

OS BMT

KIPA

(

)



I. BMT



II. BMT



III. 가



IV. 가

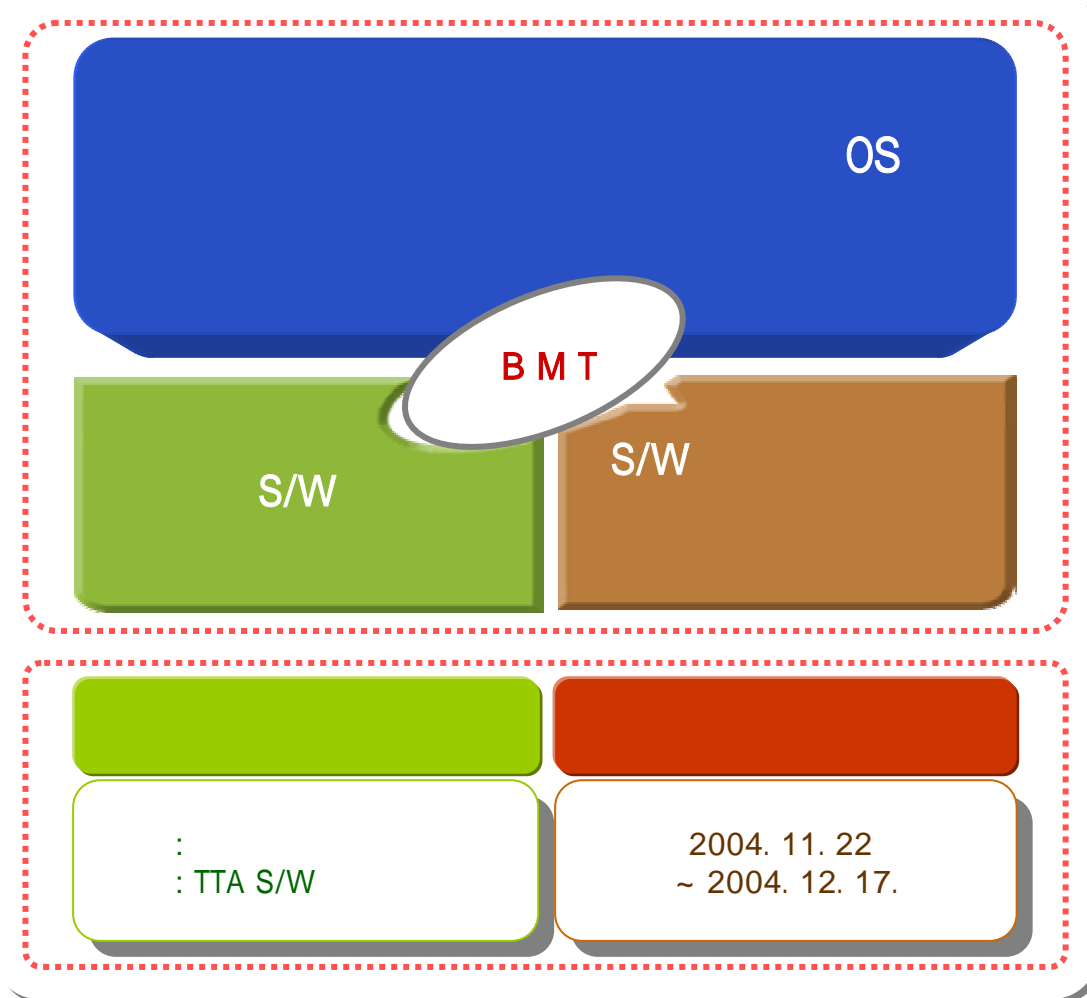


V.



VI. 가

I. BMT



II. BMT

Linux Server OS Product



Red Hat Enterprise Linux 3 AS	2.4	<ul style="list-style-type: none"> ✓ 16CPU, 64GB OS ✓ ✓ Oracle, VERITAS, IBM ISV 	
WOW Linux Paran R2	2.4	<ul style="list-style-type: none"> ✓ (2.4.18, Unicon) ✓ (xfs, ext2, ReiserFS) ✓ 	
Hancom Linux 3.1 Advanced Server	2.4	<ul style="list-style-type: none"> ✓ 2.4.21 XFree86 4.3.99 H/W ✓ (JFS, XFS, ReiserFS, Ext2/3) ✓ 	
SUSE Linux Enterprise Server 9	2.6	<ul style="list-style-type: none"> ✓ 2004 8 2.6 ✓ 	
NuxOne 2.0 Maru	2.6	<ul style="list-style-type: none"> ✓ 2.6.5 OS 2,000 ✓ 1CD ✓ XFS JFS 	

III. 가

가



(4)
(Functionality)



Software RAID



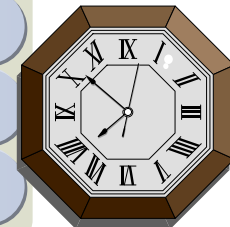
(5)
(Performance)



