



IBM WebSphere Application Server !



IBM WebSphere Application Server !

TCO 1, IBM WAS

! 가 .





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WAS

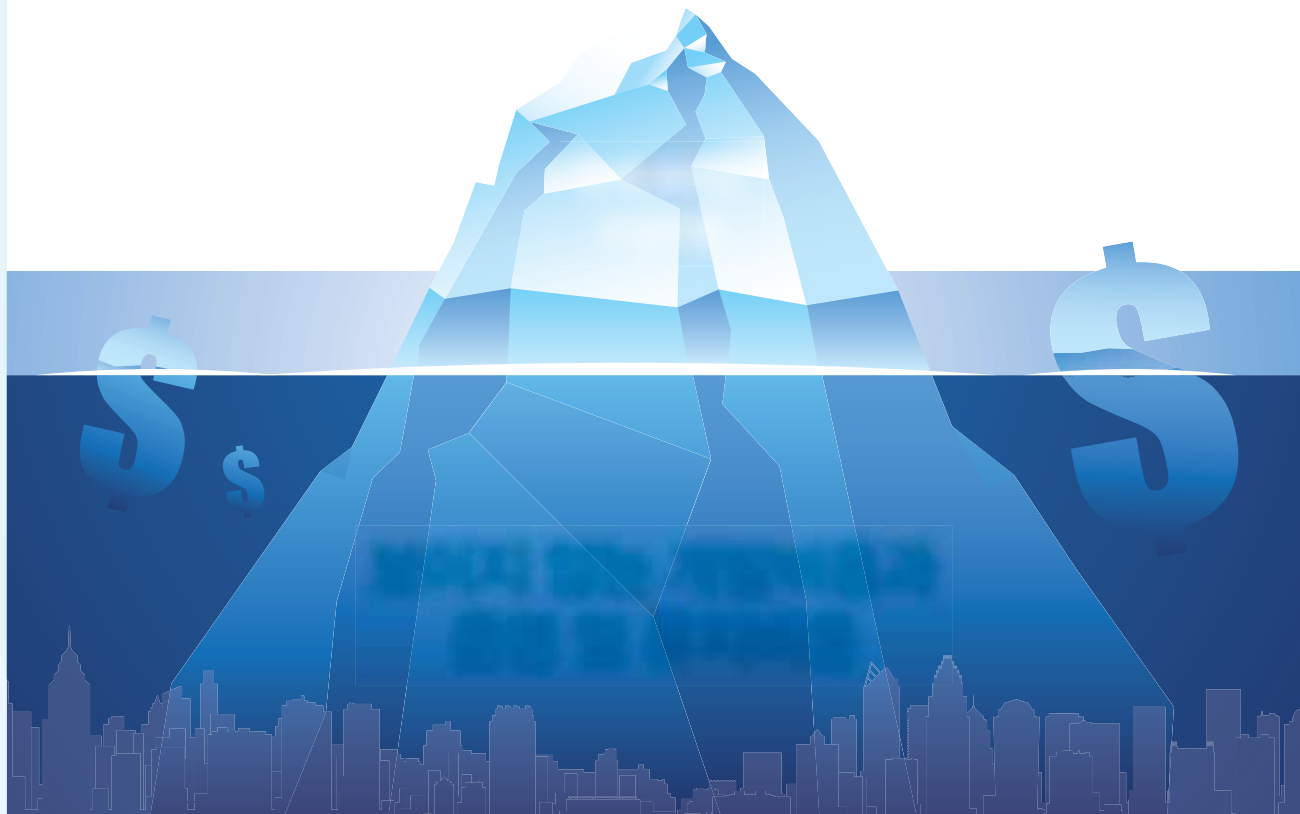
?

Web Application Server

가

WAS

- 애플리케이션 설계 및 개발비용
- 타 시스템과의 통합비용
- 애플리케이션 개선 및 버그 수정비용
- 가동 중단에 따른 비용
- 성능 확보를 위한 추가 도입비용
- 요구사항 분석비용
- 개발자, 관리자, 일반 사용자 교육비용
- 품질, 사용자 승인, 기타 테스트비용
- 성능비용
- 하드웨어 및 네트워킹비용
- 업그레이드비용
- 교체비용
- 기타 리스크비용(보안 위반 등)





IBM WebSphere Application Server

가
IBM WAS



[IBM WAS]

