## Interactive / complex / 9

query	Interactive / complex / 9		
title	Recent posts and comments by friends or friends of friends		
pattern	Person	person: Person  id firstName lastName hasCreator  Message id content / imageFile creationDate	
desc.	Given a start Person, find the (most recent) Messages created by that Person's friends of friends (excluding start Person). Only consider the Messages created before a given date (excluding that date).		
params	1 Person.id ID		$\neg$
	2 date Date		
result	<pre>Message-hasCreator-&gt;Person.firstName Message-hasCreator-&gt;Person.lastName Message.id Message.content or Post.imageFile</pre>	ID R String R String R ID R String R DateTime R	
sort	1 Message.creationDate ↓ 2 Message.id ↑		
limit	20		
CPs	1.1, 1.2, 2.2, 2.3, 3.2, 3.3		
relevance	This query looks for paths of length two or three, starting from a given Person, moving to its friends and friends of friends, and ending at their created Messages. This is one of the most complex queries, as the list of choke-points indicates. This query is expected to touch variable amounts of data with entities of different characteristics, and therefore, properly estimating cardinalities and selecting the proper operators will be crucial.		