

# Sun Java Implementation Plan

## Project Scope

The following plan will briefly outline the background of Sun Microsystems and previous Java related projects and will then outline how to transition the enterprise toward acceptance of the Java platform by addressing issues of communication, incentives and rewards, and new company architectures. This plan will outline the steps necessary to implement the recommendations.

## Project Background

Sun Microsystems was founded in 1982 and in 1996 had operations in 180 countries and had nearly 20,000 employees and revenues of about \$7 billion. (Harvard, 1997: 2) In 1996 Sun developed a software language called "Java" that made it possible to run PC-like applications on any hardware platform and any software operating system encouraged the processing and storage of data on central servers versus workstations. By the end of July, Ann Wondolowski, Sun's Java program director was able to successfully roll out early versions of Sun's new network computer the JavaStations to 3,000 company employees.

Sun is not an organization that spends a great deal of time planning it rather will develop guidelines and implement them as the products are developed. Deagman illustrated this philosophy when he stated: "We shorten cycle times by doing a lot of overlap between planning, development, testing and deployment. We don't implement sequentially and we don't plan too much. We make decision long before all the facts are in." This type of culture speaks to converting the business applications and the deployment of company wide standards in a modular yet simultaneous fashion with one planning process beginning as the other ends.

## Business Case

There are various reasons that CEO Scott McNealy and other senior managers outlined as the foundation for this implementation plan. Sun senior manager were interested in moving the entire enterprise into a networked computing platform both to reap the benefits of such a structure and to prove to their customers that the Java platform was a worth investment.

The benefits of such a structure include:

- Network Complexity- Java enables the enterprise to install, update and maintain software via a centralized server and can pave the way for a centralized virtual training area.
- Cost of ownership- by storing applications and data files on servers, individuals will need less powerful workstations dropping the total annual cost of a PC installation from \$11,900 to about \$2,500. (Harvard, 1997: 11)
- Security- Java has intrinsic security features installed within the code in relation to memory protection, encryption and run-time verification that will have widespread benefits.
- Application Development, Reliability and Distribution- Java code is reusable and Sun planned on cutting its application development time significantly as well as allows the applications to run regardless of the platforms they ran on.

### **Project Vision**

Typically an implementation of this magnitude would require a visioning and goals statement development, but the overarching goal and vision for Java use within Sun has been previously developed during the Java workstations deployment. The vision is largely founded upon corporate cultures that have been active since Sun's establishment. "Since the company's birth, its mantra has been 'The network is the computer'", therefore the implementation of Java code as the company's underlying infrastructure is well founded within the corporate culture that focuses on using networks (and the Internet) to increase efficiency and use applications that are independent of platform systems. However, their workshops do need to be run that address the business user and customer. This implementation plan picks up in mid-deployment of the Java conversion process. This plan assumes that the prototyping of business software has been completed, and the customization is underway.

### **Assumptions**

This plan assumes that the implementation team has already gathered and analyzed user and system requirements for the development of the Java based business software. This plan also assumes that the vision for the implementation of the Java workstations is overarching and was developed as an overall vision for the workstation, java infrastructure development and java business software development objectives.

## Goals, Objectives & Measures

This plan addresses the following goals and objectives:

### **Goal 1:        Develop Java Software and Infrastructure**

-Convert Sun infrastructure and applications to a Java based and supported enterprise within one year.

- Objectives:**
- 1.1** – Establish project team with clear responsibilities
  - 1.2**– Pilot new Java based software
  - 1.3**– Evaluate Pilot
  - 1.4** –Deploy software solution and establish training on new software for employees

**Measures:** All Business Applications are Java based and used by 100% of the employees

### **Goal 2:        Establish Java Development Standards**

Standards for the use and development of Java products are developed and used by all employees

- Objectives:**
- 2.1** - Develop Architectural Vision and Blueprint for new Java based development
  - 2.2** - Established standards related to sharing code and developing applets
  - 2.3** - Train employees on new Java standards
  - 2.4** – Establish and implement Executive Support Strategy
  - 2.5** – Develop internal and external communications strategy

**Measures:** Standards are established, documented and used by all developers

### **Goal 3:        Conduct Employee Training**

–Ensure that all employees are educated about the benefits of the Java based initiatives and are fully trained on how to utilize the new infrastructure

- Objectives:**
- 3.1** - Train employees on Java benefits and new network architecture

**Measures:** 100% employee attendance at training meetings

Robust system documentation architecture is in place

New employee-created content is added to the ongoing standards development area is added on a bi-weekly basis; area is visited by 20% of the employees