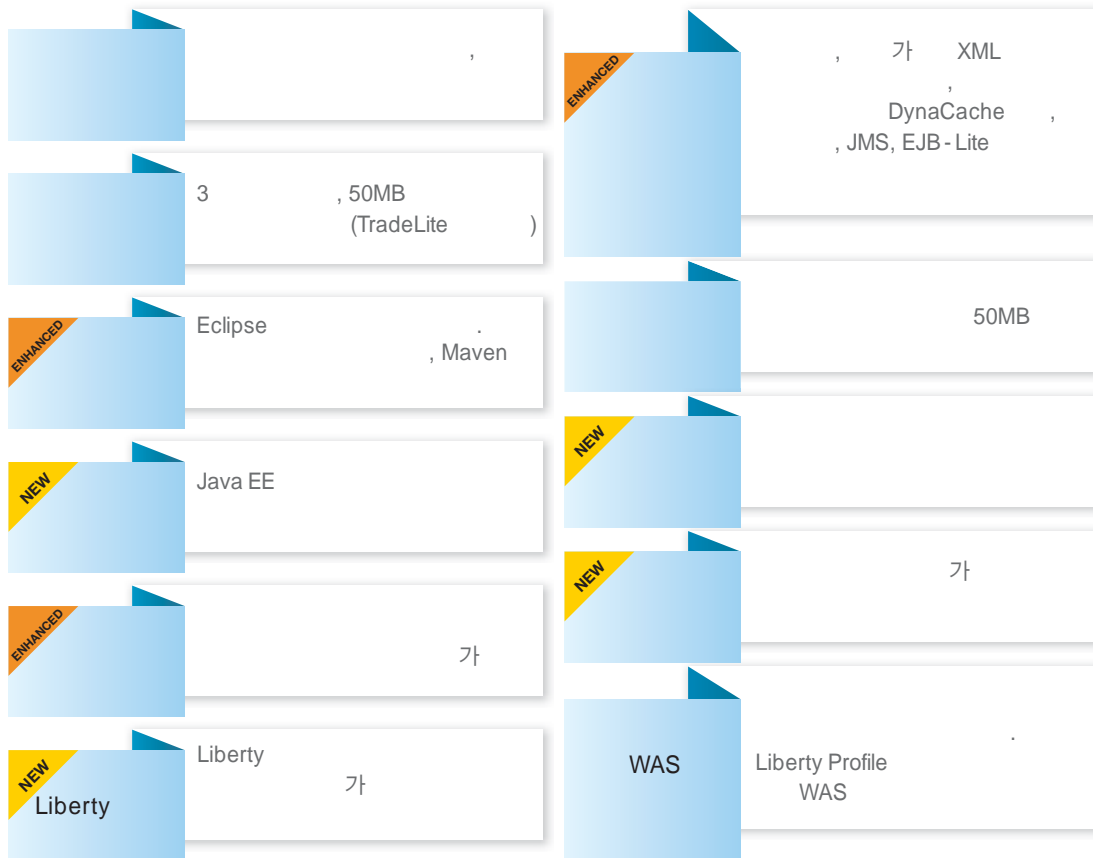


IBM WAS

가

1. Liberty Profile

IBM WAS Liberty Profile() Liberty Profile



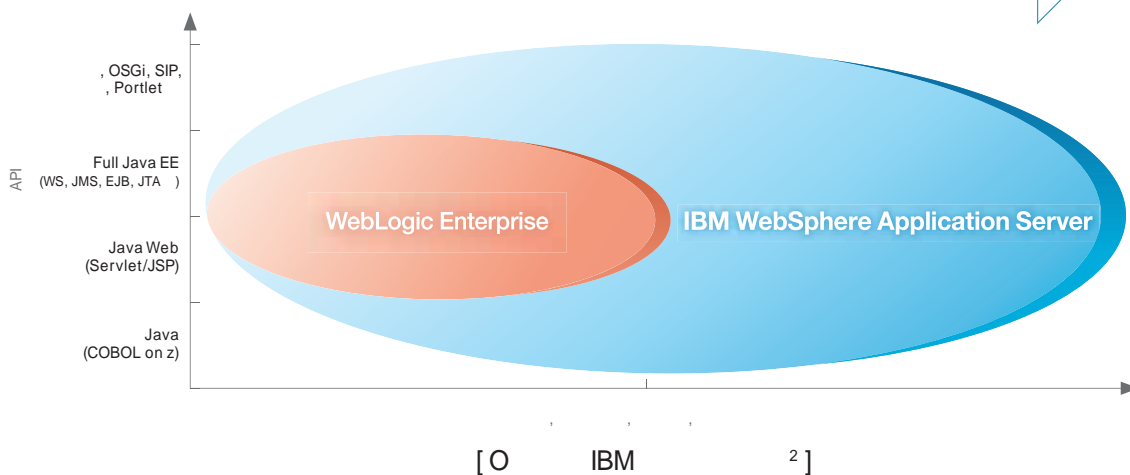
[Liberty Profile & Eclipse WAS (WDT)]



2.

IBM WAS

IBM WAS Servlet, JSP, Java, Java EE, (Batch), OSGi, SIP, Portlet, API, (Failover)

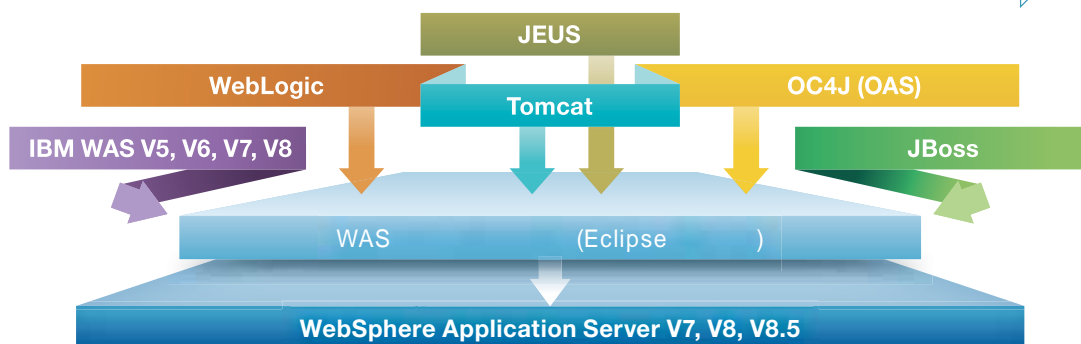


1. 2013 Liberty Profile Java EE article_newandnoteworthy_latest
2.