FTP



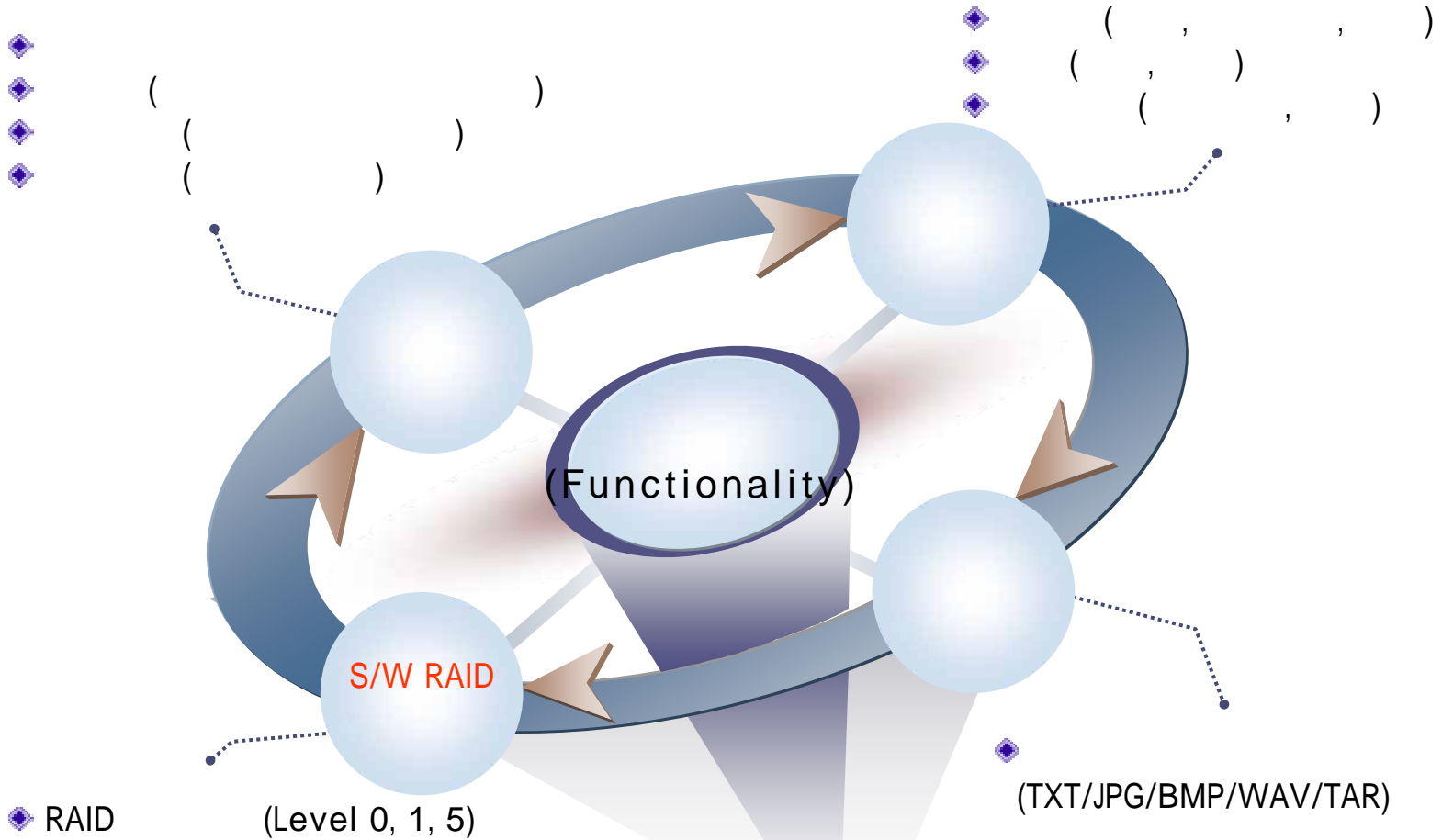
SMTP/POP

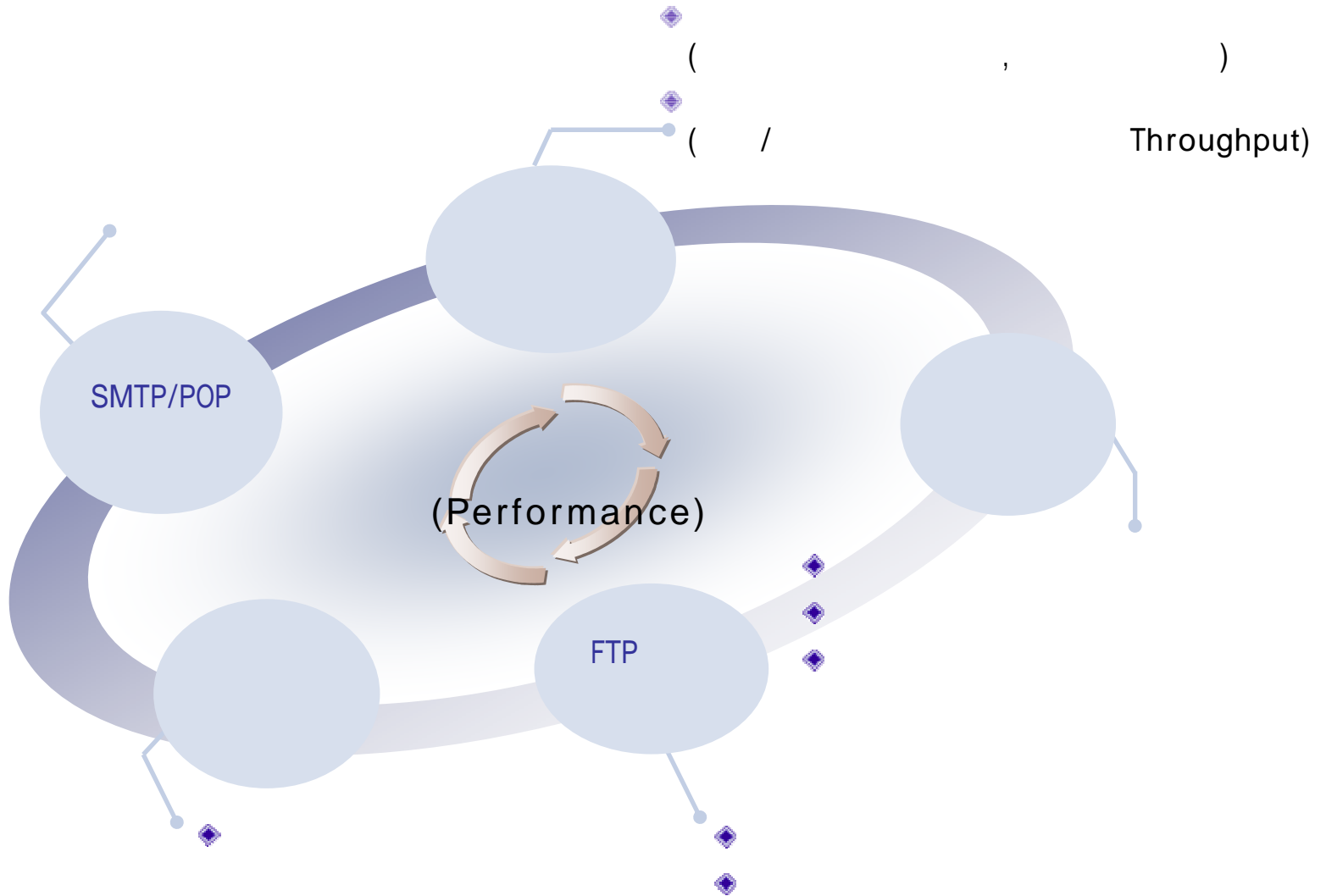


IV.

가

()





IV.

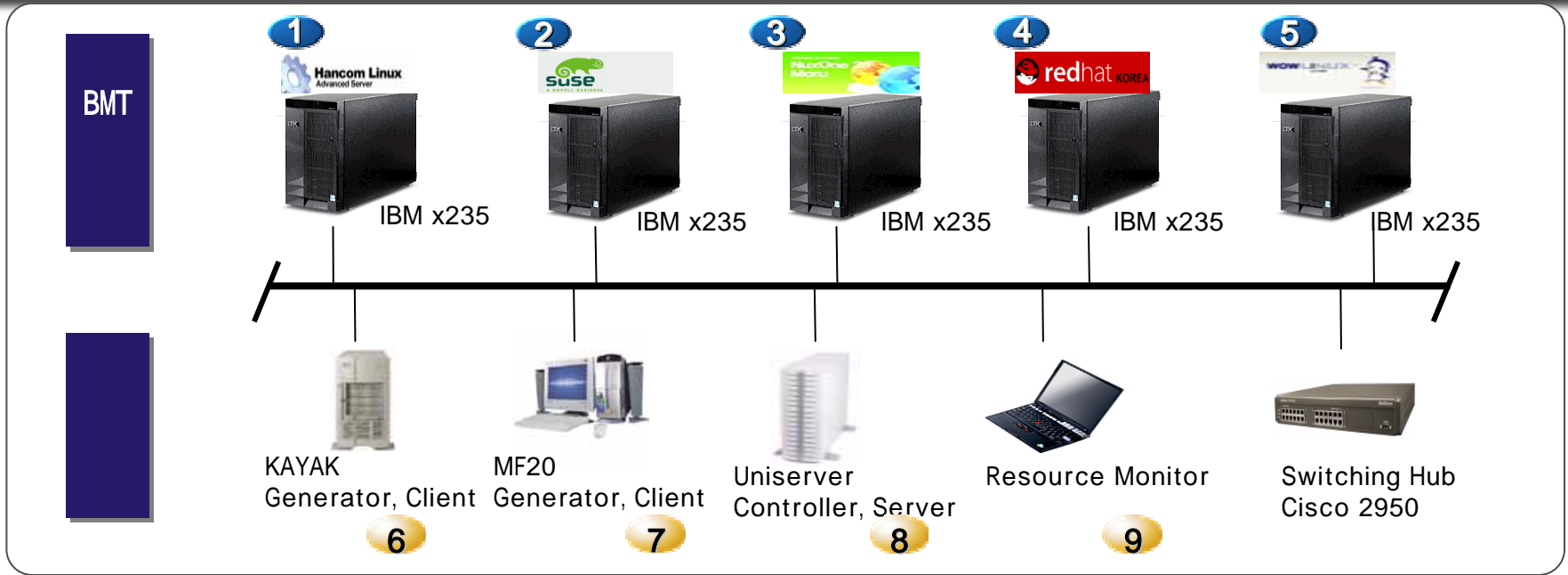
가

()

		$X = () - ()$	Second
		$X = Y/Z$ $Y =$ $Z = () - ()$	MByte/Sec
		$X = Y/Z$ $Y =$ $Z = () - ()$	MByte/Sec
	• CPU	$X = 100 - (\text{CPU idle})$	%
	• Memory	$X = (A_i)/T$ $A = I \text{ Memory}, T =$	%
	(TPS)	$X = (\text{Transaction}) / ((S))$	Transaction/sec
	(RPT)	$X = () / (\text{Transaction Request})$	Second
FTP	• CPU	上同	%
	• Memory	上同	%
		$X = Y / T, Y =$ $, T =$	MByte/Sec
		$X = () - ()$	Second
		$X = Y / Z, Y =$ $, Z =$	%
SMTP/POP	(RPT)	上同	Second
		$X = Y / Z$ $Y =$ $, Z =$	%
	• CPU	上同	%

V. BMT

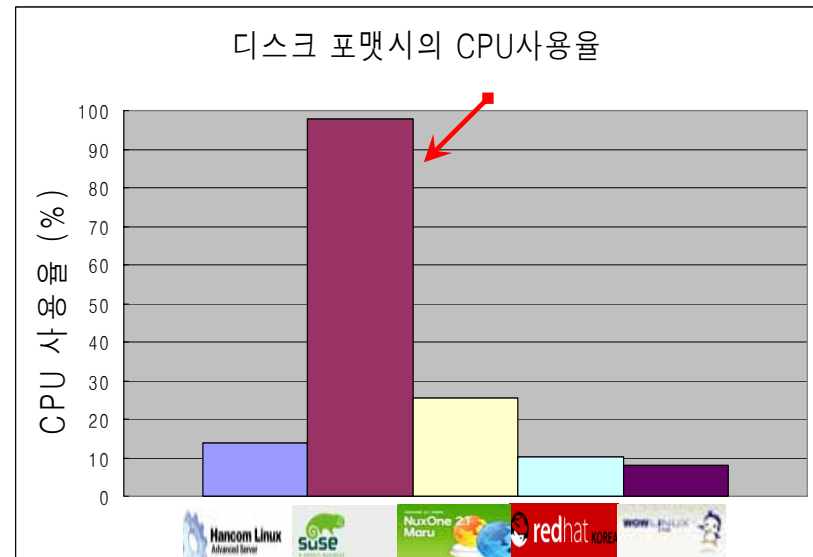
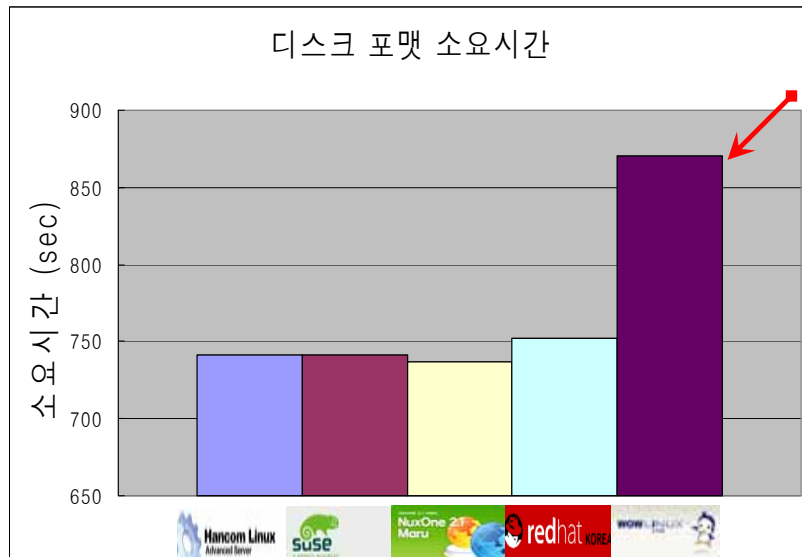
(S/W & H/W)



