

1 #Results Comparison

Query	BLINK	Virtuoso		
	Orig	Orig	Ims	NoGr
Q01	331,600	331,600	331,600	477,540
Q03	6,628	6,628	13,249	13,160
Q06	3,148,566	1,048,576	1,048,576	1,048,576
Q07	2,589	2,589	10,364	10,364
Q08	21,881	21,881	21,881	21,881
Q09	252	252	1,008	1,472
Q15	242	242	242	486
Q15b	164	164	164	164
Q16	6,386,715	1,048,576	1,048,576	1,048,576
Q18	18,298	18,298	18,298	18,298
Q19	5,660	5,660	6,142	6,142

- Orig: QuerySet with GRAPH statement pattern annotations everywhere.
- Ims: QuerySet without ims GRAPH statement pattern annotations (ims virtuoso dataset does not contain data in graphs).
- NoGr: QuerySet without GRAPH annotations.
- Q03,Q16 Virtuoso standalone returns less results due to hard SPARQL endpoint limit.

2 Orig QuerySet

Query	Virtuoso		
	cold	hot	#results
Q01	45,335	15,108	331,600
Q03	13,153	1,292	6,628
Q06	196,040	122,095	1,048,576
Q07	8,664	552	2,589
Q08	5,141	2,866	21,881
Q09	938	134	252
Q15	5,370	82	242
Q15b	5,170	32	164
Q16	32,922	29,868	1,048,576
Q18	4,370	1,747	18,298
Q19	2,723	1,846	5,660

- I didn't run SemaGrow because ims dataset is not annotated with any graph name.

- I didn't run FedX because since FedX ignores GRAPH annotations, I expect to be the same everywhere.

3 Ims QuerySet

Query	Virtuoso			FedX		SemaGrow	
	cold	hot	#results	cold	#results	cold	#results
Q01	47,116	15,241	331,600	1,681,137	477,540	90,728	331,600
Q03	17,642	4,926	13,249	r/e	–	1,280,527	0
Q06	201,288	118,812	1,048,576	r/e	–	42,366	0
Q07	9,527	1,891	10,364	r/e	–	t/o	–
Q08	4,552	2,989	21,881	132,780	21,881	41,393	21,881
Q09	1,397	377	1,008	r/e	–	226,724	1,008
Q15	5,681	166	242	r/e	–	21,981	242
Q15b	3,135	36	164	2,919	164	2,335	164
Q16	31,070	29,997	1,048,576	r/e	–	62,448	0
Q18	4,555	1,675	18,298	r/e	–	r/e	–
Q19	12,500	11,694	6,142	r/e	–	r/e	–

- FedX runtime errors are failures in planning.
- Timeout is set at 1 hour.

4 NoGr QuerySet

Query	Virtuoso			SemaGrow	
	cold	hot	#results	cold	#results
Q01	60,205	25,464	477,540	665,422	189,996
Q03	15,957	2,755	13,160	615,617	0
Q06	212,062	119,377	1,048,576	899,334	15,473
Q07	10,623	2,722	10,364	t/o	–
Q08	4,972	2,769	21,881	224,629	21,881
Q09	1,192	330	1,472	208,173	1,472
Q15	5,251	133	486	47,793	0
Q15b	2,662	19	164	1,820	164
Q16	32,172	31,519	1,048,576	79,291	0
Q18	4,443	1,885	18,298	r/e	–
Q19	13,936	12,653	6,142	r/e	–