<https://www.ibm.com/developerworks/mydeveloperworks/blogs/wasdev/entry/>

3.

IBM WAS WebSphere Application Server
 IBM WAS WebLogic, JBoss, Tomcat, JEUS
 IBM WAS, WebSphere
 Application Server IBM WAS 가 가
 IBM WebSphere Application Server



: <http://smarterquestions.org/2012/02/websphere-migration-workshop>



IBM WAS 2013 3 ,가 (Gartner)가
1 .1

1. IBM WAS

Liberty Profile

가
가가

Liberty Profile

Web Profile

Liberty Profile

Java EE 1.6

Web Profile

가가

WXS(WebSphere eXtreme Scale)

WXS가 WAS



가가

IBM WAS

가

WAS Liberty Profile



- Liberty Profile
- Liberty
IBM WAS Liberty Core
- Java EE 6.0 Web Profile
- WAS
- , JMS, MDB
가
-
-



-
-
- 가
(Health Management)
-
-
-



-
- JDK
(JDK 6.0/7.0)
- XCT (Cross Component
Trace)
-
- (Batch)
-

IBM WAS V8.5 가

1. Gartner, Inc. [1] Market Share: All Software Markets, Worldwide, 2012, Colleen Graham, et al, March 29, 2013.



2. IBM WAS

IBM WAS가 Liberty Core, 가
 가 WXS(WebSphere eXtreme Scale)

IBM WAS



[IBM WAS (2013)]

1 IBM WAS
비용 자유선언

IBM WAS가 가

TCO

운영비용 절감은 기본,
고객의 선택에 따라 다양하게 제공되는 무료기능을 누리십시오.





IBM WebSphere Application Server



가 VS

1. IBM WAS

IBM WAS

1



2.

IBM 가

1 WebSphere Developer Tools for Eclipse

2 WebSphere Application Server for Developers & Liberty Profile

/ (가)

3 IBM SmartCloud, Amazon EC2 WAS IBM

ISV SI , , POC, IBM

가

4 WAS Rational Application Developer

WAS & Portal . Floating (:)

5 RAD WebSphere Application Server Tools Edition

WAS 3% 가 RAD

WAS Developer Tools for Eclipse 가



3.

DOWN

가 , IBM WAS 50% 가 .

O 1			IBM		
WebLogic Server Enterprise Edition	12	\$315,000	WebSphere Application Server ND	12	\$287,280
Web Cache (Web Tier)	4	\$21,000	WebSphere Edge Cache (included)	4	\$0
3rd party load balancer (hw based)	4	\$42,000	WebSphere Edge WLM (included)	4	\$0
DB Enterprise (for session replication)	4	\$199,500	DB2 UDB (included)	4	\$0
HTTP Server (Web Tier)	8	\$42,000	IBM HTTP Server (included)	8	\$0
Directory Services	4	\$46,200	Tivoli Directory (included)	4	\$0
		\$665,700			\$287,280
		7 5756			3 2692
				4 3064	

* : 1 = 1,138

[IBM WAS ND O Enterprise Edition 가 (5)²]

- <http://www.oracle.com/corporate/pricing/pricelists.html>
<http://www.oracle.com/corporate/pricing/sig.html>
- x86 .가

4.

DOWN

, IBM WAS 1/6 가 .

O 1	Hot cluster	Warm back-up	DR	Cold back-up	가			IBM		
WebLogic Server Enterprise Edition	16	8	8	8	14	54	\$1,417,500	WebSphere Application Server ND	16	\$383,040
Web Cache (Web Tier)	4	2	2	2	4	14	\$73,500	WebSphere Edge Cache (included)	4	\$0
3rd party load balancer (hw based)	4	2	2			8	\$84,000	WebSphere Edge WLM (included)	4	\$0
DB Enterprise (for session replication)	4	0	2	2	3	11	\$548,625	DB2 UDB (included)	4	\$0
HTTP Server (Web Tier)	4	2	2	2	4	14	\$73,500	IBM HTTP Server (included)	4	\$0
Directory Services	4	2	2	2	4	14	\$161,700	Tivoli Directory (included)	4	\$0
							\$2,358,825			\$383,040
							26 8434			4 3590
									22 4844	

* : 1 = 1,138

[(5)]

- 70 PVU IBM x86 O 0.5 core 5 가
- 가 ,
- New license 4 renewal (\$13,300*16 core) + (\$13,300*16 core*20%*4 years)

- <http://www.oracle.com/corporate/pricing/pricelists.html>
<http://www.oracle.com/corporate/pricing/sig.html>
SPECjEnterprise2010

2 IBM WAS
성능 자유선언

IBM WAS

비즈니스를 성공으로 이끌어 주는 압도적인 확장성과 코어 당 성능!
더 빨라진 속도로 효율적이고 신속한 업무를 경험하십시오.