BMT		◆ , BMT	① ~ ⑤ (TeamQuest)
		◆Mercury Interactive LoadRunner VU Generator ◆eTesting Labs Email/FTP Test Tool Client	⑥ ~ ⑦
		◆Mercury Interactive LoadRunner Controller ◆eTesting Labs Email/FTP Test Tool Server	⑧
		◆TeamQuest View	⑨
		◆10/100bps	N/A

(36.4GB, SCSI 10,000RPM)	<ul style="list-style-type: none"> Ext3 "mkfs.ext3" Block) 	"-c" (Bad	<ul style="list-style-type: none"> Script TeamQuest 	<ul style="list-style-type: none"> 5 TeamQuest V9.2
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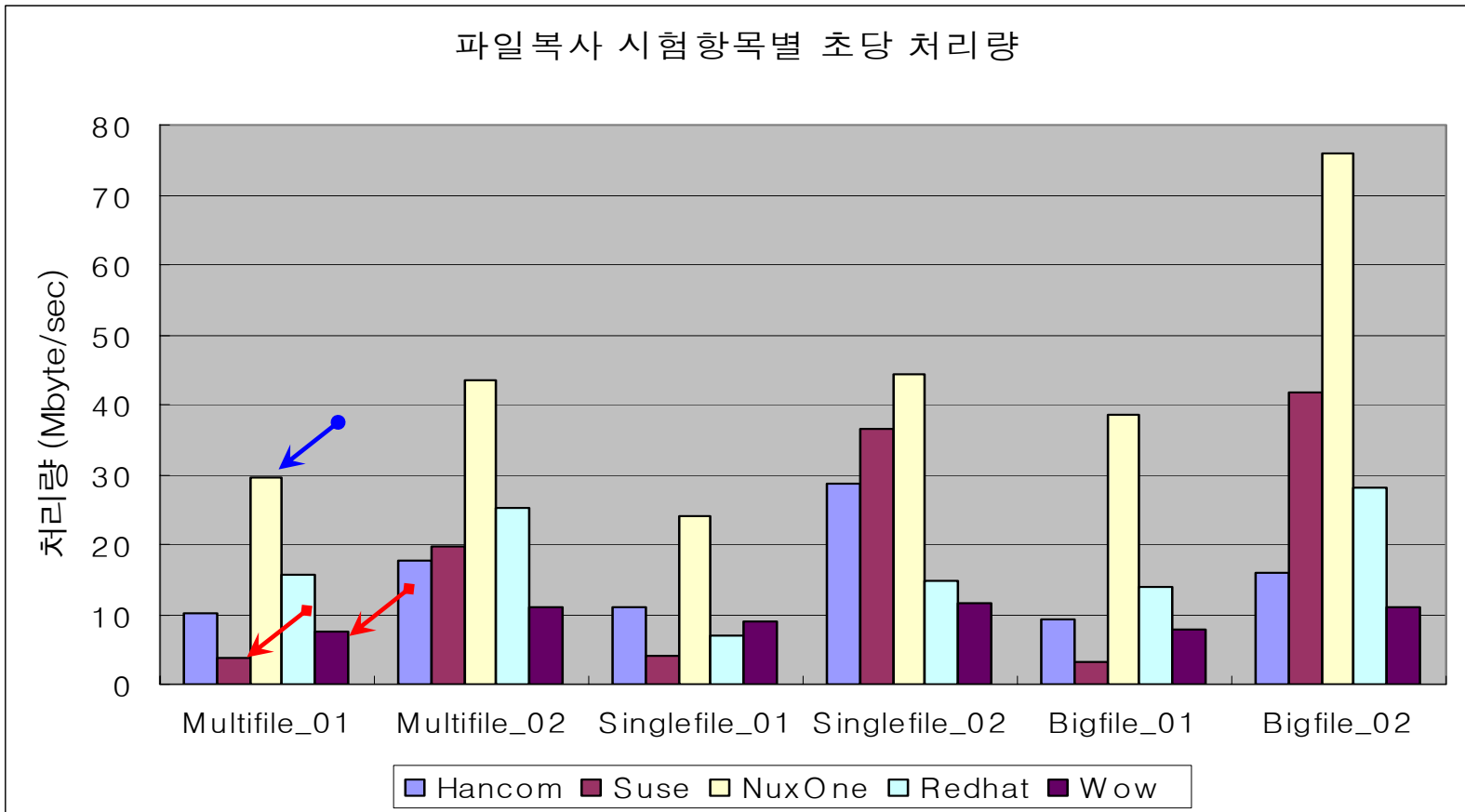
가



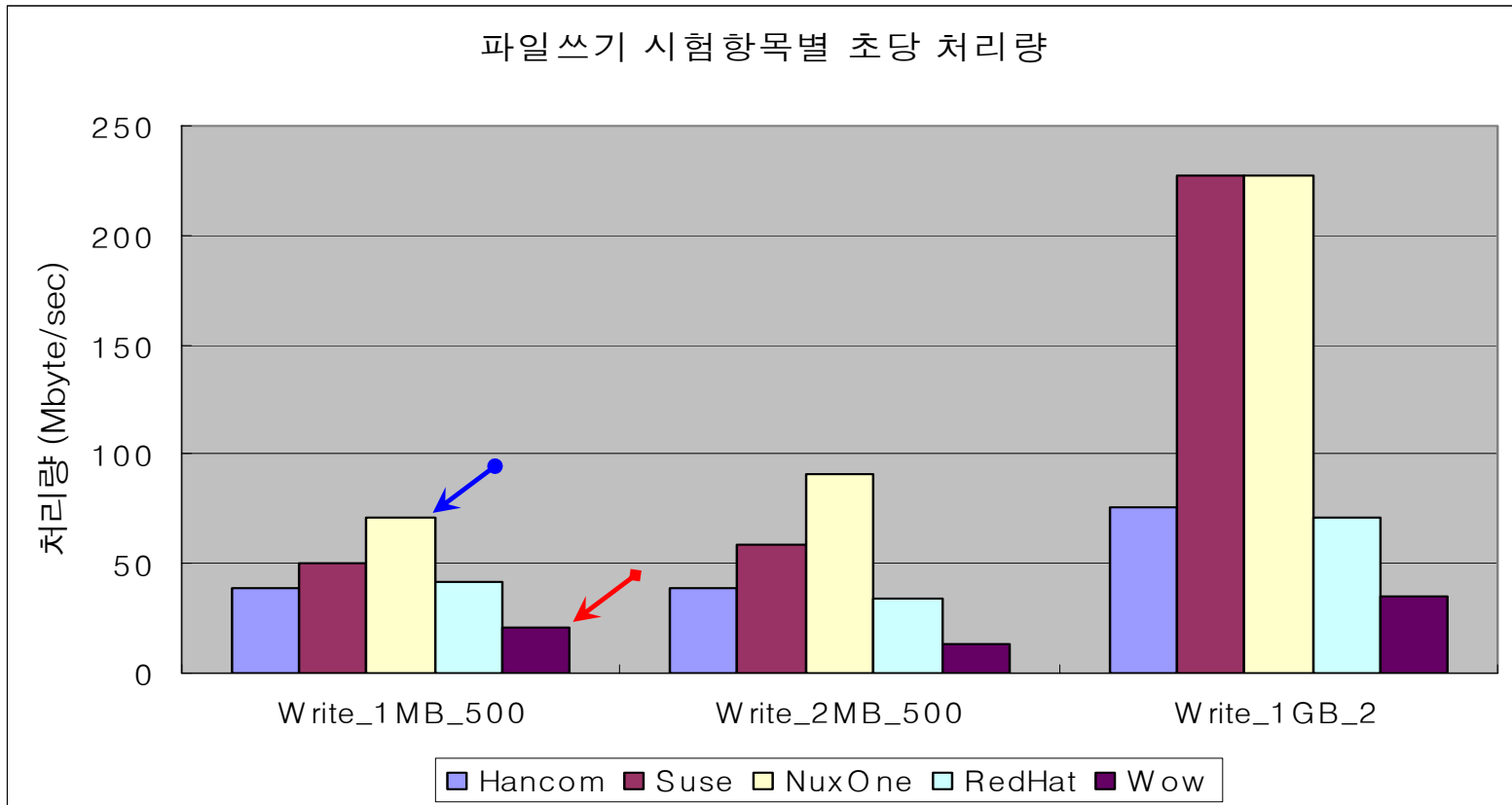
/

1	• / /	• Multifile_01	• 1,500 , 3GB
2	• / / -	• Multifile_02	• 1,500 , 3GB
3	• / /	• Singlefile_01	• 2,000 , 2GB
4	• / / -	• Singlefile_02	• 2,000 , 2GB
5	• / /	• Bigfile_01	• 1 , 2GB
6	• / / -	• Bigfile_02	• 1 , 2GB
7	•	• Write_1MB_500,Write_2MB_500,Write_1GB_2	• 1MB 500 , 2MB 500 , 1GB 2

