外文文献原文

Concerning the J2 EEs comparison of the Microsoft.NET and the Sun
Brief   introduction

As for the Java2 business enterprise version(J2EETM) of[with] the .NET technique and the Sun company compare, many customers all want to understand the standpoint of Microsoft company.Because of a few following reason, .NET and JEE are aer trifle and tough: 1)Generally speaking, the Framework of the Windows.NET is through with meticulous care definite technique in the Microsoft Windows system part of, but J2 EE then a written form of agreement.If don't limit at an academic discussion, in other words, be in several applied terrace up discuss this topic of the business is worth, comparing J2 EEs and a physically applied tool so and only are unmeaningful. This physically applied tool such as:The WebSphere application of the IBM company service, the BEA WebLogic serves or the other is similar to of applied service.

To want to get decent analysis only carry on the comparison of of product, for example the comparison development efficiency.Use J2EEs, the developer needs to establish 4 modules to build up an EJB of one.See superficially, this only is for develop an efficiency to pay of some price just.But Java some development tools concealed some development techniques, lowering an efficiency.Another example, the J2EEs the very complicated and difficult solution of the deployment system, the type imbeds JAR, but the JAR imbed WAR, the WAR imbeds EAR again.But to some extent, some tools can complete deployment progress automatically.The above-mentioned circumstance causes to decide an applied service business the development efficiency of the key factor of the value to have difference because of different sale company, this is mainly decided by an efficiency of developing the tool

2) Concerning the problem of"the J2EEs whole star troops".When compare.NET and J2 EEs all modules gather, this problem produced.For example, may run into a following problem while analyzing to consider a development efficiency, the product of A company, the applied service procedure of B company, the safe rule of C company, the D company simple gearing, E company decision price.All these all probably with J2 the EEs are relevant.Gather above-mentioned se characteristic attributeses, the J2 EE tool looks to still go:Price cheapness, install simple, the speed is quick, the safety is high, being extremely high to save soon and slowly, and having good development tool, etc..But these are all irrelevant-because of impossibly acquiring all characteristics in the meantime.In fact, a can get an accurate characteristic.Because these products come from a different company, it is impossible for them to works together closely.For example, the tool of IBM company can't work in the meantime with the WebLogic service of BEA company, because the latter is the Oracle company for using to save engine slowly, but the Oracle engine can't acquire with the Iona price, etc. such as this kind.People sometimes meeting the mistake is a comparative foundation"J2 EEs all characteristics gather";But this isn't reasonable.What customer needs knows one by one, product's comparison to product.

3)comparison.NET and J2 EEs but neglect other application platforms are very important.J2 EEs are the norm which pays attention to apply a procedure server only.But great majority customer to following these are interested in:The applied procedure server, port, business server and the analysis tool, database, separation data and liquidity, the information agency, apply procedure to gather, capacity management, the intelligence customer carries an etc..Is the response which requests to the customer, these factors should unify a work, all main sale companies should promote integrated terrace.For example Microsoft terrace;

(include the customer of Windows system to carry with server, the Framework of the Windows.NET, the Framework of the Visual Studio.NET, with Microsoft business enterprise server)BEA WebLogic terrace;The WebSphere terrace of IBM company;Oracle terrace;There is also a terrace of Sun company.The problem that energy's ising concentrated will cause a similar"forest and forest" relate to in a hard nut to crack(application server) full general of these terraces.Such of 1 are for instance suitable, but it should drive   in   consideration   of   a   vaster   terrace   of   a   part   of. In the eyes of the Microsoft, compared with those not familiar warnings, these are the Framework of the Windows.NET and order according to the decisive different and similar of the product of J2 EEs.

The   likeness   orders
1) the Framework of the Windows.NET and Javas all have a is controled of circulate environment, it converts source code not only in the center language, and will these in the center the language edit and translate cost ground and can carry out a code.Two environments all support a fragment sorting, dynamic state   to   add   to   carry   and   handle   unusually...etc..
2).NET and Javas all initiate with support according to the design of module, have another 态 and inherit and connect a people etc., also provide a foundation database to carry out I/O, XML processing, take a database of having the conjunction pond to connect go into, text originally operation and web page script write   etc..
3) both all pass by special sale the company's product to carry on releasing.The J2 EE norm oneself is "sale neutral" of, but actually those follow the products of[with] norm have to carry out the characteristic out of the norm, for example management characteristic or launch characteristic.Therefore, these products must are a rightness in response to the particular sale company.For example the Windows and the .NET system of Microsoft company.

