JEUS

Market leading web application server product

JEUS is the first Web Application Server in the world to be Java EE 6 Certified. JEUS can quickly and easily implement cloud environments and execute large transactions.

TmaxSoft

JEUS

Java enterprise user solution

JEUS functions as a platform that can develop, operate and execute applications in the web environment, as well as provide diverse services.

JEUS was the first WAS to receive J2EE 1.4, Java EE 5, and Java EE 6, EE 7 certifications, helping TmaxSoft to become globally recognized as a technical leader in Java application development.

JEUS provides a variety of enterprise system functions such as transaction control, session management, and distributed session clustering. JEUS' hierarchical structure maximizes flexibility and extensibility and enables the effective and easy use of business logic. In addition, because JEUS meets the latest full Java EE 6 specifications, JEUS includes an improved lightweight and flexible Java, scalability and developer productivity.

WHY JEUS

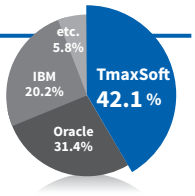
Experience the technology and reliability of the top solution in the local market

JEUS was the first WAS to achieve Java EE 6 and Java EE 7 certifications. JEUS was the first Korean company to be listed by Gartner and was featured in the Gartner Magic Quadrant for six consecutive years. Since then, TmaxSoft has been recognized for its innovative technology and marketability.

JEUS's Competitiveness

Top Local Market share

in 2013, JEUS achieved 42.1% market share and has continued to lead the market since.
[Source:IDC Korea,2014]



First WAS in the World to be Java EE 6 and 7 Certified

JEUS became a global technology leader by becoming the first WAS to achieve Java EE 6 (JEUS 7) and Java EE 7 (JEUS 8) certification.

Java

The First Korean Company to be Listed in Gartner Magic Quadrant

TmaxSoft was featured in Gartner Magic Quadrant, and was the first Korean company to be listed by Gartner. Since then, TmaxSoft has been recognized for its innovative technology and marketability. TmaxSoft has expanded its business to overseas markets, acquiring global clients from both Japan and the U.S.

Gartner

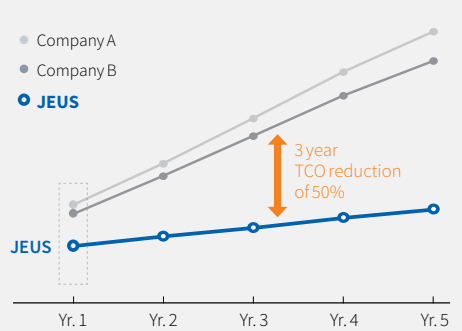
Excellent High-volume Transaction Processing Performance

JEUS integrates with WebtoB, making it possible to support dynamic load balancing while processing massive amounts of data and provide excellent performance.

Groundbreaking TCO reduction

From the moment JEUS is adopted, users can experience a drastic reduction in TCO. In the first three years of ownership, JEUS offers a total cost of ownership (TCO) of up to 50% lower than of competitors.

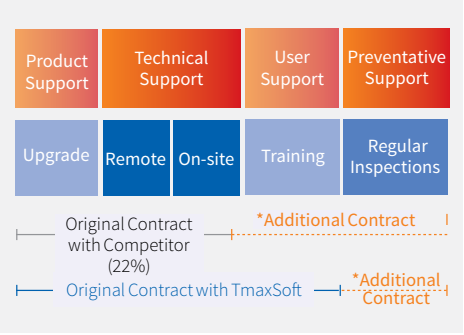
TCO Comparison for Migration to JEUS



* Reduction in TCO varies depending on the hardware CPU configuration

* Reduction in TCO varies depending on the maintenance service features selected: on-site support, training and regular inspection

Maintenance Service Comparison for Migration to JEUS

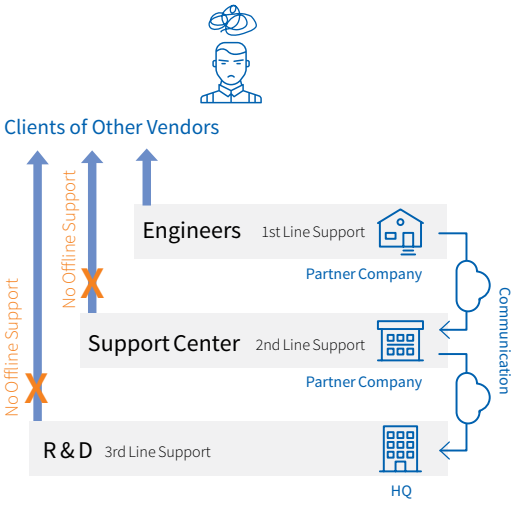


* On-site visitation and training are included in the basic maintenance contract (competitors require an additional contract for these services)

