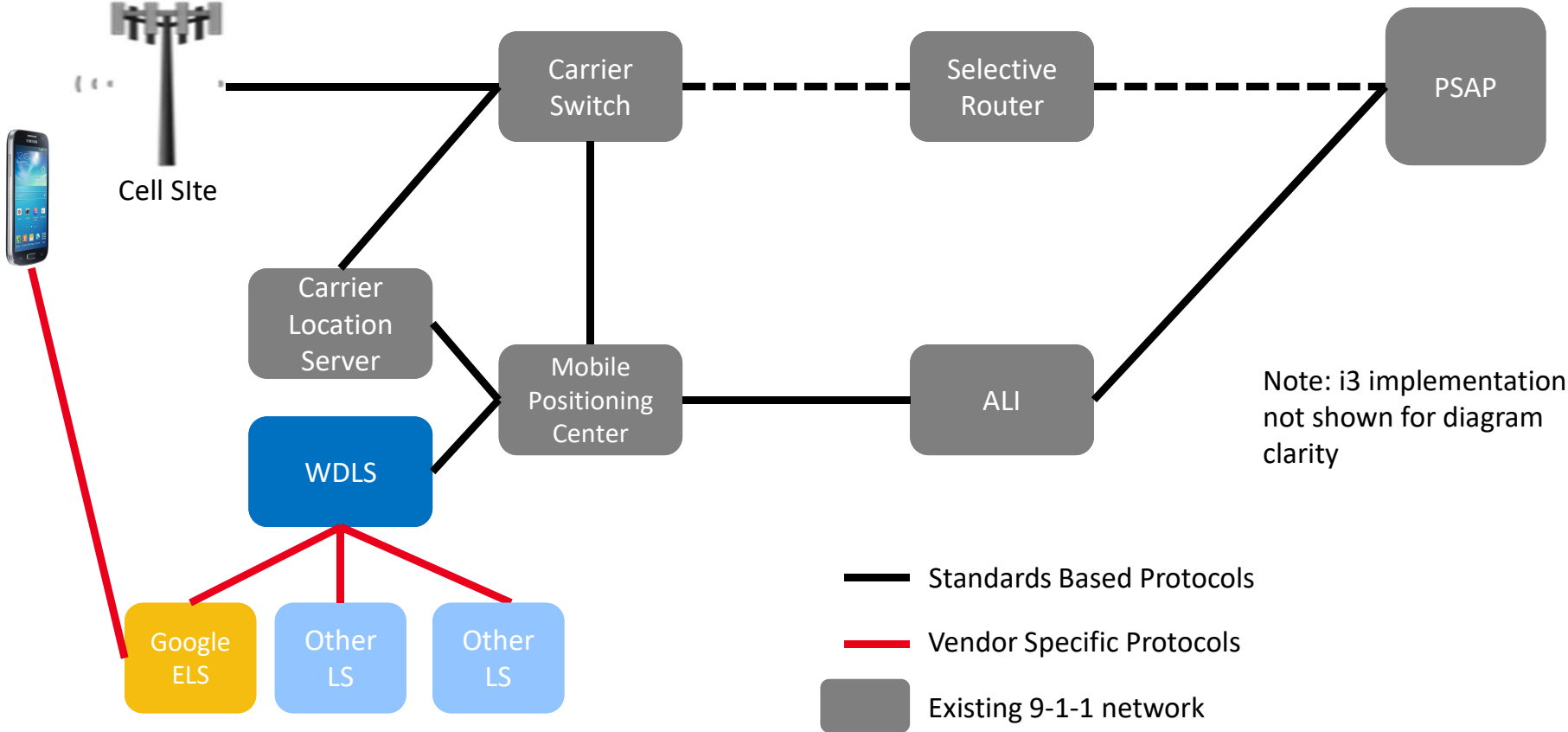
- Goals:
 - Evaluate the value of ELS data in both delivering more accurate location data and delivering that data quicker to the PSAP.
- Requirements:
 - Must fully integrate into existing (legacy) PSAPs with NO changes to PSAP
 - Fully support the NENA i3 Next Generation 9-1-1 network model of a location server.
 - Deliver a single carrier integrated location estimate to the PSAP
- Pilot Locations:
 - Snohomish County, WA (Pop 704,000)
 - Palm Beach County, FL (Pop 1,420,000)



