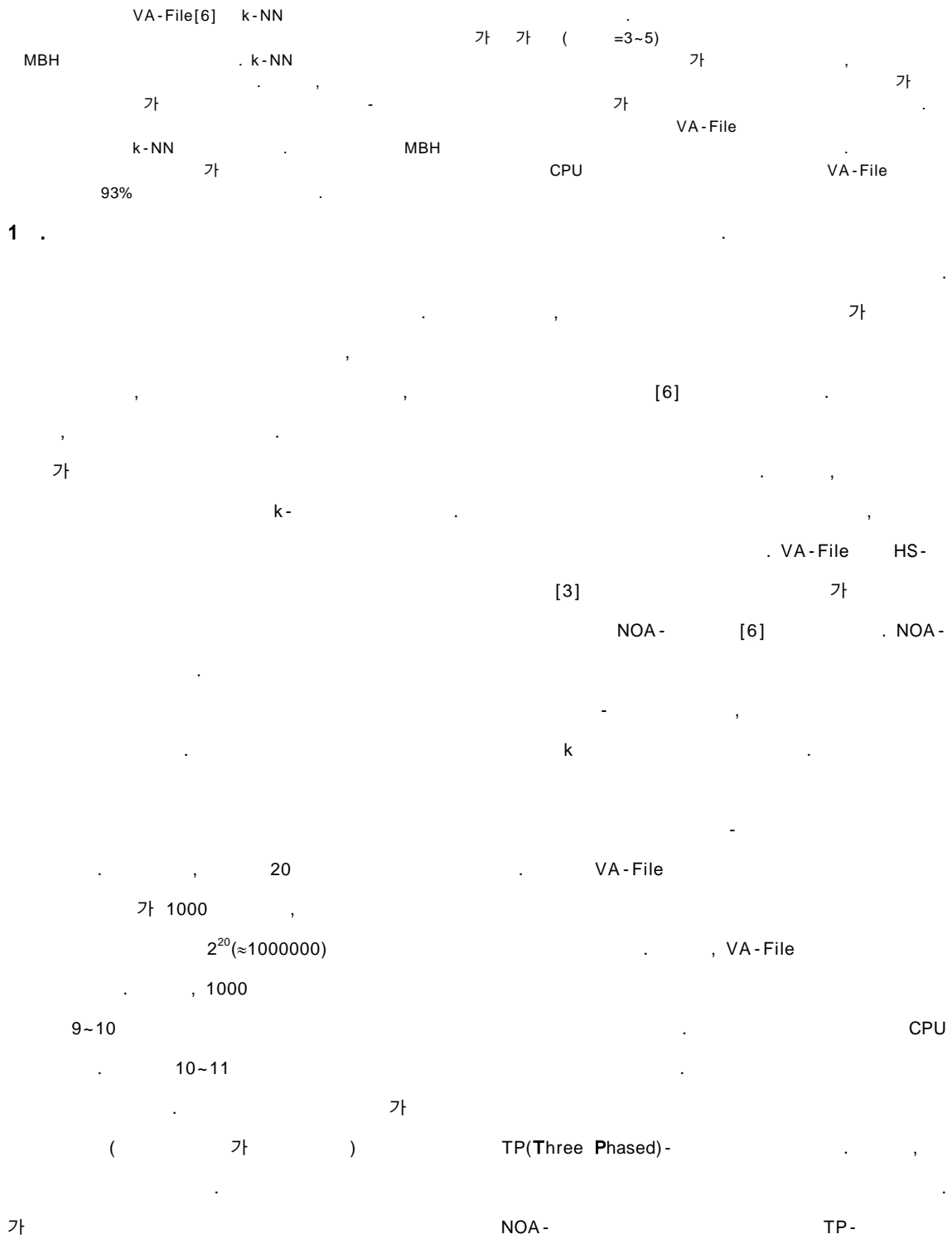


# k-

## Efficient k-nn search on directory-based index structure

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```

TP-Algorithm
1-1:
page_addr = q          entry          ;
p = LoadPage(page_addr);
For all ej ∈ p
    elem.dist = L2_Dist(q, ej); elem.mbh = ej;
    δ = Candidate(CAND_LIST, elem);
1-2:
for all entries {
    if(entry[i].page_addr != page_addr){
        elem.dist = MinDist(q, entry[i].mbh);
        if(elem.dist < δ){
            elem.page_addr = entry[i].page_addr;
            InsertHeap(Heap, elem);
        }
    }
}
2:
elem = PopHeap(Heap);
While (elem.dist < δ){
    δ = Resolve(CAND_LIST,q, elem.page_addr);
    elem = PopHeap(Heap);
}

```

1. TP

TP k-  
 1-2 q MinDist가  
 CAND\_LIST  
 CAND\_LIST k 가  
 가  
 k 가  
 □ CPU  
**4**  
 (N=68040)가  
 9-CM 9  
 16-CT 16  
 32-CH 32  
 1000  
 k  
 k 10 NOA VA-File  
 , TP EC  
 2 EC  
 NOA TP  
 10 가  
 CPU

2. (|E|, |H|: , U: )

		1	2	(U)	NOA-TP
		( E )	( H )		NOA
9	NOA (b=2)	171.5 (10211)	34.2 (7399.9)	205.7 (2.9%)	<b>0.49</b>
	TP	<b>46.4</b> (300)	<b>58.2</b> (26.6)	<b>104.6</b> (100%)	
1 6	NOA (b=2)	370.8 (15986)	136.9 (9886.3)	507.7 (3.4%)	<b>0.75</b>
	TP	<b>58.0</b> (536)	<b>71.3</b> (133.5)	<b>129.3</b> (100%)	
3 2	NOA (b=1)	2758.5 (48522)	2433.5 (48522)	5192.0 (2.3%)	<b>0.93</b>
	TP	<b>79.31</b> (1080)	<b>289.86</b> (175.42)	<b>365.27</b> (100%)	

가 가

가  $4(=2^4-1)$

TP TP

25%, 49%, 48%

**5**

가

CPU

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