Superior service based on proprietary technology

Through its integrated technical support, TmaxSoft ensures prompt and effective response to any potential technical support issue. Based on proprietary technology, a wide range of services are provided, including the design, development and support of special features for specific projects.

Other Vendors



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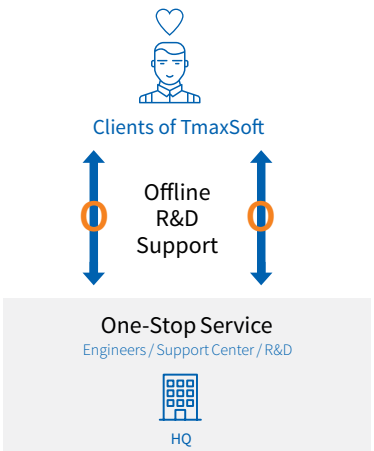


Superior Services

- Offline technical support offered by R&D
- A wide range of prompt technical support
- Single intra-company communication channel for issue handling

KEY BENEFITS

Standard Compliance

Java EE 7 Standard Compliance

Supports the latest specifications such as Servlet 3.1 and EJB 3.2, and complies with the latest programming technologies such as WebSocket and JSON API to provide standardized development methods. Also provides enhanced annotations which reduce the lines of code developers have to write, thereby ensuring high development productivity.

Major Differences and Benefits of Java EE7

Improved Performance

- Fast HTTP processing by supporting HTTP/2 protocol
- Transfer resources to multiple clients from a single server (Server Push)
- Process multiple servlets simultaneously by supporting non-blocking I/O type

Scalability

- Supports software development parallel processing thread
- Supports batch application development

Productivity

- Support the next generation web standard, HTML5 (WebSocket, JSON API support)
- Improved annotation usability

Major Standards by JEUS 7

Category	Detail
Enterprise Application	EJB 3.2
	JMS 2.0
	CDI 1.1
	Bean Validation 1.1
	Managed Beans 1.1
	Dependency Injection 1.1
Web App	Servlet 3.1
	JSP 2.2
Resource	JDBC 4.1

Cloud computing support

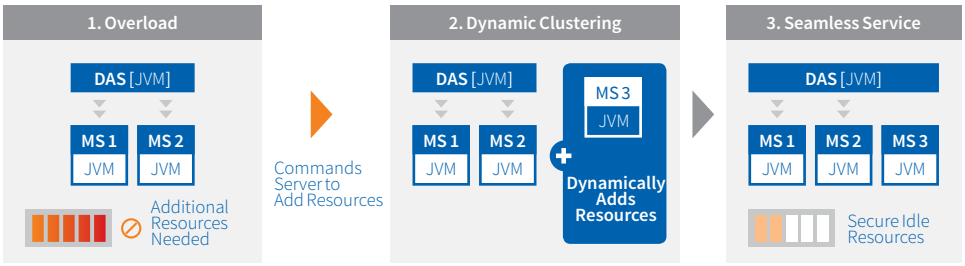
Domain architecture

By introducing an architecture that operates and manages domain-based services, JEUS provides a cloud-based environment with improved performance, usability and scalability.

Dynamic clustering

Dynamic clustering based on the domain architecture is the core technology that supports rapid elasticity, which is required for cloud computing.

Dynamic Clustering



Graceful redeployment

JEUS ensures a seamless service environment even when an application must be redeployed. Requests currently being processed are completed before redeployment begins.

Various functions and optimized performance

Various functions, such as mass transactions and distributed session clusters, are enhanced; performance is optimized; and management convenience is improved through the class dynamic application function (HotSwap) and WebAdmin.

