

A decorative graphic on the left side of the slide consisting of white lines and circles on a blue gradient background, resembling a circuit board or a network diagram.

# LATENCY EXPERIMENTS

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DISTRIBUTED SYSTEMS SP23

# EXPERIMENT STRATEGY

- Use the Python ``time`` module to record time to complete a function
- Write result latencies to files and consolidate in Excel
- Test both strategies: DHT and Lookup on configurations of 1, 5, and 20 Pubs/Subs 10 times each
- Analyze results in bar graphs

# EXPERIMENT FILES

- Keep experiment results separate
- Use helper python file to consolidate

## ▼ stats

- > 1\_sub\_1\_pub\_centralized
- > 1\_sub\_1\_pub\_stats
- > 5\_sub\_5\_pub\_centralized
- > 5\_sub\_5\_pub\_stats
- > 20\_sub\_20\_pub\_centralized
- > 20\_sub\_20\_pub\_stats
- 🔗 stat\_consolidator.py

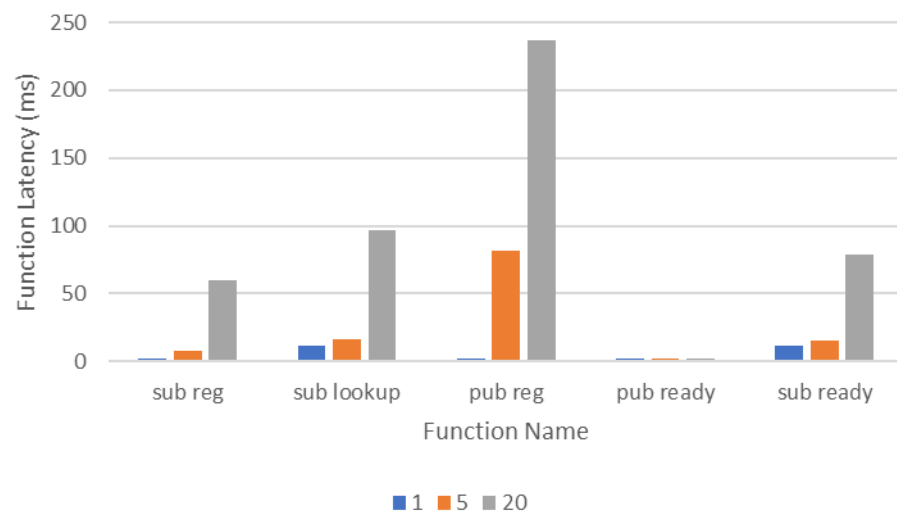
# ADD RESULTS TO EXCEL

- Add all resulting data to Excel and calculate averages for each function

1 sub					5 pub 5 sub						20 pub 20 sub					
register	sub is_ready	sub lookup	pub register	pub is_ready	sub register	sub is_ready	sub lookup	pub register	pub is_ready	sub register	sub is_ready	sub lookup	pub register	pub is_ready		
825	103	27	892	51	734	5484	63	914	36	901	6904	234	163	41		
997	83	29	952	60	703	5330	52	926	104	458	6315	343	295	42		
769	77	26	702	56	953	245	28	676	44	280	6158	317	1269	36		
1291	84	26	1103	68	908	306	28	791	36	237	6771	109	1217	53		
692	155	26	596	51	592	305	51	897	60	715	6113	280	353	36		
511	91	27	441	35	677	391	66	973	77	132	6278	75	256	39		
455	62	27	470	38	813	5712	104	341	36	209	6883	55	287	37		
366	153	25	454	37	517	407	100	759	37	241	5899	89	1759	36		
85	877	28	199	38	1048	165	60	461	36	105	6356	87	49	40		
465	91	33	431	37	540	5422	85	684	37	630	6768	100	1076	37		
		38			669	5555	36	760	36	1011	7041	226	435	36		
		44			755	5455	70	459	38	543	6090	307	1235	51		
		28			147	6048	47	594	70	903	6641	201	913	44		
		27			660	5737	56	514	55	589	5241	191	1127	36		
		26			648	5615	36	799	68	914	6030	188	619	38		
		25			609	5569	58	749	36	212	5905	56	1413	41		
		25			408	5518	87	649	38	404	6351	29	1176	45		
		28			475	5766	25	465	38	446	5845	40	55	40		
		25			909	5668	95	193	52	245	5652	196	438	46		
		23			311	5712	99	450	53	408	5243	76	297	50		
		25			999	119	74	553	89	372	5355	39	393	41		

