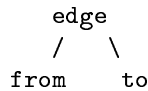# Updating Cost of XpSQL

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August 18, 2003

1 The performance of updating a part of XML

The performance of updating a part of XML document receives a influence of the range of updating in general. as you can see in Figure 1, the addition of the new node has only modified the label of nodes descended from the after-siblings of new node in XpSQL.

In this experiment, the number of nodes which receives a influence of the range of updating was changed, and processing time was measured. we used Xbench[1] as a benchmark suit. The scale factor of the database is 0.01. the document size is about 1M.

The result is shown in Table 1. The measurement time in the table is the sum total processing time at the time of performing continuously insertion of not a single node but a subtree which consists of three nodes 10 times.

The substree to insert

```
    edge
    /    \
from      to
```

In this experiment, extreme performance degradation accompanying to the increase in the number of nodes of the influence range was not accepted.
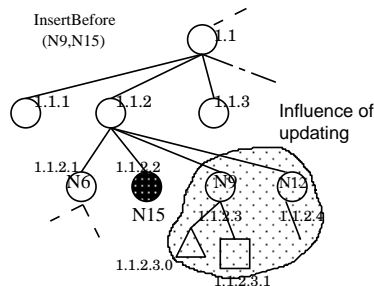

Figure 1: Label updates

Table 1: Experimental results of partial updates (ms)

The number of nodes in the influence range	elapsed time(s)	once per node(ms)
0	7.5	250
15	9.4	310
45	9.5	316
150	10.8	360

References

[1] XBench home page. http://db.uwaterloo.ca/ ddbms/projects/xbench/