Optimized Performance

- Integrates with WebtoB to support mass transactions
- Enhances the distributed session clustering function
- Optimizes performance with the Light-Weight execution type

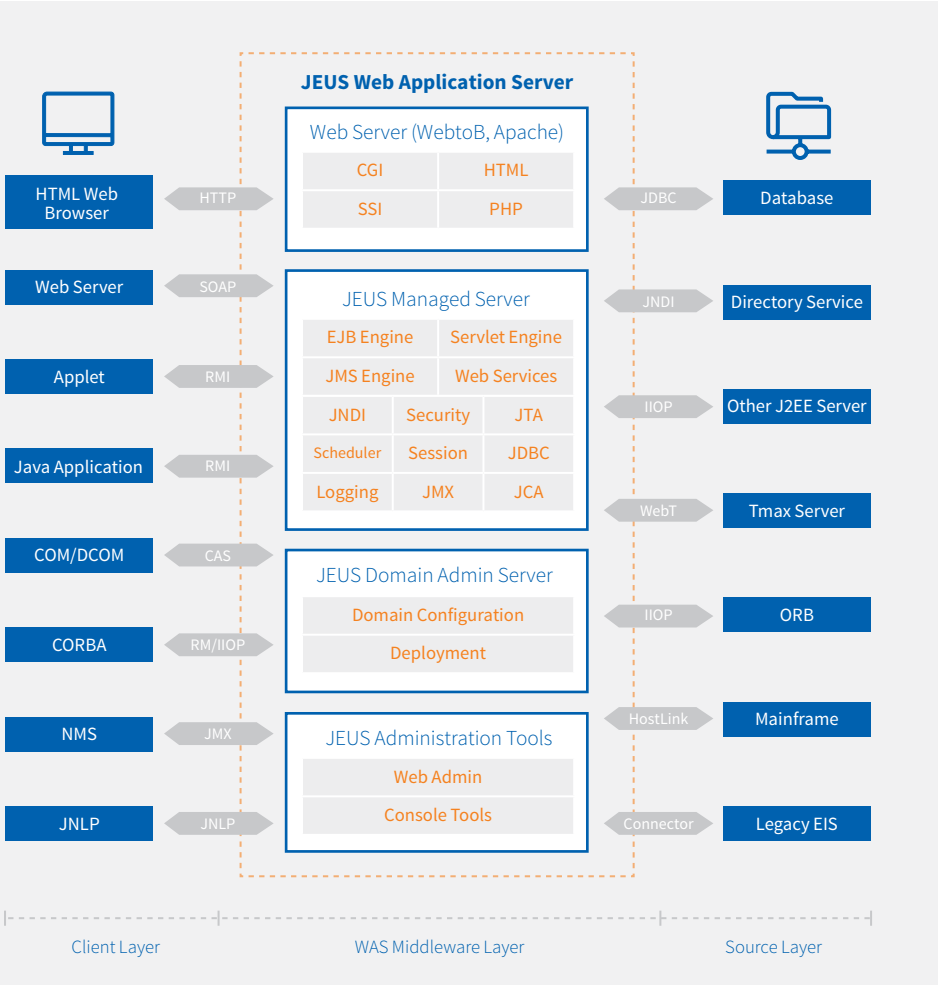
Enhanced Functions

- Supports MQ special functions
- Supports the message bridge function
- Supports web service transactions
- Supports the reverse connection pooling function with WebtoB

Convenient Management

- Enhances WebAdmin and management
- Graceful redeployment
- Dynamic class application (HotSwap)

ARCHITECTURE



Standard compliance

Java EE 6 standard compliance

Supports recent specifications, such as Servlet 3.0 and Dependency Injections, and complies with recent programming technologies, such as Annotations, POJO and REST, to provide standardized development methods. Ensures high development productivity through simple and manageable coding methods.

High availability/stability

Domain architecture

The domain architecture operates and manages services through domains. With this architecture, dynamic expansion is possible for a large-scale environment such as cloud, and performance can be enhanced dramatically due to reduced overhead for server management. Management is unified by separating management functions from service functions, improving usability.

Dynamic clustering

Based on the domain architecture, clusters can be configured dynamically according to application and system changes, enhancing flexibility and scalability.