# CENTRALIZED RESULTS

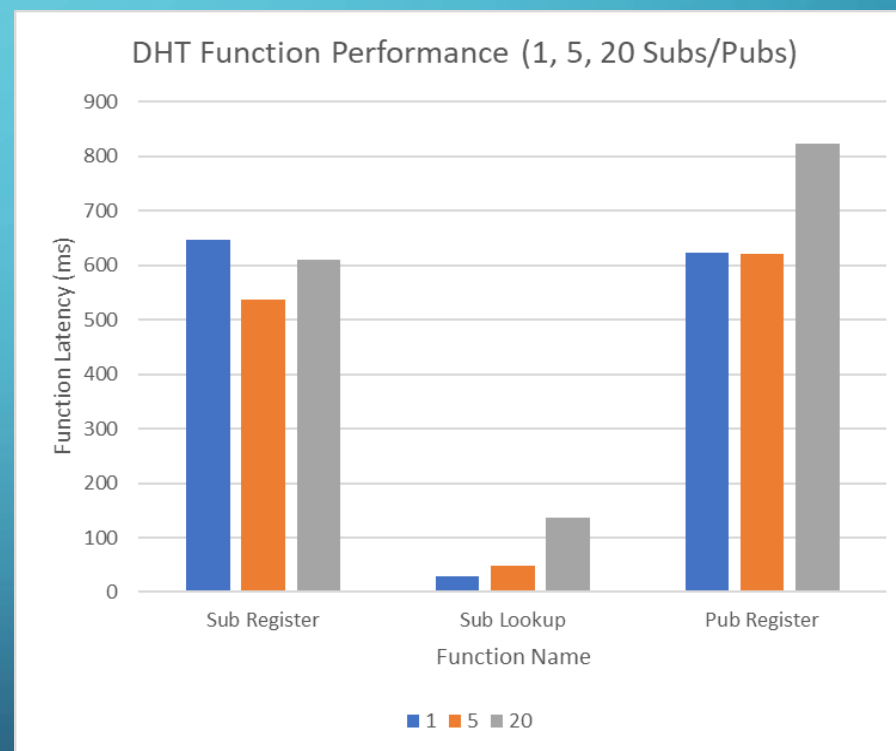
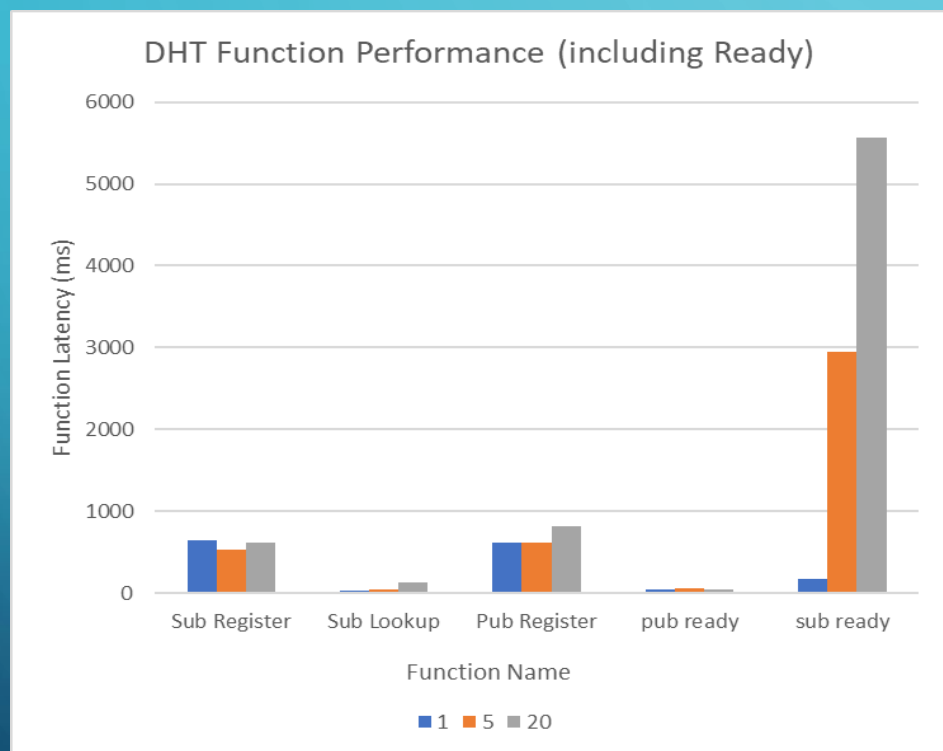
Centralized Function Performance (including Ready)



Centralized Function Performance (1, 5, 20 Subs/Pubs)



# DHT RESULTS



# COMPARING THE APPROACHES