가

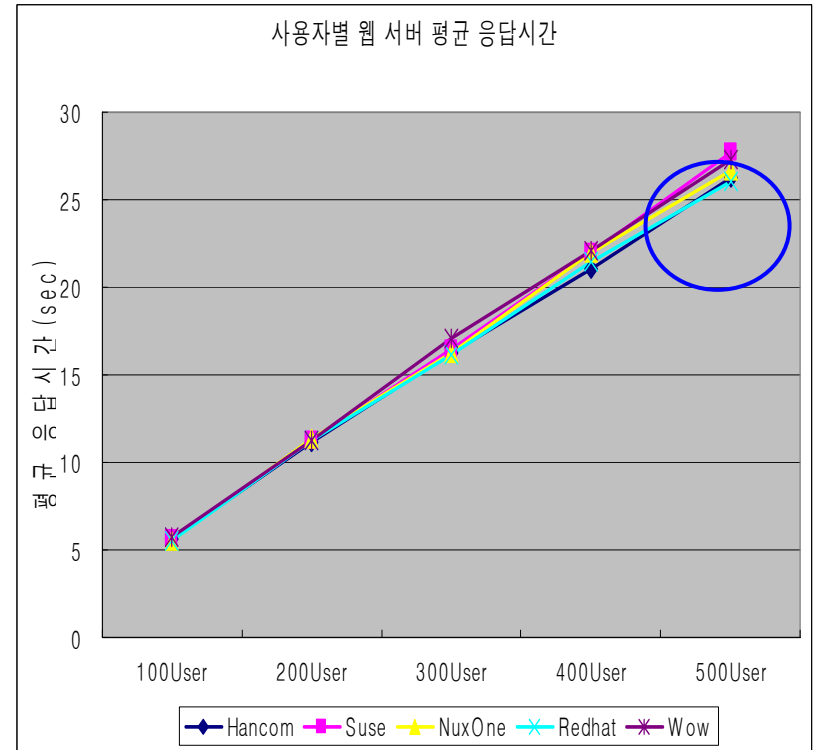
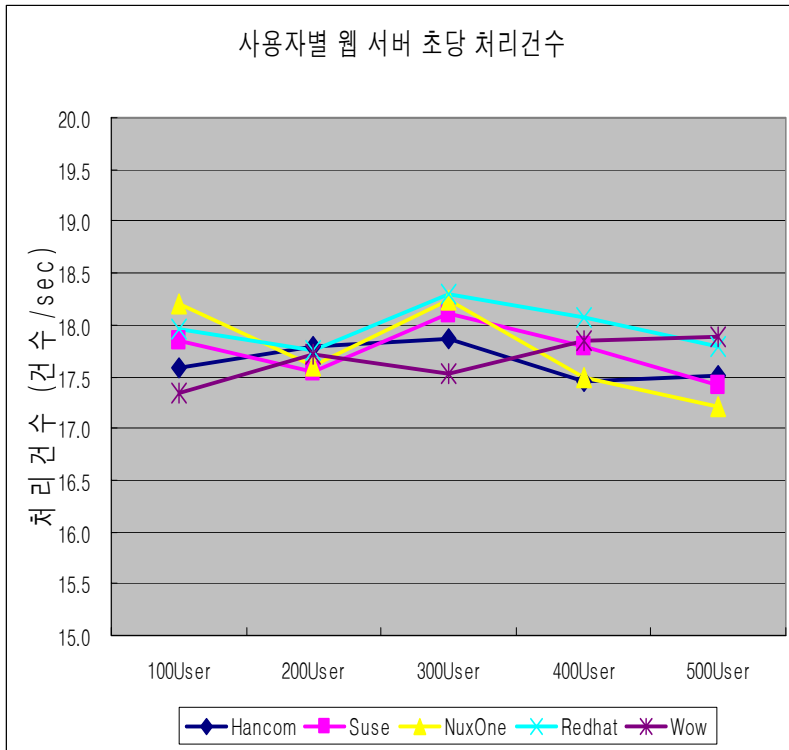


- 가

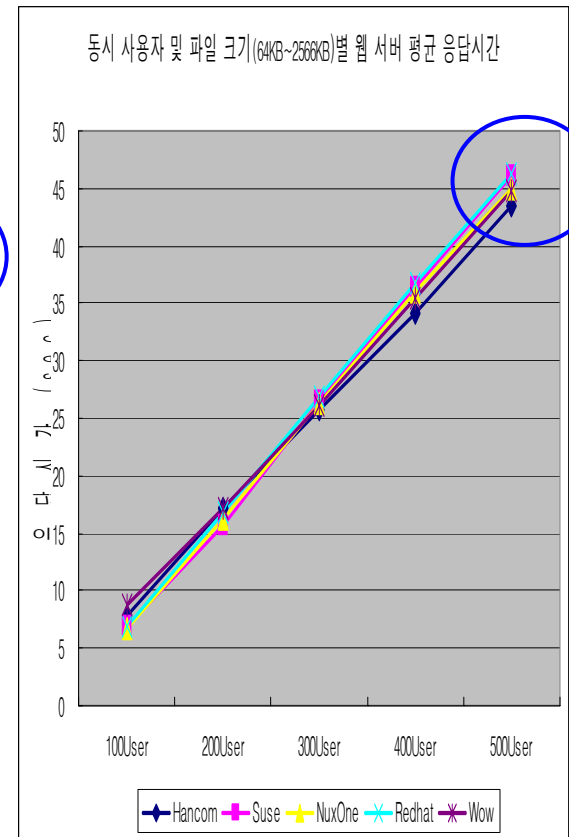
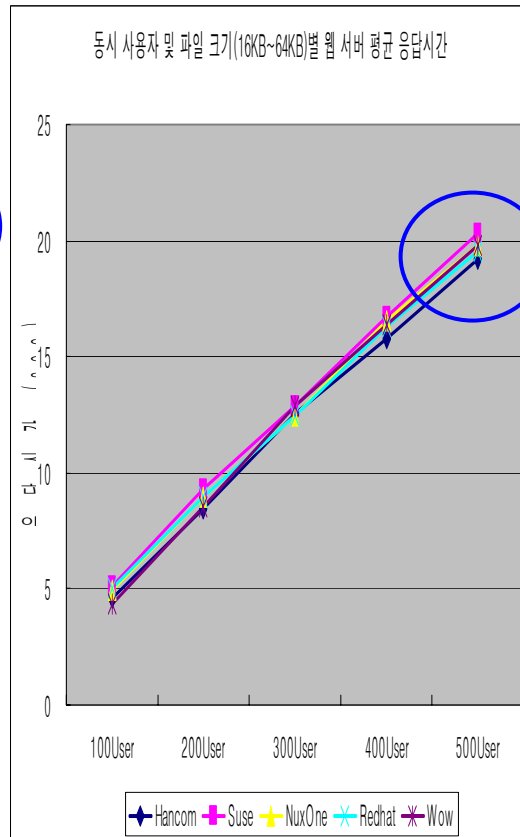
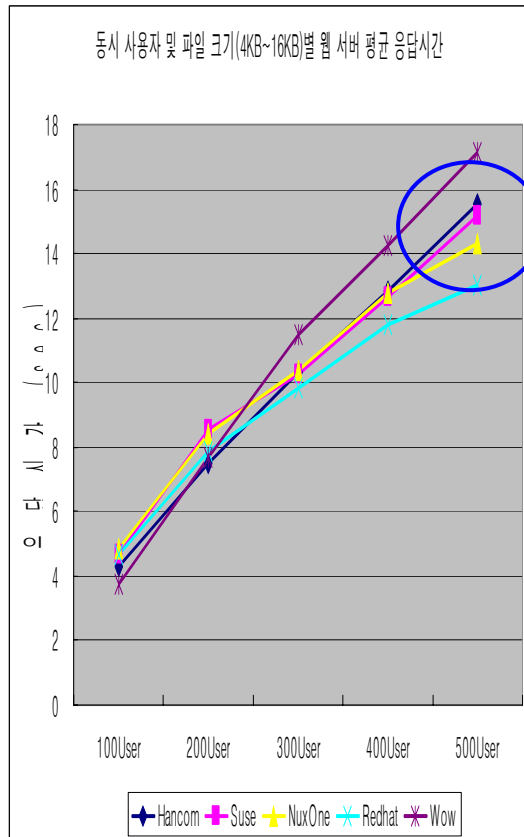


100 200 300 400 500	• 33.3%	• (4K~16KB)	• 3	<ul style="list-style-type: none"> • MI LoadRunner V7.2 • TeamQuest V9.2
	• 33.3%	• (16K~64KB)		
	• 33.4%	• (64K~256KB)		