IBM WebSphere Application Server



IBM WAS 15 SPEC

1. IBM WAS, 15

2011년 1월, SPEC(The Standard Performance Evaluation Corporation)

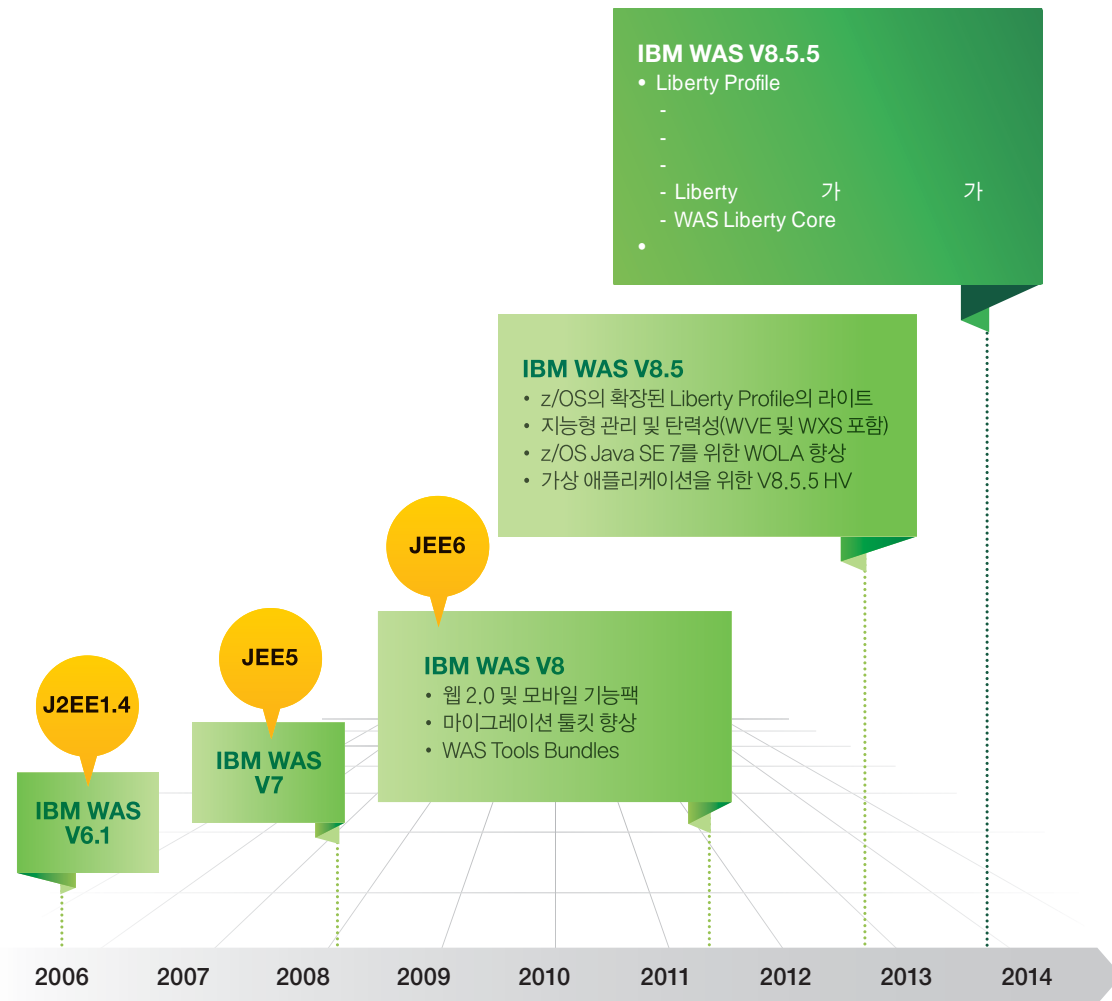
IBM WAS

IBM 1

SPECjEnterprise2010

15,829.86 EjOPS(Enterprise jAppServer

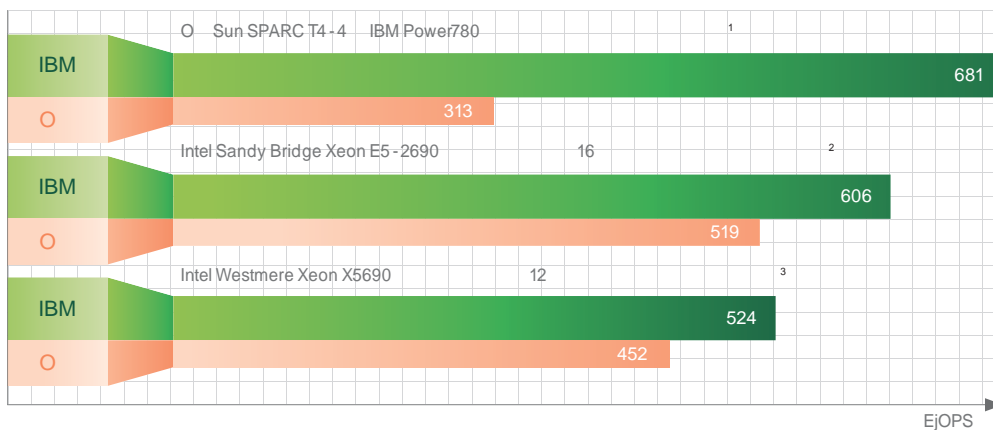
Operations Per Second)



