

Configuration 2: Inference Performance on Exadata V2

Data Set (# triples)	Triples Inferred	Time	Degrees of Parallelism
LUBM 100K (13B)	5B	1h, 58' ¹	DOP = 32
LUBM 25K (3.3B)	2.7B	4h, 7' ²	DOP = 32
LUBM 8K (1.1B)	869M	46' ²	DOP = 64

¹ **Preliminary result:** 1 round of OWLPrime (OWL Horst semantics)

² **Inference:** OWLPrime + components:

INTERSECT, INTERSECTSCO, SVFH, THINGH, THINGSAM, UNION

Setup:

Hardware: Full Rack Sun Oracle Database Machine X2-2 (8 nodes, 72GB RAM per node), and Exadata Storage Server

Storage required: LUBM8K: 330GB or LUBM25K 1TB + 110GB temp table space

Software: Oracle Database 11.2.0.1.0 + Patch 9819833: SEMANTIC TECHNOLOGIES 11G R2 FIX BUNDLE 2

Each node: SGA_TARGET=32G and PGA_AGGREGATE_TARGET=31G

Configuration 2: Query Performance on Exadata V2

Auto DOP used. **465,849,803 answers generated for LUBM 25K in 274.2 sec.**

Ontology LUBM 25K 3.3 billion triples & 2.7 billion inferred		LUBM Benchmark Queries						
OWLPrime & new inference components	Query	Q1	Q2	Q3	Q4	Q5	Q6	Q7
	# answers	4	2528	6	34	719	260M	67
	Complete?	Y	Y	Y	Y	Y	Y	Y
	Time (sec)	0.01	20.65	0.01	0.01	0.02	23.07	4.99
	Query	Q8	Q9	Q10	Q11	Q12	Q13	Q14
	# answers	7790	6.8M	4	224	15	0.11M	197M
	Complete?	Y	Y	Y	Y	Y	Y	Y
	Time (sec)	0.48	203.06	0.01	0.02	0.02	2.40	19.45