

The WebSphere XD Value Matrix

General Question	Leading Question	Market Need/Pain	WebSphere Delivers Value	WebSphere Lets You...	Features
Describe your capacity planning process and the tools you use to implement that process.	Do you see times when you have some applications running short of machine resources while other applications' resources are relatively idle? Would it be useful if you could switch a machine or a group of machines quickly from one task to another, and then back again, when needed?	Static environment does not allow sharing of resources across application clusters and requires provisioning for peak loads and worst case scenarios, which leads to underutilized machines	Breaks the tie between application clusters and machines which can now be shared amongst applications, which optimizes resource utilization and simplifies overall deployment	Share resources across application server pools	Resource pooling: - Node Group – a pool of nodes with common set of capabilities and properties. - Dynamic Cluster – a set of virtual servers, like a static cluster, but the number and placement of members varies over time. Applications are associated with Dynamic Clusters.
Describe your contingency plan for seasonal or other business-related changes in demand for your applications, and the tools you use to monitor your success in this area.	Do you have a good way to predict “spike” and “knee” effects in demand for applications? Would it be useful if this process could be suggested by the software when needed, and even executed autonomically by the software?	Unable to predict and plan for application demand	Dynamically adjusts application resources by adding or removing application instances as needed, depending on demand	Scale for unplanned/unpredictable application demand	Application Placement: Makes use of performance data and dynamic cluster definitions in order to compute the optimal allocation of available resources to running applications.
Describe your scalability and availability policy and process, and the tools you use to implement them.	Do have an effective scalability plan that lets you bring all the resources of your IT operation to bear on an issue when needed? Would it be useful if the software could even install the operating system and configure it?	Unable to scale beyond defined application server environment; unable to leverage datacenter or enterprise-wide resources as needed	Dynamically expands or contracts resource pools by adding to them, removing from them, or repurposing resources in them, when deemed necessary by monitoring logic	Scale beyond defined application server environment	Autonomic Provisioning through Tivoli Intelligent Orchestrator: When existing server resources are not able to meet business goals, XD can invoke TIO to provision additional servers into the WebSphere cell.

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Describe how you create service level agreements and what tools you use to measure them.	Do you have an effective way to classify users and applications according to their importance to the organization, to set appropriate service level agreements and monitor your success in meeting them?	Unable to define and monitor application services levels according to business requirements	Differentiate application service levels with operational policies that reflect application performance goals and relative importance to the organization. Monitor and report in real time how the application is performing against defined business goals.	Differentiate application services levels according to business requirements	Operational Policies provide the ability to differentiate applications according to their perceived level of importance or business value.
Describe how you make sure your most important business applications and their users get the resources they need.	Do you have an effective way to give some users better service than others, based on business needs, and monitor how well this actually works?	Unable to deliver guaranteed Quality of Service for business critical applications	User requests are classified, prioritized, queued and routed to servers based on application operational policies (which are tied to business goals)	Deliver guaranteed Quality of Service for business critical applications and monitor compliance with SLAs.	On Demand Router performs: - Classification and Prioritization of workload - Queuing and Flow Control (1 queue per service class) - Routing and Load Balancing
Describe how you allocate workload to servers of different capacity, in order to use your resources in the most efficient way.	Do you have an effective way of allocating workload to servers based on their ability to handle it, and monitoring this allocation as needed?	No awareness of actual server performance since application workload is directed to servers in a fixed sequence using static server weights	Server weights (and associated workload routing) are dynamically adjusted based on the actual server performance, resulting in optimal application throughput and response time.	Balance workload based on actual performance of servers	Dynamic Workload Management: Enables the system to monitor the workload on each server in a cluster and automatically route incoming requests to the server that is in the best position to process the request.