[IBM WAS]



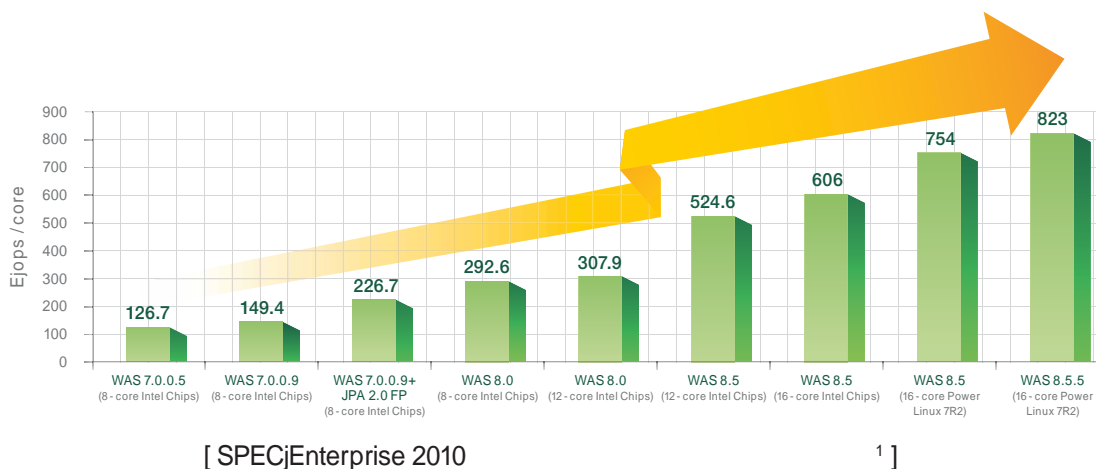
- IBM WAS Intel Sandy Bridge & Westmere 17%
- POWER7 SPARC WebLogic 2



- www.spec.org 2012 4 29 O SUN SPARC T4-4 313 EjOPS/ SPECjEnterprise2010 (SPARC O WLS SPECjEnterprise2010 EjOPS/) IBM Power780 681 EjOPS/ (SPECjEnterprise2010 EJOPS/)
- www.spec.org 2012 11 14 O SUN Fire X4170M3 519.39 EjOPS/ SPECjEnterprise2010 (Sandy Bridge O WLS SPECjEnterprise2010 EjOPS/) IBM WAS 8.5 System x3650 M4 Intel Sandy Bridge EjOPS/ (SPECjEnterprise2010 EJOPS/)
- www.spec.org 2012 4 29 O SUN Blade Server X6270 M2 452.285 EjOPS SPECjEnterprise2010 IBM Websphere HS 22 Blade 524.621 EjOPS/

2.

IBM WAS

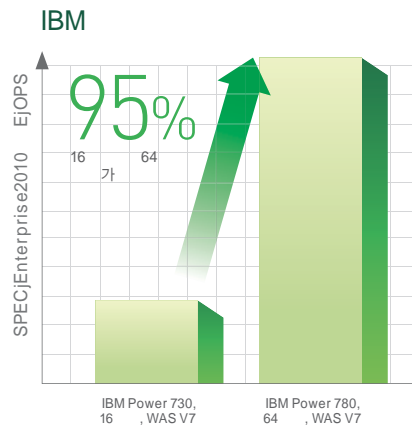
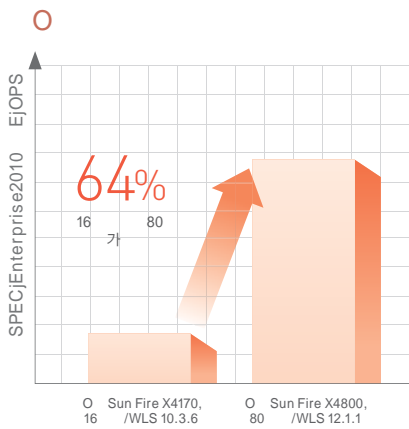


1. 2013 4 26 SPEC <http://www.spec.org/jEnterprise2010/results/jEnterprise2010.html>