- 가 ,
- “ ” “ ” 100 ~500
- 5



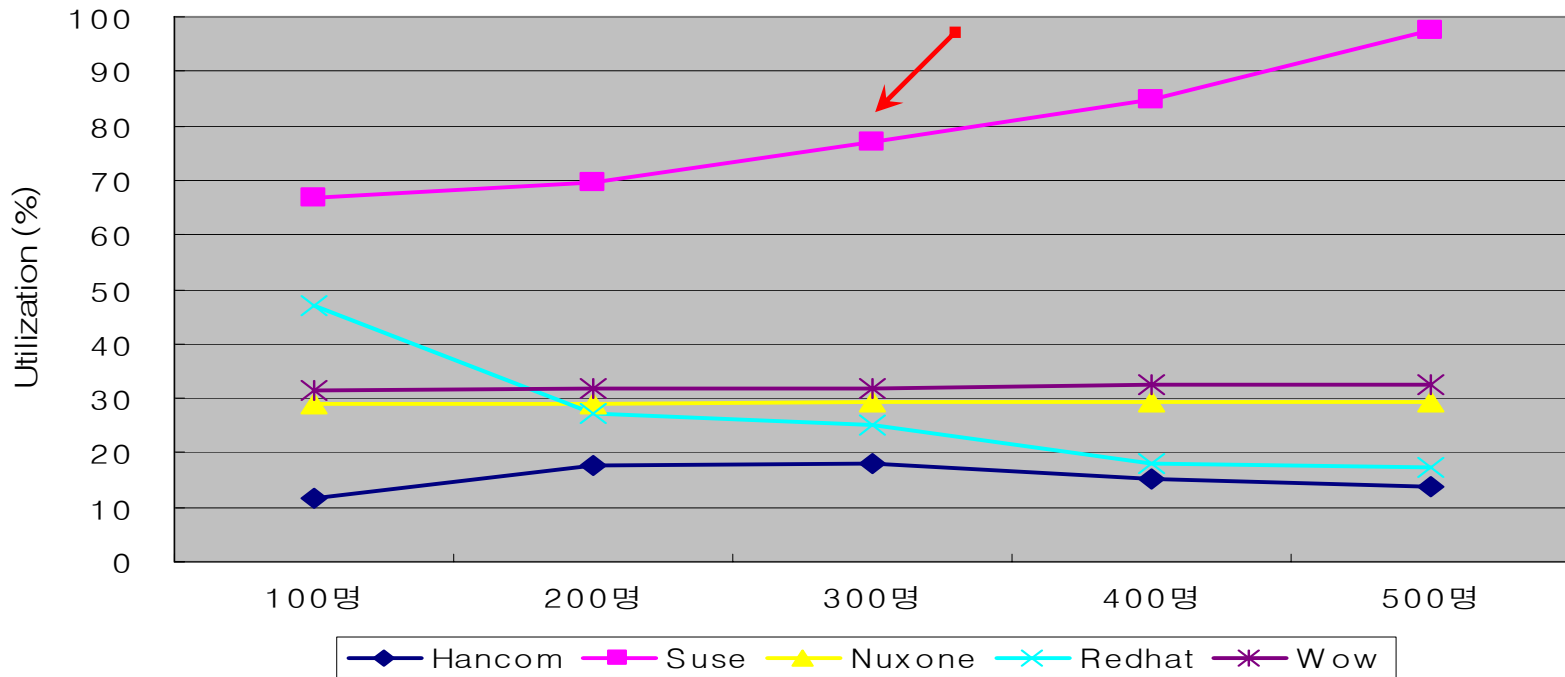
“ ” , /



CPU

가

동시사용자별 WEB 서버 CPU사용율



FTP

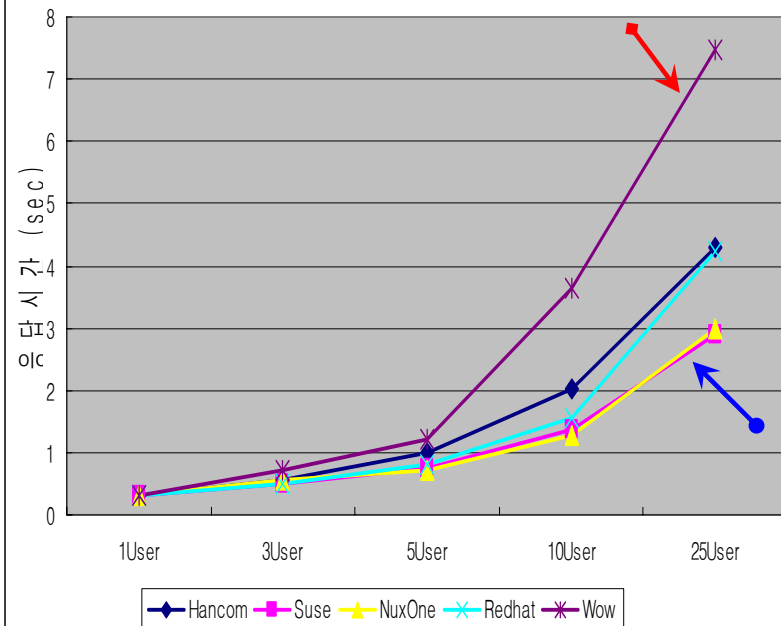
			/	
-A	1 3 5 10 25	<ul style="list-style-type: none"> FTP , 200KB 5 FTP 	2	<ul style="list-style-type: none"> MI LoadRunner V7.2 TeamQuest V9.2
-B		<ul style="list-style-type: none"> FTP , 500KB 5 FTP 		
-C		<ul style="list-style-type: none"> FTP , 1MBB 5 FTP 		

- “FTP

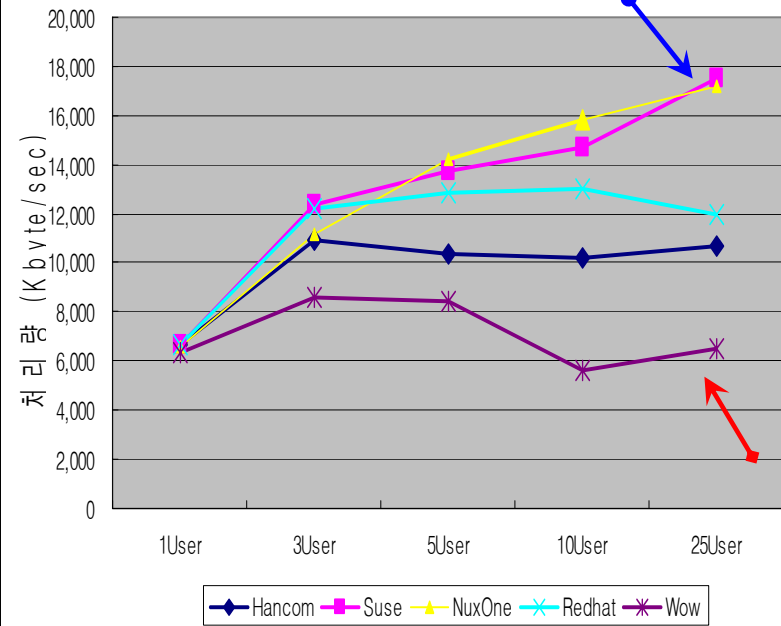
FTP

(-A)

사용자별 FTP 서버 평균 응답시간 (시험사례-A)



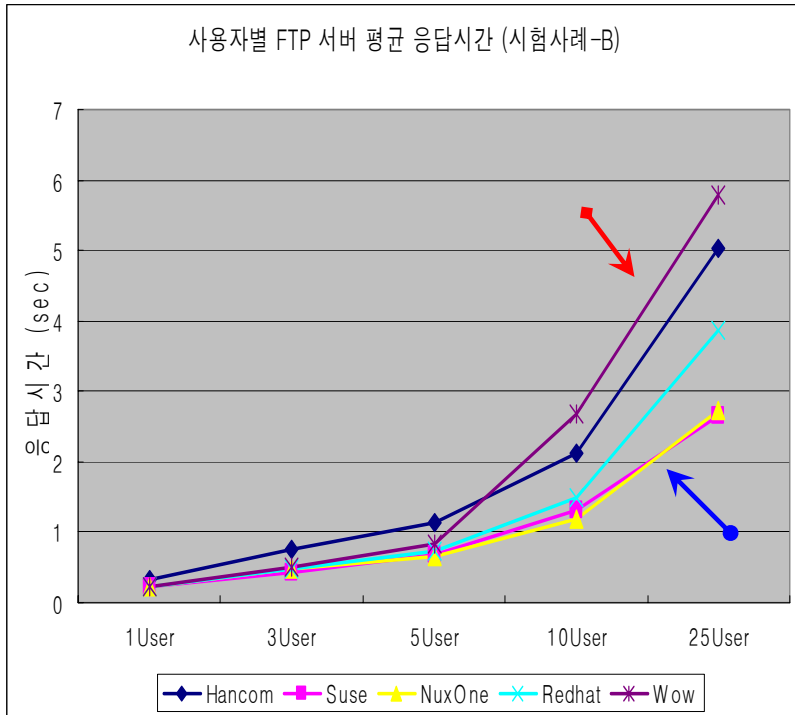
사용자별 FTP 서버 초당 처리용량 (시험사례-A)