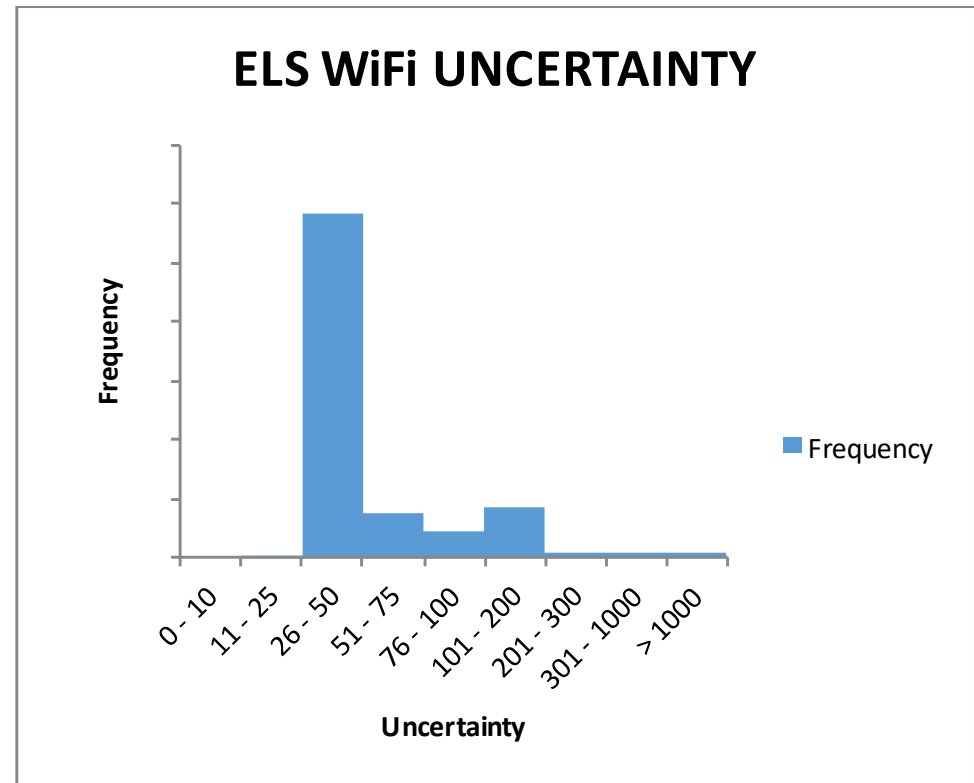
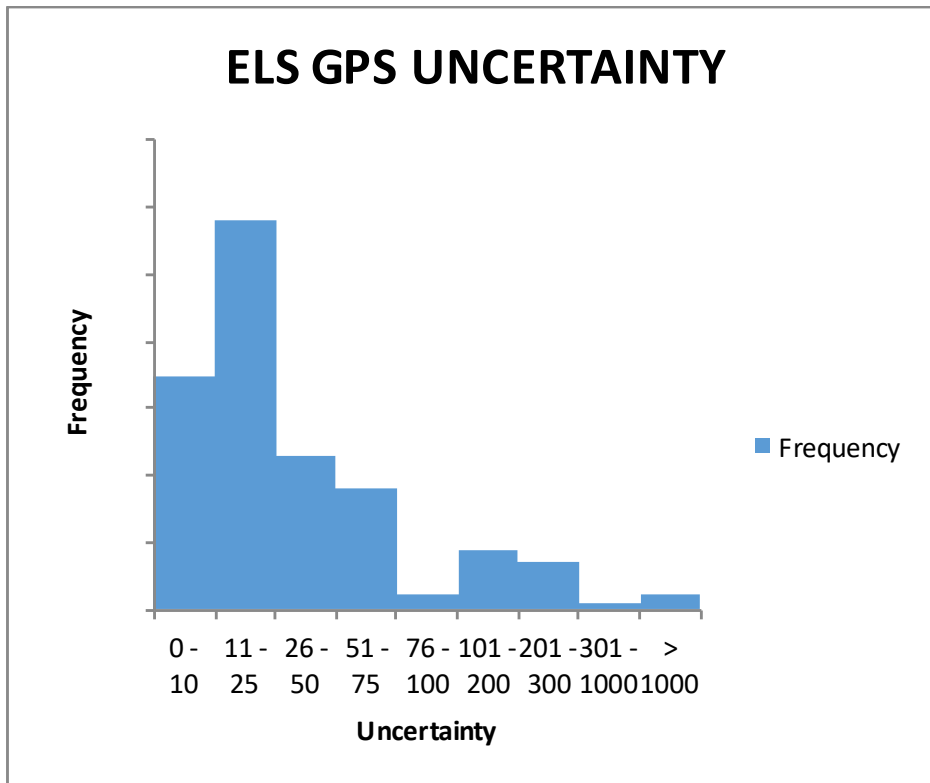
9-1-1 Location Value Timeline



Integrating ELS into 9-1-1 Network Legacy PSAPs and i3 PSAPs



ELS Location



Note: All values normalized for 90% confidence

First PSAP Bid (Call Answered)



Phase 2 Capable Location Yield

	Carrier	ELS
GPS	20%	10%
WiFi	0%	48%
Total	20%	58%

Phase 2 Capable Location when carrier PDE/SMLC only provided Cell ID/Network location

Carrier	ELS	
Cell	GPS	8%
Cell	WiFi	39%
	total	46%

Later PSAP Bids (30 Seconds)



First reported Phase 2 Capable Location

	Carrier			Google ELS		
	Yield	Median Time	Median uncertainty	Yield	Median time	Median uncertainty
AGPS	34%	7 sec	21 m			
GPS	49%	22 sec	15m	14%	3 sec	20 m
WiFi				76%	4 sec	34 m
Total	83%			90%		