3. IBM WAS

IBM
 O 16 80 64%가 가
 64 95% 가 .1 IBM WAS 16

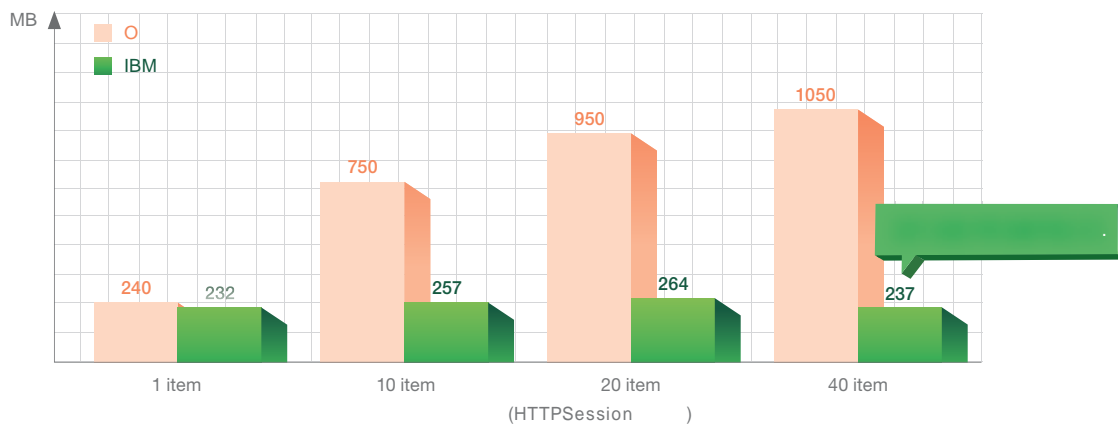


[]

1. SPEC (2012 4 26), <http://www.spec.org/jEnterprise2010/results/jEnterprise2010.html>

4. 가

IBM WAS HTTPSession 4.6 , O



[HTTPSession]

1. IBM SWG CPO, 2011 4



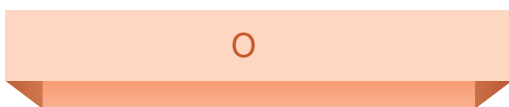
5.

WebLogic

IBM WAS

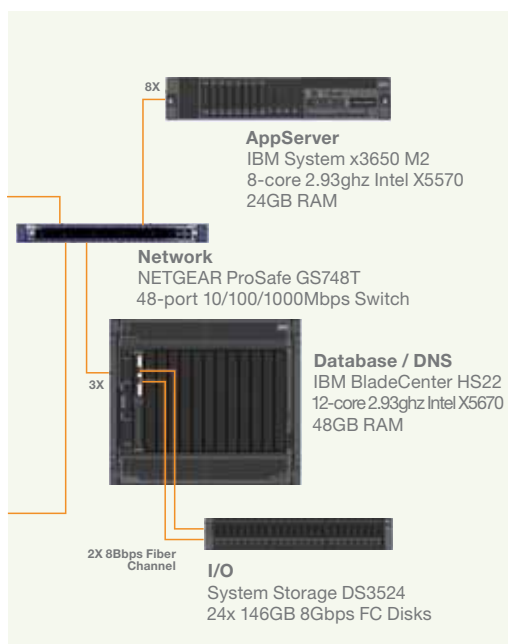
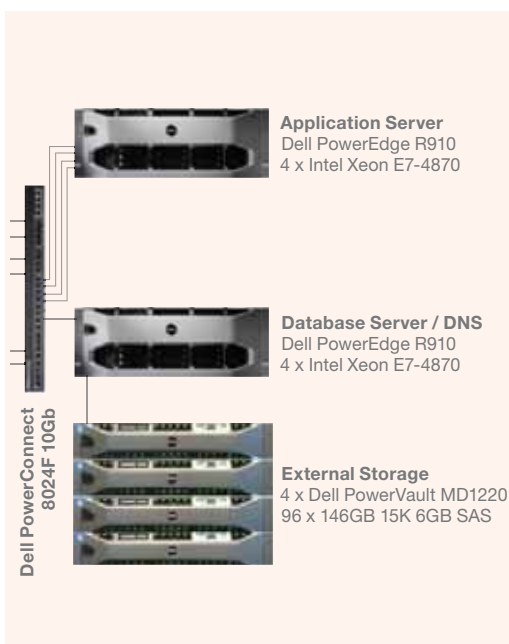
2.95

.1,2



EjOPS : 298.66
: \$181.19
206,194

EjOPS : 292.64
: \$61.41
69,884
* : 1 = 1,138



WebLogic 11g SPECj Publish Topology¹
(: 2011 4)

IBM WebSphere V8 SPECj Publish Topology²
(: 2011 3)

* IBM System x3650 M2

[]

1. <http://www.spec.org/jEnterprise2010/results/res2011q2/jEnterprise2010-20110323-00021.html>
2. <http://www.spec.org/jEnterprise2010/results/res2011q2/jEnterprise2010-20110322-00020.html>

3 IBM WAS
자동화 & 모바일 자유선언

IBM WAS가

문제보다 한발 앞서 대처하는 IBM만의 자동 컴퓨팅 기능!
운영 효율성을 높여주는 지능형 관리로 안심하십시오.



WAS



SMART



IBM WebSphere Application Server



IBM WAS

1.