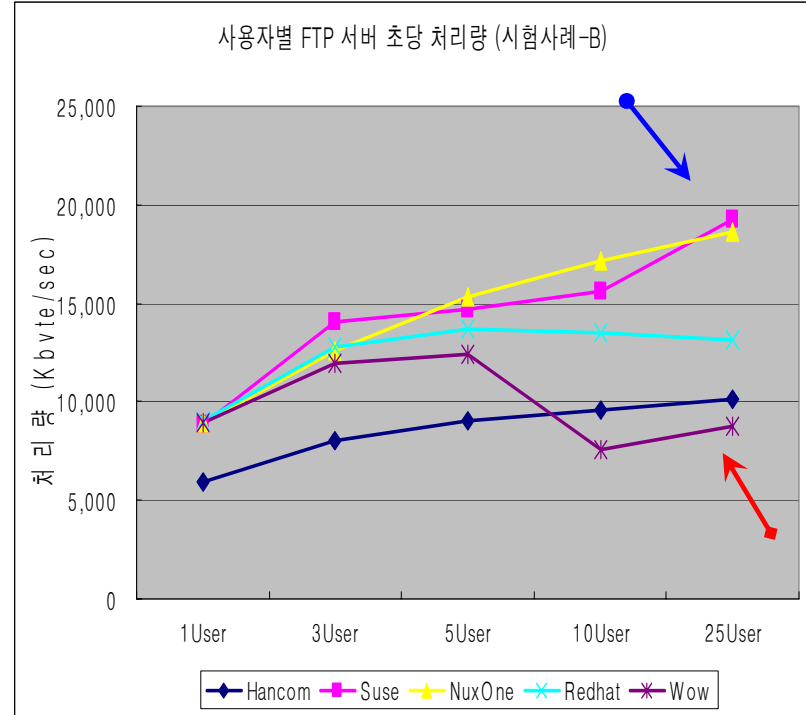
FTP

(-B)

사용자별 FTP 서버 평균 응답시간 (시험사례-B)



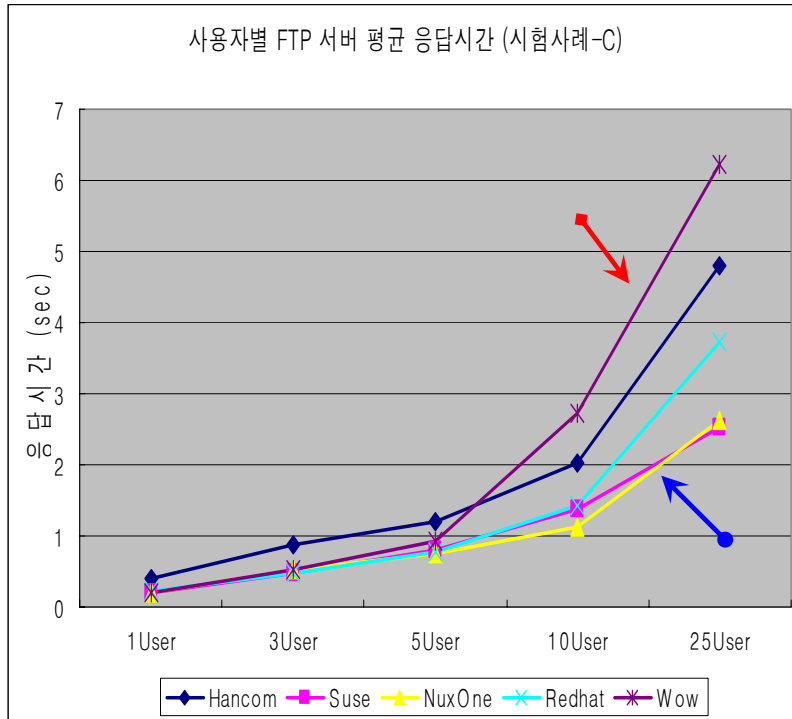
사용자별 FTP 서버 초당 처리량 (시험사례-B)



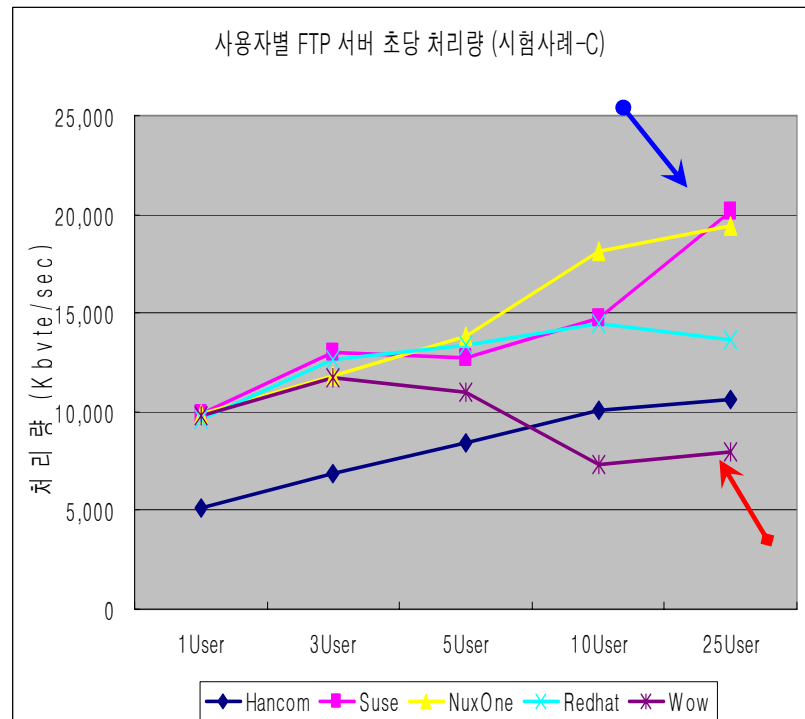
FTP

(-C)

사용자별 FTP 서버 평균 응답시간 (시험사례-C)

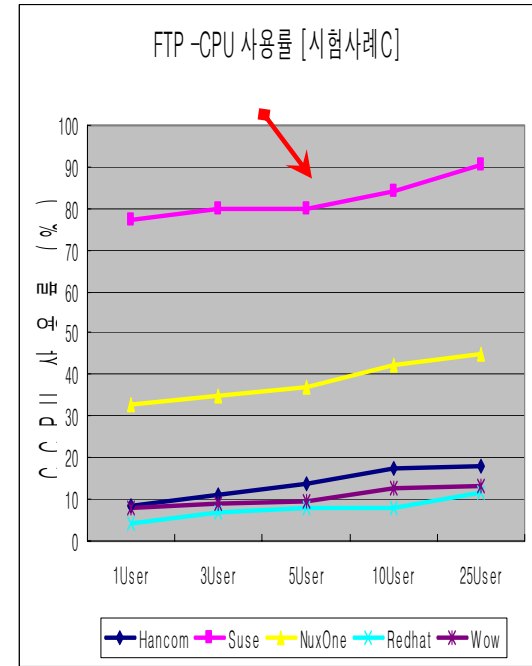
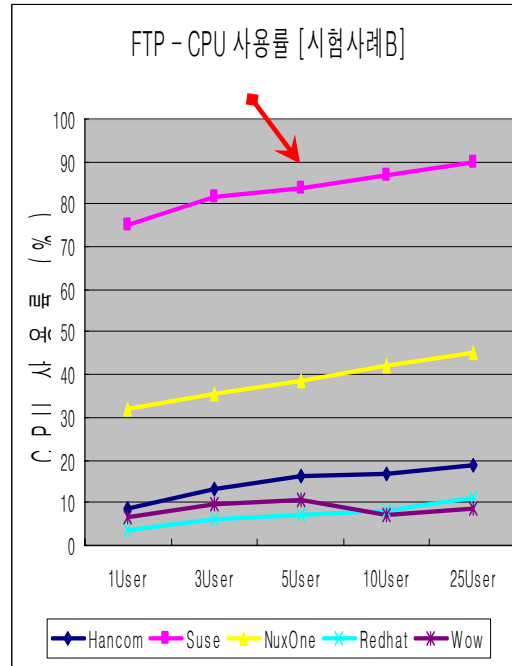
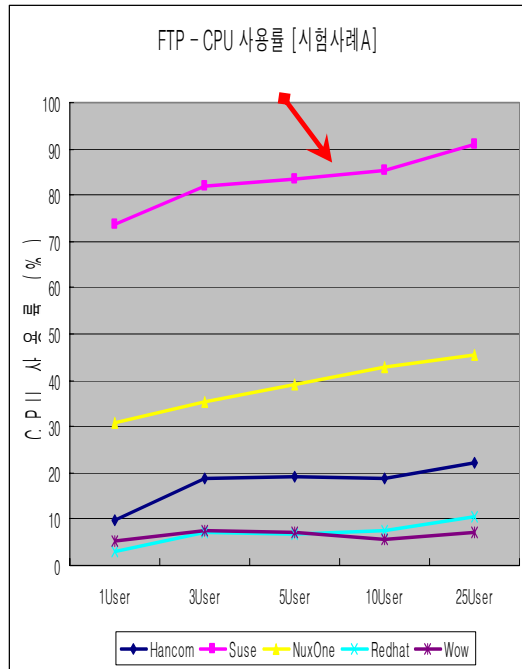


사용자별 FTP 서버 초당 처리량 (시험사례-C)