Note: For Carriers only GPS and AGPS locations were evaluated. For ELS, only the first reported location was used and subsequent locations may have been more accurate. Uncertainty (Normalized to a confidence of 90%) was used to compare location quality and is not a measure of actual accuracy. All locations normalized to 9-1-1 industry standard confidence of 90%

Later PSAP Bids (30 Seconds)



Overall Location Improvement Potential

	Slightly Better 0-100 m	Significantly Better >100 m
GPS	5%	2%
WiFi	10%	17%
Sub Total	15%	19%
Total		34%

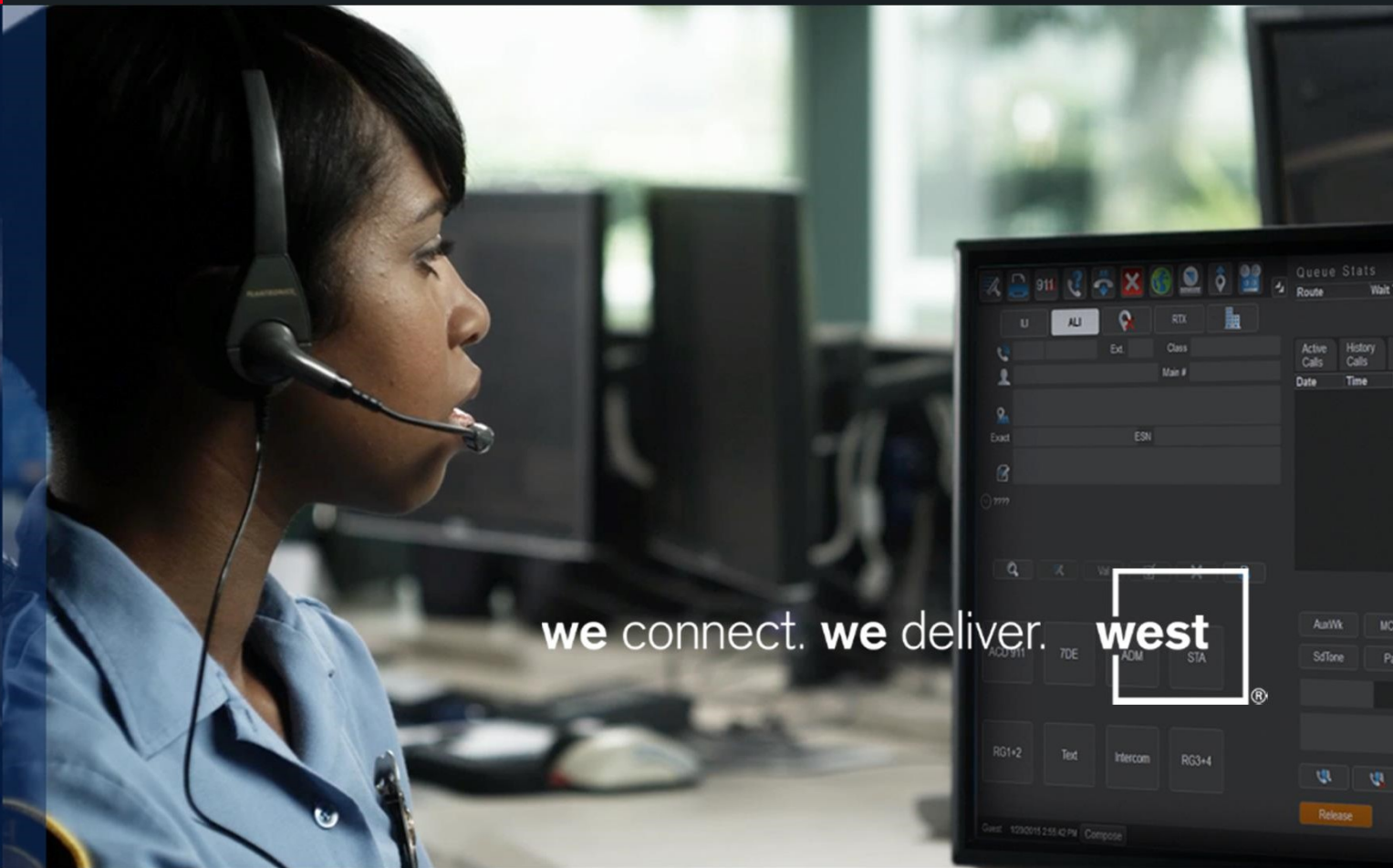
Note: The uncertainties of the carrier GPS/AGPS and ELS's WiFi and GPS locations were compared. The First column indicates where ELS reported a slightly (0-100m) better uncertainty. The second column represents where ELS reported a better than 100m difference in uncertainty

Conclusion



By adding ELS as a location source into the mix of 9-1-1 location information with the carrier, the accuracy of the location information delivered to the PSAP can be dramatically improved along the 9-1-1 timeline.





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