IBM WAS 가
가

가가 ,

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OS





2. 가 가 가

- 가 , 가
- 가 , 가
- 가 , 가
- 가 , 가
- 가 , 가





3.

IBM WAS , O 가



- 가
- 가
- 가
- 가
- 가



IBM WAS

(ODR)

	WLS EE	WAS ND
[Redacted]		
[Redacted] (: / / 가 / /)		
SLA , , [Redacted]	Exalogic	
[Redacted]		
[Redacted] 가		
CPU [Redacted]		
CPU, , [Redacted]		
HTTP [Redacted]		
[Redacted]	Exalogic	
[Redacted] (IP ,)		
DMZ [Redacted]		1

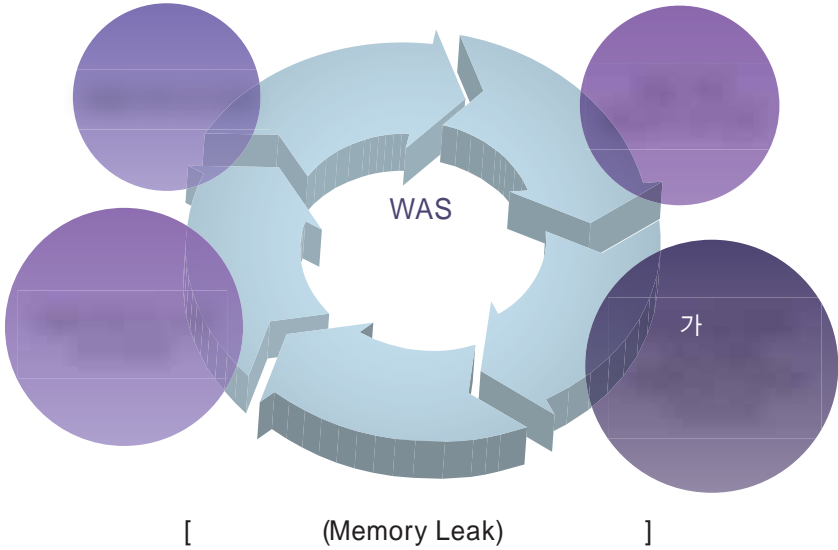
1. IBM WAS ND (1) , (2) DMZ , (3) IBM HTTP Server
http://www14.software.ibm.com/webapp/wsbroker/redirect?version=matt&product=was-nd-iseries&topic=cws_topology



4.

애플리케이션의 메모리 누수 가능성 감소

- WAS의 메모리 사용량을 줄여줍니다.
- WAS의 메모리 사용량을 줄여줍니다.
- WAS의 메모리 사용량을 줄여줍니다.



```

[1] 2012.11.14 10:00:00 [INFO] [com.ibm.wasdev] WAS: WAS의 메모리 사용량을 줄여줍니다.
[2] 2012.11.14 10:00:00 [INFO] [com.ibm.wasdev] WAS: WAS의 메모리 사용량을 줄여줍니다.
[3] 2012.11.14 10:00:00 [INFO] [com.ibm.wasdev] WAS: WAS의 메모리 사용량을 줄여줍니다.
[4] 2012.11.14 10:00:00 [INFO] [com.ibm.wasdev] WAS: WAS의 메모리 사용량을 줄여줍니다.
[5] 2012.11.14 10:00:00 [INFO] [com.ibm.wasdev] WAS: WAS의 메모리 사용량을 줄여줍니다.
[6] 2012.11.14 10:00:00 [INFO] [com.ibm.wasdev] WAS: WAS의 메모리 사용량을 줄여줍니다.
[7] 2012.11.14 10:00:00 [INFO] [com.ibm.wasdev] WAS: WAS의 메모리 사용량을 줄여줍니다.
[8] 2012.11.14 10:00:00 [INFO] [com.ibm.wasdev] WAS: WAS의 메모리 사용량을 줄여줍니다.
[9] 2012.11.14 10:00:00 [INFO] [com.ibm.wasdev] WAS: WAS의 메모리 사용량을 줄여줍니다.
[10] 2012.11.14 10:00:00 [INFO] [com.ibm.wasdev] WAS: WAS의 메모리 사용량을 줄여줍니다.