4) the Framework of the Windows.NET with according to the products of J2 EEs all and the third square's product works together.For example, at after carry database realm, .NET and can visit storage's DB2, Oracle in Microsoft SQL server, IBM according to the applied procedure of J2 EEs, the data in the Informix, Sybase etc. server.Raise again an example, .NET with can visit popular information middle an equipments according to the system of J2 EEs, such as the MSMQ of the Microsoft or the MQSeries of the IBM.Also include document system equally, the third square develop tool, code edition system, fire wall etc..

Differentia
1)   principle
J2 EEs are a single terraces of language, paying attention to a cross-platform can transplant sex.This means that make use of J2 EE, the design project can use several operate systems among them of 1, but the developer have to accept a training concerning Java.The .NET frame that the Microsoft provides is one part of Windows system.The developer can use various languages, and the efficiency is very high but need not carry on 1 kind to retrain lately and phonetically.But the .NET Framework is one part of Windows system.

2)   width   with   wide   degree
a. The .NET includes code, product, tool and frame, make use of a network a top is all calculation resourceses, include equipments, personal computer and server etc..The .NET makes all of these

equipmentses can negotiate all conjunctions together through standard communication, namely so-called"XML WEB service".(The .NET application procedure can link with whichever system, regardless the system use what language peace set even is J2 EEses.Wanting ～only the target system acts according to the service standard of XML WEB.)The .NET model is extensively of distribute type calculation, it exchanges an information also with many communications with mutual codes.
b. J2EEs are the models which faces to a server, it doesn't develop the intelligence and the calculation function of network.Total of to say, support server's carrying according to product of J2 EEs of applied procedure.J2EEs generally PC the browser which see make is a HTML, but think these equipmentses is a dumb terminal.As for the XML WEB serves, negotiating the calculation of standard support distribute type existingly, the J2 EE norm of the existing edition didn't problem which speaks of XML WEB a service, but according to the product of J2 EEs at increase additional equip after can also support XML Web a service.However, increase additional device to also mean to there is strict restriction.For example, also don't know whether existing norm allow EJB to adjust to use a Web service or not, although Web the module of the service can adjust to use some EJB procedures.

3) weave the consistency of distance model
The Framework of the Windows.NET provided 1 across server, PC and other equipments of consistent of, face to the model of module.But J2 the EEs provide EJB as the module model that the server carries;Carry for the customer or the native module establishment open of use the API that the Java writes completely;Provide servlet for the customer interface;Also for move an equipments to provide a kind of another different model.Even there are also at least 3 kinds of obvious and different sub- models in the EJB inner part, each seed models contain different language definition.

Microsoft the .NET plait distance model and Java platform compare, carrying in various server and the customer up have better consistency.J2 SEs is according to open of completely write with the Java of API, but J2 EE is according to the Java servlet and the EJB. DH Brown,2002 July

4) function
a. The Framework of the Windows.NET provides a type that can identify edition to add to carry a machine, this developer which means applied procedure's canning insure the applied procedure that they develop can still circulate under the sistuation that a part of codes have been already renewed.But Java and J2 EEs(existing of) have no type that the edition identifies to add to carry a machine, this means developer and managing person and can't promise a code to be carried out is right.Or say, developer can depend to control breath to promise this.

b. The Framework of the Windows.NET showed the type of the language level an attribute-this makes the plait distance is more simple.For example, using a simple attribute can symbolize .NET module in the source code for handle mode.Say perhaps, a .NET module and XML string line's turning can be defined in an attribute.This mechanism simplified much plait distance mission consumedly.But the Java don't show the type of language layer attribute, although Sun company in consideration of want to modify Java language to change present condition.The this kind of variety estimate then can carry out for the first time within 23 years.
c. The .NET still supports a separation data interview, this mainly useds for in the ambulation equipments

or occasionally allied situation of net to circulate of applied procedure.Data ability drive off-line operation, immediately after again with start data afresh synchronous.But is the J2 EEs still a J2s in spite of SE currently all the nonsupport separation data visit, needing the J2 EE developer of this function oneself have to write "plumbing code".