**Goal 4: Establish KM Structures and Strategies**

Develop a culture of new Java innovation for use for Sun's internal and external customers based on established KM practices

**Objectives:**

**4.1** - Establish new incentive and compensation policies to encourage new Java development

**3.2** - Establish KM portal to capture new Java standards as they are developed [KAWb1]

**4.2** - Conduct Knowledge Management (KM) training for all employees

**4.3** - Establish communities of practice portal to encourage the sharing of ideas and to stimulate intellectual activity

**Measures:** Java Community(s) of practices established and used by 15% of employees on a monthly basis  
New corporate policies in place

These goals and objectives demand the involvement of all Sun developers, end users and customers and will be met within one calendar year. Successful adoption of these goals require 100% buyin by Sun's internal and external customers and therefore those impacted by the adoption of Java based software and infrastructure will be represented at every evaluation phase of this project, and this plan assumes that they have been previously involved in the requirements acquisition, documentation and analysis phases. This plan begins mid-way through the conversion and deployment of Java based business software and assumes that the user and system requirements compilation and analysis and the prototyping of the business software has been completed and that the findings of the prototype evaluations have led to the customization of the software which is currently underway.

**Gap Analysis**

There are various factors that need to be considered as the implementation plan is developed. Not only do all the workstations and infrastructure at Sun need to be converted to the Java language, but the language of the company also needs to be adjusted. Employees within Sun are hired and rewarded for their independent thinking and innovative ideas. This implementation, however, to some might represent a restriction of those

previously held employee rights. This implementation will create uniformity on all the machines in order to expedite the maintenance and upgrading of all the workstations. The rewards system therefore needs to be adjusted to where employees are not encouraged to play on their own desktop with unique software (like what occurred during Sun's early adoption of Mosaic) but rather encouraged to develop new business software solutions for internal or external clients using Java. This plan needs to be clearly communicated to the employees as an effort to create uniformity so that they will be able to be innovative in ways that will directly impact the customer, not necessarily their individual desktop. Currently Sun is conducting operations on non-Java based software which while previously sufficient is overshadowed by the benefits (LIST) that a Java based business software system and network architecture could provide. Sun's CEO [KAWb2] has decided that its business processes can be improved by converting to a Java software standards which will directly affect 20,000 employees in 180 countries and will directly result in an increased productivity per employee of... (research on the increase in productivity that KM systems and Java based systems create)

## **Risk Assessment/Environmental Constraints**

### **Cultural Change Challenges**

The largest obstacle to the implementation of this business plan is rooted within Sun Microsystems culture. Unlike other software firms (like Microsoft) Sun exhibits qualities akin to a competence driven organization (as described by Schneider in the Reengineering Alternative). Competence driven cultures emphasize learning and development and prize innovation. Employees are promoted based on consistent demonstration of technical or specialized expertise and the climate is highly independent. The challenge lies in the task at hand- the rapid conversion of all business applications to Java within a year and the deployment of company-wide standards and infrastructure in support of the Java initiative. With such a rapid deployment plan, it would seem easiest to unilaterally deploy the software without employee feedback or involvement, but Sun learned in January of 1994 that sort of strategy is not supported by the company culture and would only result in employee rebuttal. On March 8, 1994 Keeley[KAWb3] and Sun's then chief technology officer send out an email message to all employees informing them that if they used a browser during that month they would be charged \$50 a month in an attempt to limit the amount of bandwidth being used within the company which had surged to such an extent that production orders could not be transmitted due to network traffic plugging the network.

Meske describes it this way:

People were just fuming, saying 'How dare you tax us on the use of this new tool...' And 'I came to Sun to get away from stuff like that.' It was a feeding frenzy. People felt like this is a part of

our job, to research and try new technologies, and for someone to stand up there and say “you can’t do that, we’re going to tax you to use that...” People were incensed. (Harvard, 1997:6)

However, what was learned during that experience was that the controversy surrounding that meeting became a part of the corporate mystic and history and served as a vehicle for bringing attention to the innovative initiatives.

The Formal Change Process – Utilizing Best Practices for Change Management will be the document plan use for this critical area. The scope and magnitude of this project and the cultural change is huge. An internal steering committee should be set-up, which will be the focus for the challenges facing change. This steering committee should include field CFO’s, Unions, and Program officers. It is best to ensure that there is not a lack education and understanding of within the stakeholders. This committee will also increase the buy-in of the stakeholders, reduce anxiety and increase acceptance. (Barquin, Business Case Methodology, 2001)

This team approach will be more able to face one of the biggest challenges, that is to ensure the alignment of current business practices and efficiencies. This is part of the change management with roles in QA, testing, training and documentation management that will assist the formal change process.