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Describe how you manage your applications at the topmost level, in the “Mission Control” room.	Do you have a way of visualizing your entire application environment “at-a-glance” to allow you to focus immediately on problems.	Difficulty getting a handle on a complex operations without human intensive monitoring and management	An aggregated view of application runtime environment is an efficient way to monitor application server runtime behavior and health (what is running where), resulting in a more stable operation	Get an meaningful aggregate view of the application runtime environment that lets you see immediately if anything requires your attention.	Runtime Operations Tree Map: Provides a visual summary view of entire environment, a starting Point that can used to drill down to more specialized views.
Describe how you measure each application against its business goals.	Do you have a way of charting “expected” vs “actual” for a given application’s performance?	Insufficient information is provided about how applications are performing against business goals	Visual operational console provides charting of application performance against business goals	Get an application centric view of performance against business goals	Runtime Operations Charting: provides customizable charting of application performance vs goals and performance metrics from the On Demand Router.
Describe how you generate and handle alerts when application problems occur.	Do you have a way of generating alerts from applications when they are not meeting their business goals?	Need to know when action is required to maintain optimal runtime environment	Alerts are provided when intervention is required in order to deliver on business goals	Get alerts when intervention is required – reduce human intensive monitoring and management	Runtime Operations Event Viewer: shows areas that are in progress of change or require action, with links to charting and other detailed views.
Describe how you handle multiple concurrent operational tasks with a limited staff resource.	Do you have a way of automating some tasks if you can be sure that the automation mechanism actually makes the right decision almost every time.	Far too many tasks need operator decision and action. Many of these tasks could be done by the software.	Introduce autonomics in a controlled, gradual way that builds trust over time. Supervisory mode provides a first step towards autonomic operation, without losing control. This offers a way to experiment with autonomics in an advisory, continuous improvement fashion (without relying too much on “magic” rules)	Have the option to let the software suggest an action, and then implement it when you agree, and eventually allow the software to implement the action autonomically.	Three modes of operation are provided: manual, supervised, and on demand

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Describe what you see as your current high-end scalability issues, and how you address those issues.	Do you have a way of organizing and structuring your applications and data access layer in a way that will address issues of high-end application and database scalability?	Applications with huge shared databases and high transaction rates often “max out” the capabilities of a database manager. Simply adding extra boxes doesn’t help. High write rate OLTP applications need linear scaling – without the shared database becoming a bottleneck	Allows applications to be designed to divide logic and data into partitions, for example by ranges of customer numbers. This can be mapped to partitions in servers and in databases. This way, clients can build OLTP systems which are both linearly scalable and very fast.	Achieve linear scalability for high write rate OLTP applications.	WebSphere Partitioning Facility / WebSphere Application Partitioning pattern: WPF allows for the partitioning of applications and data, improving database as well as in-memory caching and workload management – leading to improved performance and scalability.
What level of availability do you expect from your e-business environment? What level of availability do you actually get? What level of availability do you require?	Do you have a way to monitor and detect application failures, and when they occur, to dispatch critical applications to execute on another system?	J2EE application servers have many benefits but they are still not as reliable as classic OLTP systems. High-end OLTP requires continuous uptime and faster application recovery time upon failure	High availability services provide class 5 (99.999%) availability for partitioned applications. Fast application recovery time (seconds vs. minutes) with minimal development investment	Achieve mainframe level reliability for high-end OLTP (class 5 availability)	High Availability Services for Partitioned Applications: Offers quick application recovery. The HA Manager can rapidly detect a particular application level failure and rapidly dispatch the services to another member of the cluster to take over for that failing service.
Describe your current activity in development of legacy OLTP systems? How critical is legacy OLTP to your business? What level of skill is required? What level of skill do you actually have in-house? Do you contract to third parties?	Do you have a long-term plan to sunset legacy OLTP systems? How important is it for you to integrate this plan with your e-business applications plan?	OLTP development and maintenance skill is rare and expensive. Need to leverage existing J2EE skills	Unified environment allows you to do OLTP on Java, at lower cost and you can leverage existing Java skills.	Deliver OLTP with less skill and lower cost	The ability to easily build very highly available, linearly scalable OLTP applications using J2EE developers and to be able to deploy and manage in a unified environment