d.In order to build up according to the customer interface of network, the Framework of the Windows.NET provides according to the model of affairs, these model similar in popular of the intelligence customer in the Visual Basic carry model.The model of ASP.NET makes establishment, release and support 1 to become more easy according to the customer interface of network.With it what formation contrast BE, J2 EEs are in the JSP nonsupport thus of model.Have some the third square expanded procedure part to make up these functions, but the their function and simple can't compare with ASP.NET.Conduct and actions is a J2 EEs additional procedure of recommendation, the Java Server Faces may attain this.But this additional procedure didn't include at J2 EEs 1.4 editionses before.But want to acquire the sale company's support, then need again at least for a year.
e. J2 EEs support a data with related object's reflecting to be like model, it is called EJB Entity Beans.So is for allowing developer more easily from a related object model of the database establishment.However, weave the distance realization to this viewpoint but want to face a following problem actually:

Ⅰ.Use sex easily:When those are well know and regular definition, is supported extensively of the structure turn data interaction of searching the language(SQL) and developer, the developer have to give them up, but use a is called EJBQL of weak define to search language.And the SQL is look alike, the EJBQL function isn't strong(for example, in the existing norm, it has no an ORDER BY language sentence, so the developer can not use the SQL of particular database to expand), and its language righteousness also has no quilt regular definition.Still have, build up contact between the object with subsidiary relation very difficult, and carry after the object and XML and of the data translation of move control.

Ⅱ.Function:Is still an unknown according to the function of EJB system.DO not provide public basis.The customer reflects, getting of the function deviated Entity Beans far and far, and changed direction a more direct data interview strategy.This is EJB Entity the Beans wasn't used extensively of a key factor. In the Framework of the Windows.NET, the data interview gathers a comparison according to the data.The data gathered to keep related statures of the data to gather, it was described by 1 or several SQL search language sentence.The data of data concentration may keep decisive contact, and the direct logarithms of the developer ability according to carry on an operation, ability the type that the data convert a XML format and operate last time, can use standard SQL percolation data etc..To sum it up, opposite in EJB Entity Beans, the data of.NET gathers model to provide 1 to enrich more and in brief acquaint with of path.

5)   simple
A. Install:For J2 EE, install the document of XML format which is acquired by the deployment description's information, they and physically carry out of the company is obviously distinct with the logic code.This kind of method contain a lot of problems.The first, in consideration of particular dollar data, the change in the change and the dollar data in some codes is interdependent.Two synchronizations of independence documents request to produce a mistake probably.The second, in consideration of apply the dollar of procedure layer data, wasn't able to inherit the path that a dollar data arrives another procedure from a procedure in the J2 the EEs.With the J2 EE dissimilarity, the Windows.NET frame included this

function, making can increase an attribute toward the type directly in the source code, so will not produce the first problem.The dollar data model in the Windows.NET allows customer's oneself to increase to expand procedure, so the developer can write with use an own attribute.For installing an exterior dollar data in the Windows.NET frame, this function is included in the rating system of installing the document, inheritting an attribute in the its ability paternal uncle system, so each document would be very small, it record change of enactment.This second problem which avoids the J2 EE model

B. The database links the .NET Framework of the pond Windows in, according to need to be built up automatically and manage these ponds.But in the J2 EE model, the conjunction pond has to be installed definitely with management.
C. The service of XML Web:Build up a XML Web a service to be like in the type to increase an attribute in the .NET so simple.Some also want in the Java to imitate this function according to the product of J2 EEs, the .NET provides a more simple method to build up the XML Web that can be operated together by both parties with usage a service.
D. Deployment:Deploy in the .NET an application procedure, managing person's needs to copy a document.But in the J2 the EEs, managing person have to will a lot of edit and translate document and JAR, WAR and EAR to bind to settle, then untie in a particular server deployment the tool and circulate them, copy immediately after result file.This treads deployment process more to mean typical editor/edit and translate/adjust to try circulation is prolonged consumedly.In addition, because the dynamic state adds to carry some varieties in a type of process, renewing the server which usually needs to re- start EEs according to the J2 of a simple type.