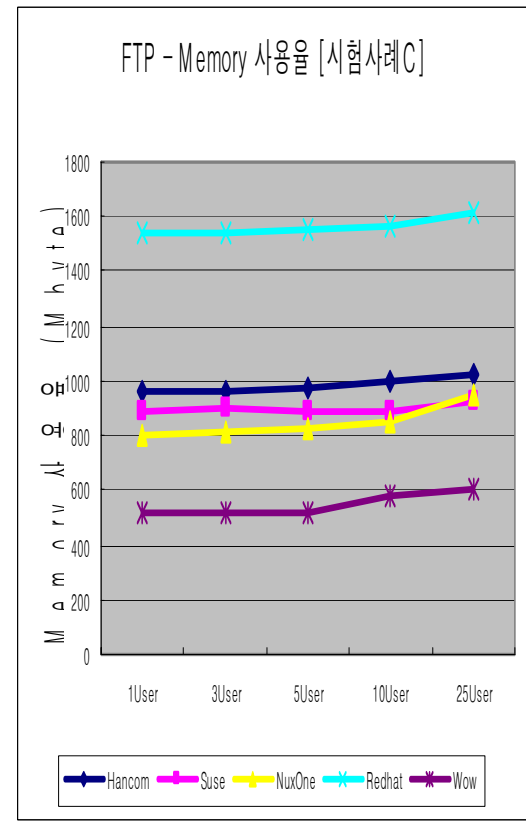
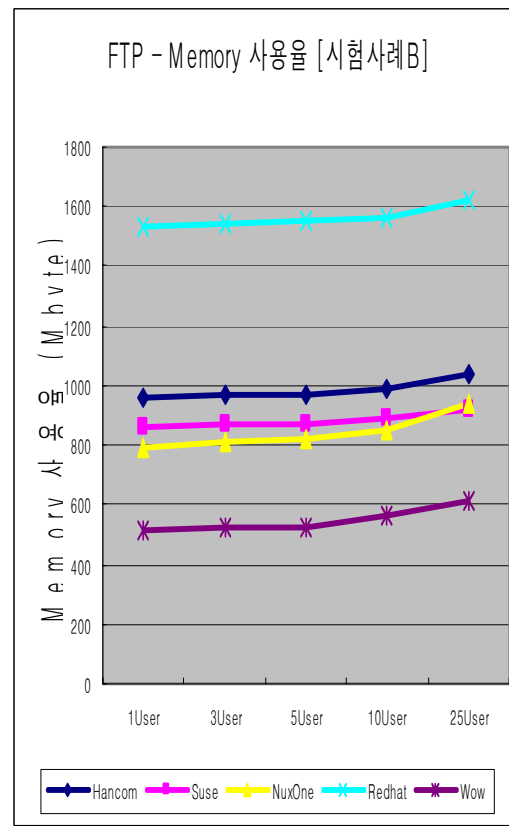
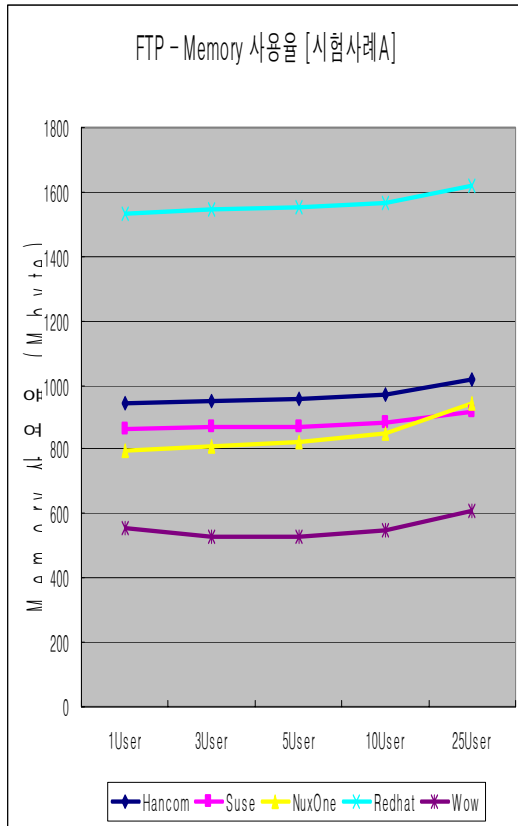
CPU

CPU 가



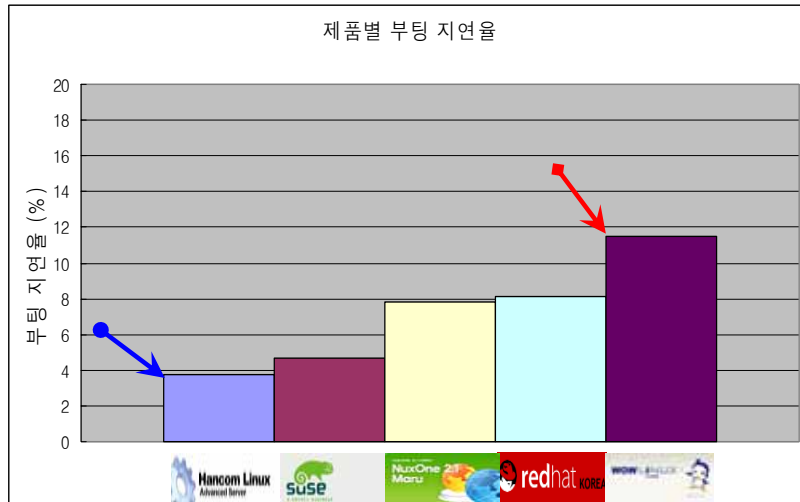
Memory

Memory 가



	<ul style="list-style-type: none"> 가 () 	<ul style="list-style-type: none"> Script Stop Watch 	<ul style="list-style-type: none"> 가 가 가
--	---	--	--

• (%)



			%	
Hancom	57.88	60.04	3.74	0.24
Suse	42.67	44.67	4.69	2.30
NuxOne	54.59	58.86	7.83	0.09
RedHat	49.66	53.68	8.10	0.58
Wow	69.26	77.22	11.49	0.11

SMTP/POP

	()								
	POP3(70%)	SMTP(30%)		1K	4K	8K			32K
1	-			1	1	1	1	1	<ul style="list-style-type: none"> • TeamQuest V9.2 • eTesting Labs Email Tool •
5									
10									
30									
60									
90			(%)	12	6	9	3		