```

heapdump 2012.11.14 10:00:00 3044.0001.phd

heapdump 2012.11.14 10:00:00 3044.0002.phd

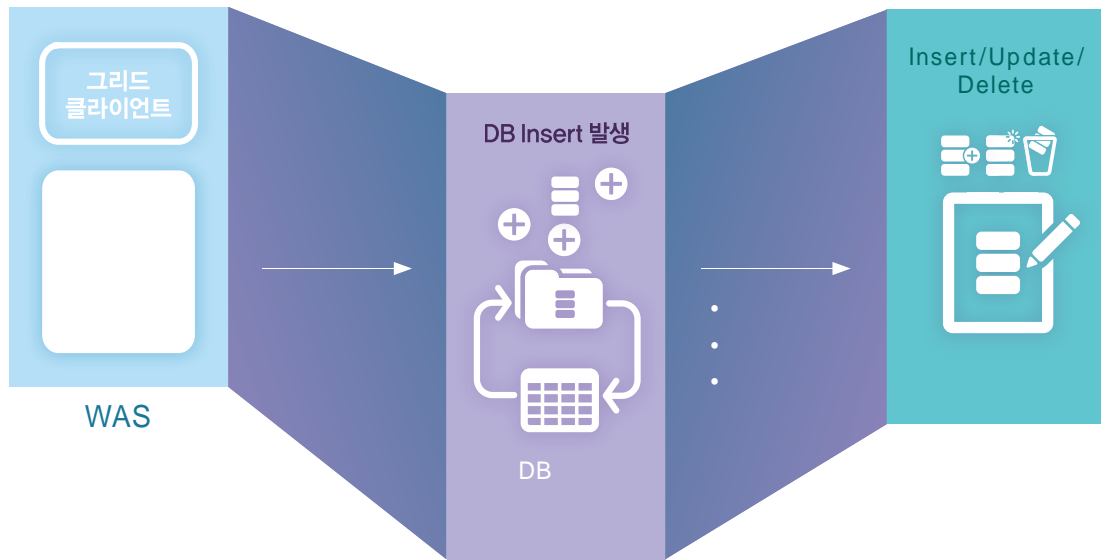
Heap Dump → Heap Dump → Heap Dump





5.

IBM WAS
DB I/O



- 가
- DB
- ,
- (Hit Rate)
- (Insert/Update/Delete)
- ()



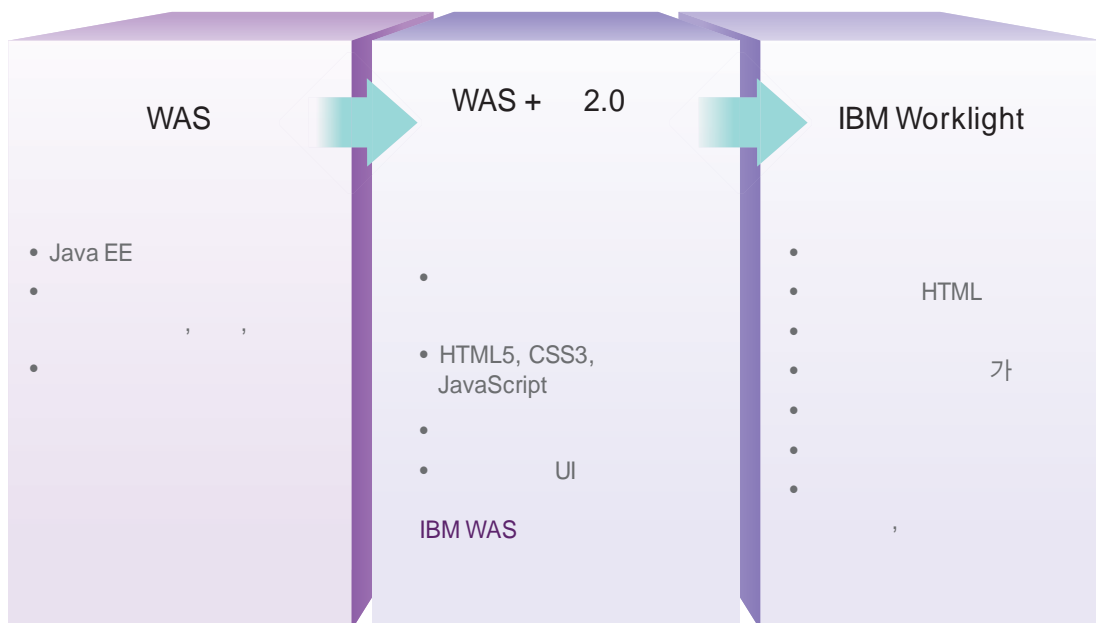
IBM WAS

2.0

WAS

HTML 5, CSS3 JavaScript

iOS,
IBM Worklight



IBM Worklight 가 : www.ibm.com/software/kr/mobile-solutions/worklight



J2EE

IBM WAS



INTERVIEW



2008 J2EE IT가
 J2EE , J2EE IT가
 1,500 , 800

가 J2EE
 1962 7 50 10 ~20
 115 12 , 5 IT가
 . 1980
 1997 (HTS) , J2EE JVM
 , HTS 가 ,
 2003 , , (PoC)
 2007 , (BMT) J2EE
 , J2EE
 Financial Health Partner ' 가
 TPM(Transaction Processing Monitor)





, IBM WAS

!



INTERVIEW

가!

Home plus
홈플러스

IBM WAS

가

가

WebLogic

IBM WAS

IBM WAS

(TCO)

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()-

| | 가 | | 가

(Home plus) 2011 , () ,

가 2009

1995 5 , 2013 134

297 2008 가 가

가 , 2011 가

가 ; 가 ,

(Artience Management) ' WebLogic

가





IBM WebSphere Application Server(IBM WAS)
 IBM WAS TCO 30~50%
 IBM WAS 가 가
 IBM WAS 가 , 99.9% 가
 IBM WAS 가 , MVNO





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467-12

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2013 8

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