Although many company choice Javas are the strategy terraces of business enterprise development, their usage be subjected to a bar because of the J2 EEs complexity.Meta Group, August

6)   cost
A. For the sake of the deployment, circulate in the Windows.NET Framework outside write of the server carry of the applied procedure need a permission of Windows Server, this compares three business servers which follow J2 EEs in of whichever admit a lot of all cheap.The difference which includes the system deployment of four network servers expenses can attain few USD 100,000s.For example, Microsoft Windows Server 2003(business enterprise version)1 the permission expenses of four machine system(I am each to have four pcs)s not over 16, USD 000.(this considered to retail a factor)But WebSphere Application Server 5.0 the permission expenses of each set pc reach to in the same system 12, USD 000, this wants totally 192, USD 000.This ratio is 12-1.Majority according to the prices of the procedure server of the business application of J2 EEs are all similar to this. (This supposed function equality.However actually the report of Middleware company October,2002 show, a builds up on the Framework of the Windows.NET of apply the efficiency of procedure is the establishment spreads in the same of according to J2 EE of the procedure of server of 2-400%.So the actually pricing dvantage is far high in 12-1)have a lot of free, open a source application server according to J2 EEs, but they have no the trademark of J2 EEs-compliants.Return a problem concerning the document and the product:Need the comparison of of product to discuss to adopt to admit expenses.

B. Is also more cheap for the expenses that the Framework of the Windows.NET develops tool.The Visual Studio.NET is the integration of the .NET development tool, its permission expenses is consumedly low the EE sells a company to draw up in the commercial J2 of the expenses of development tool.And in the industry, the best development tool of.NET conduct and actions of the Visual Studio won a series of of big prize.The customers who once evaluated Visual Studio .NET with its rival all say that opposite in the best Java tool, the .NET development of the Visual Studio's efficiency is higher.(See Giga, 2002 June)

C. Use development and maintenance expenses of the Framework of the Windows.NET much lower.The expert thinks the permission expenses isn't a biggest expenditure of item.Software development and maintenance of typical model share 50-80% of the item total expenses(Glass, 2002;Kemerer, 1995;Gartner, 2001).The research of Middleware company October,2002 expresses that previous in the Framework of the Windows.NET give settle of applied the procedure develop opposite in J2 EE, need 1/3 of code.The code is more little and then means a maintenance more simple.

Summary

Obvious:The product choice of the exactitude's making policy impossibly doesn't evaluate an actual product.Contrasting Server and the Framework of the Windows.NET of the Microsoft Windows and J2 EEs(the norm of the Sun company) is worthy, but such of the valuation of diligent want for actual product.However,   still   can   from   in   get   some   conclusions:
1) J2 the EEs emerged 1 to take server as the principle of center, and put center of gravity in the EJB to reach agreement "the related object reflect to be like a problem" definitely up.J2 EEs have already fallen behind in supporting XML and Web's serving.The principle of the Framework of the Windows.NET then passes agreement standard and XML and make use of a server and connect an and equipments well of of large-scale distribute type calculation.

(2) Opposite in write in the procedure of the Framework of the Windows.NET, the J2 EE application procedure   needs   more   codes   to   carry   out   same   mission.
3) the J2 EEs management and deployment model seem a host model more, it pays attention to protection and limits a rare calculation resources, pressing ratio usage.But the Windows.NET Framework emerge the principle of is compute a resources is cheap, and will more cheap, but deploy an ability will keep greatly part   of   expensive   resourceses.
In fine, if an item's requesting has to win election to choose 1 as to deploy terrace from a few operate systems, but take no account of development cost;Compulsory(and re- train training) the developer use single plait distance language to carry out this item, thus the edition problem of code no longer important;Important is supply and limit an opposite cheap calculation resources;Use so expensive and complicated of develop and support tool to seem to be in clear and ordered pattern;And write more codes to also   have   it   the   superiority-   J2   EEs   are   perhaps   a   quite   good   choices. However, if the business target's manifestation's superior development efficiency for turning is important;Cheap sex price than meet a request more;Acquire through the standard of[with] communication agreement of can the operability has higher value mutually;A great deal of support is important according to the applied procedure of the interface and the applied procedure of the ambulation;Expanding sex easily is easilymore interested in-such of words, building up the application procedure of the Windows Server of the Framework of a Windows.NET is a right choice.