High performance

Mass transactions

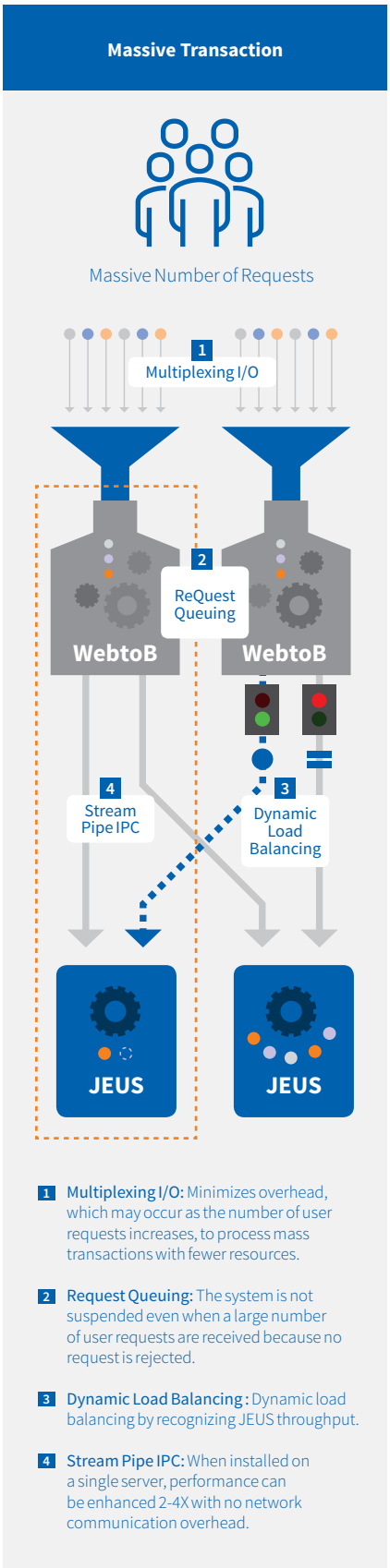
By integrating with WebtoB, the TmaxSoft web server, JEUS provides high performance when processing big data with unique architecture and technologies.

Distributed session cluster

Minimizes health-checks and synchronizations, which may occur continuously between Master and Backup session servers, and applies new communication methods to improve cluster functions.

Light-weight

All engine functions are included in the server so the production environment may become heavy. JEUS adopts the Light-Weight execution method, which makes unused engines Lazy.



1 **Multiplexing I/O:** Minimizes overhead, which may occur as the number of user requests increases, to process mass transactions with fewer resources.

2 **Request Queuing:** The system is not suspended even when a large number of user requests are received because no request is rejected.

3 **Dynamic Load Balancing:** Dynamic load balancing by recognizing JEUS throughput.

4 **Stream Pipe IPC:** When installed on a single server, performance can be enhanced 2-4X with no network communication overhead.

Features/convenience

Graceful redeployment

When an application needs to be redeployed during operation, all requests currently being processed are completed before redeployment begins. This guarantees a continuous service environment and minimizes downtime.

Hot swap

The hot swap function, which can redefine Java classes without reloading the class loader, is provided by using the JDK instrumentation package. The build and deployment phase in the traditional Java EE development lifecycle is shortened. Therefore, rapid testing can be executed, and the development phase can be shortened.

WebAdmin

Maximizes the user experience in order to ease management of the domain-based JEUS system. Also, accessibility was improved through UI design changes, improving the navigation structure and performance.

Specialized MQ function

Supports the message order guarantee and sorting functions, which are not supported in the JMS standard specification, to satisfy various business requirements.

Message bridge

Message bridge is a function that connects two different MQs (JMS Servers) and increases the interoperability and flexibility between systems within a company.

Web service transaction

By supporting the OASIS web service standard specification, such as WS-Coordination and WS Automic Transaction, heterogeneous transactions can be performed.

Reverse connection pooling

Provides reverse connection pooling, which allows a connection between WebtoB and JEUS to be established without opening a port in a firewall.

TmaxSoft

GLOBAL HQ

TmaxSoft, Inc.

230 W. Monroe St., Ste. 1950
Chicago, Illinois 60606

TEL : +1.312.525.8330
Email : info@tmaxsoft.com
tmaxsoft.com

Korea Group HQ and R&D Centre

TmaxTower 45, Jeongjail-ro,
Bundang-gu, Seongnam-si,
Gyeonggi-do, Korea 13613

TEL : +82.31.8018.1000

For all office locations, visit **www.tmaxsoft.com/about/locations**