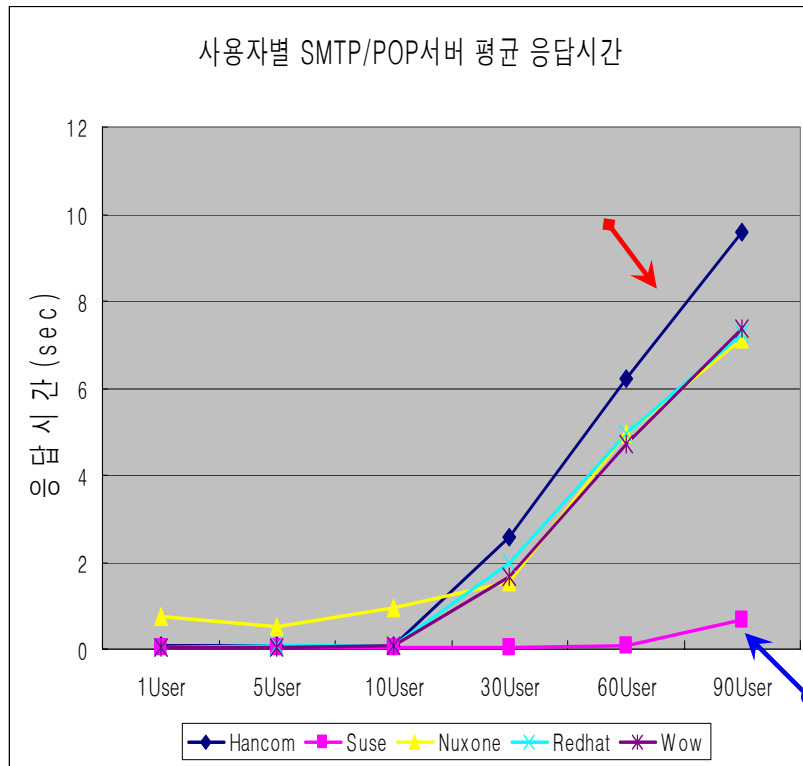
• : 1 가

가

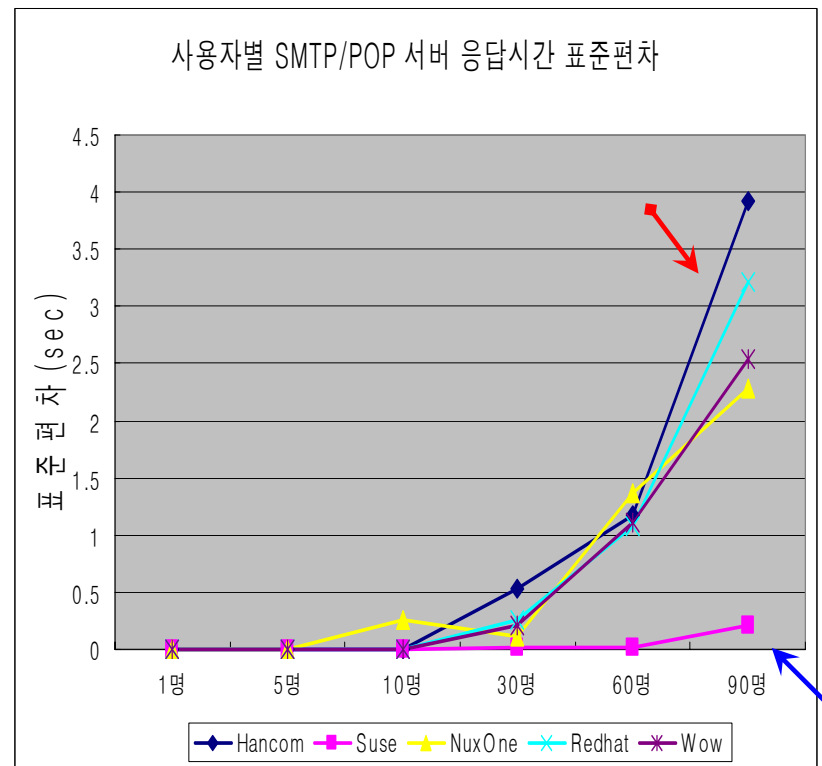
• : Email

SMTP/POP

사용자별 SMTP/POP서버 평균 응답시간

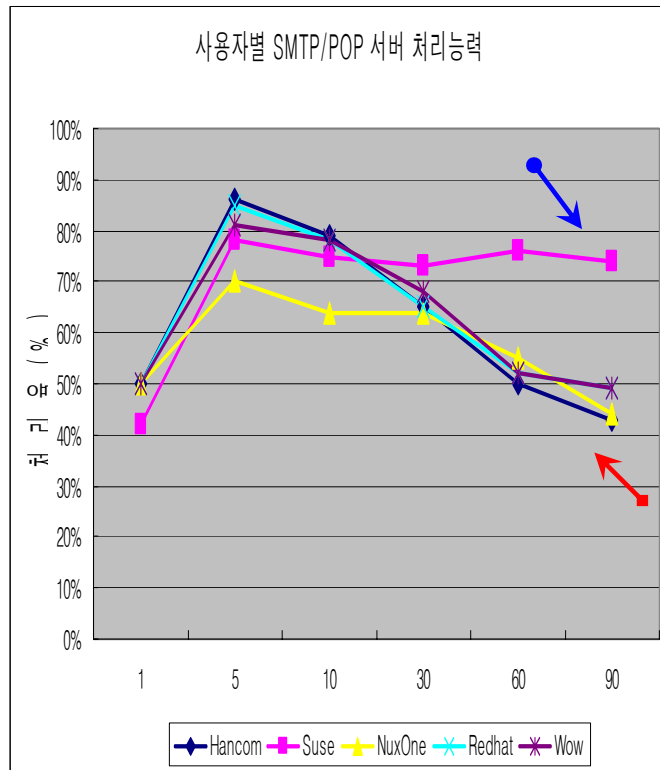


사용자별 SMTP/POP 서버 응답시간 표준편차



SMTP/POP

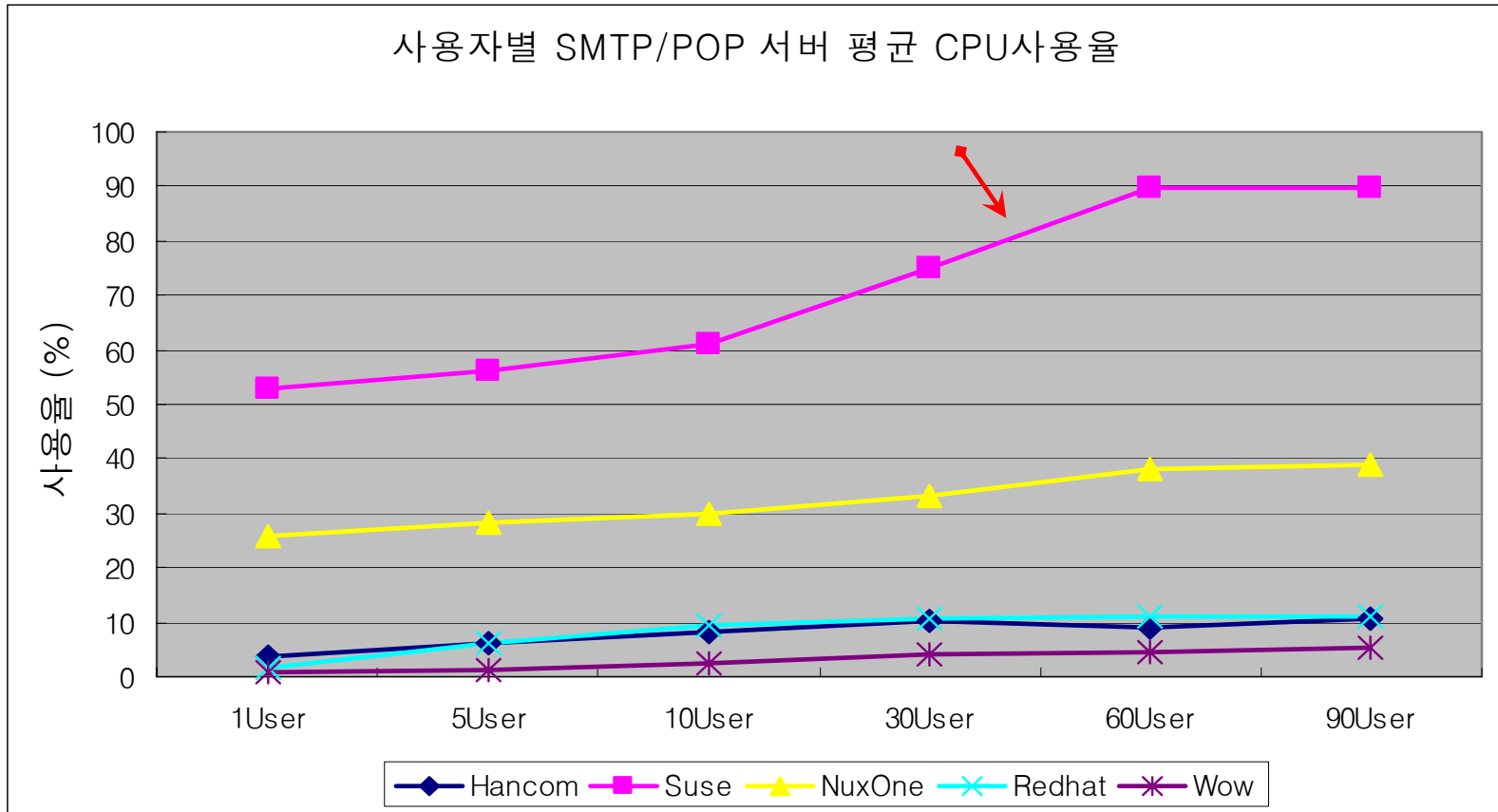
(Productivity)



	Hancom		Suse		NuxOne		RedHat		Wow	
	#	#	#	#	#	#	#	#	#	#
1	6	3	7	3	4	2	6	3	6	3
5	36	31	37	29	30	21	35	30	37	30
10	72	57	74	56	51	33	73	57	73	57
30	98	64	225	165	132	85	115	75	124	85
60	104	52	430	328	134	75	119	62	129	68
90	97	42	479	321	123	55	111	55	117	58

CPU

사용자별 SMTP/POP 서버 평균 CPU사용율



VI. 가 ()

(Cont)

	<ul style="list-style-type: none"> OS BMT BMT 	<ul style="list-style-type: none"> Manual 	<ul style="list-style-type: none"> PASS FAIL
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	#	가 ()	BMT (P/F)				
			Hancom	Suse	NuxOne	RedHat	Wow
	1	shadow	P	P	P	P	P
	2		P	P	P	P	P
	3		P	P	P	P	P
	4		P	P	P	P	P
	5		P	P	P	P	P
	6	login (su)	P	F	P	P	P
	7		P	P	P	P	P
	8		P	P	P	P	P
	9		P	P	P	P	P
	10		P	P	P	P	P
	11		P	P	P	P	P
	12		P	P	P	P	P

VI. 가 ()

#	가 ()	BMT (P/F)				
		Hancom	Suse	NuxOne	RedHat	Wow
13	TTL size	P	P	P	P	P
14		P	P	P	P	P
15		P	P	P	P	P
16		P	P	P	P	P
17		P	P	P	P	P
18	(,)	P	P	P	P	P
19		P	P	P	P	P
20		P	P	P	P	P
21		P	P	P	P	P
22		P	P	P	P	P
23	Inbound, outbound	P	P	P	P	P
24		P	P	P	P	P
25		P	P	P	P	P
26		P	P	P	P	P

VI. 가

()

(Cont)

	• “ ”	• Manual	<ul style="list-style-type: none"> • P : X-Windows • P* : Console
--	-------	----------	---

#	가 ()	BMT (P/P*/F)				
		Hancom	Suse	NuxOne	RedHat	Wow
1		P	P	P	P	P
2		P	P	P	P	P
3		P*	P*	P*	P	P
4		P	P	P	P	P
5		P*	P	P*	P	P
6		P	P	P	P	P
7		P	P	P	P	P
8		P	P	P	P	P
9		P	P	P	P*	P*
10		P	P	P	P*	P*
11		P	P	P	P	P
12		P	P	P	P	P
13		P	P	P	P	P

(Cont)

H/W RAID	<ul style="list-style-type: none"> OS 	<ul style="list-style-type: none"> Manual 	<ul style="list-style-type: none"> PASS FAIL
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- 5 SUSE Linux 4 S/W Raid GUI

#	가 ()	BMT (P/P*/F)				
		Hancom	Suse	NuxOne	RedHat	Wow
1	RAID Level 0 가?	P	P	P	P	P
2	RAID Level 1 가?	P	P	P	P	P
3	RAID Level 5 가?	P	P	P	P	P