### **Scope and Schedule Challenges**

The speed of the deployment will also be a challenge for a smooth transition from the current business software to a Java based one. It will be imperative that the employees are kept well informed of new developments....[K4]

### **Financial Challenges**

### **Project Management Team**

To manage this implementation within a quick development cycle it is imperative to create a strong project team. Based on Sun’s previous experience with implementing the Java workstation this implementation plan recommends keeping many of those structures in place for the conversion of business software and the creation of Java standards. The previous plan included the following roles:

- **Project Sponsor**
- **Program Director-Ann Wondolowski**
- **Pilot Evaluation Team**

What are they responsible for?

- **Rollout team**

This team is composed of individuals that will maintain their reporting relationships with their home departments and will work on the deployment on a part time basis. It was found that by using individuals throughout the organization as the deployment team encouraged a grassroots atmosphere and a larger base of individuals who felt ownership for the project itself-resulting in a faster and more efficient use of resources.

- **Cross-Operating company Java Action Committee**

This committee is similar to the JAC Committee used during the Javaworkstation deployment and the same individuals involved in the previous initiative will continue to be involved in the current initiatives.

This committee will coordinate Java deployment inside and outside the company with four subcommittees- **Knowledge Management (KM)** (previously the Information Resources subcommittee), **Engineering** and **Marketing**. This committee is largely responsible for coordinating efforts between the subcommittees that are focused on internal Java deployment, the broader development of Java products and the collecting of feedback from early adoption customers.

The **KM subcommittee** will address Human Resources issues, cultural change challenges and KM support strategies and will be responsible for leading the development of new corporate policies and KM strategies and a KM portal. This committee will partner with the marketing subcommittee in developing internal Java promotion activities and with the Engineering subcommittee in the development of functionality for the KM portal.

The **Engineering Subcommittee** will be responsible for leading the Java software development initiative as well as the development of code sharing standards, java applet development standards and network infrastructure development strategies. This team will include: JEDIs (Java Enterprise Deployment Interns)-to tutor workers on new system.

The **Marketing Subcommittee** will be responsible for creating a marketing strategy for both internal and external customers and will develop public relations contingency plans. Piece of the marketing strategy will include: regular meetings to update employees, kickoff events and other large communication events, weekly email updates, and the development of content for Sun's website announcing new Java initiatives to Sun customers. Additionally, this subcommittee will partner with the KM subcommittee in the development of language and initial content for the KM portal and internal Java

promotion activities. The members of this team include: a Employee Relations/Internal Communications Leader, and a Customer Relationship Management (CRM) Manager.

## **Project Plan (Deliverables)**

Based on previous experience of implementing change within Sun's culture, this implementation plan will utilize a sort of controversy making scheme to attract attention and "buzz" to the new initiatives. By encouraging employee discussion about the implementation, the project itself will take on an air of mystery that will liken it to the innovative practices that its employees are accustomed to hearing about and participating in. This plan will also ensure that Sun's previous culture of entrepreneurial creativity is maintained as standards and structures for software development are implemented.[KAWb6]

### **1.1 Establish project team with clear responsibilities**

The project team will focus on the deployment of the system as well as the management of internal and external communication events, managing corporate and employee expectations, and tracking the schedule of deliverables and evaluations during and after the completion of the deployment.

### **1.2 Pilot Java Based software**

Based on the business case analysis, prototype evaluations and any lessons garnered by the process, necessary improvements in the software may be required. The software will be piloted among a select group of volunteer employees from every function and department within Sun.

### **1.3 Evaluate Pilot**

Employee volunteers will participate in evaluation and testing scenarios that are based on actual business processes and are inter-related with the KM initiative that is being developed concurrently.

Data gathered from the evaluations will be collected and processed and will result in adjustments to the software design and the KM strategy development where necessary.

### **1.4 Deploy software solution and establish training on new software for employees**

Employees who participated in the pilot will be trained on the extensive functionality of the business software most relevant to their business processes and will be directly involved in training the

employees within their department with support from the Java software training team. JEDIs will then be used as post training support staff for employees who need additional help and a formal help desk

within the IT department will be established and supported by intranet user guides and software documentation.

## **2.1 - Develop Architectural Vision and Blueprint for new Java based development**

## **2.2 - Established standards related to sharing code and developing applets**

During Sun's implementation of their external web site, the Sun web team successfully insured that the individuals within the company were aware of the finished procedures and standards. The implementation of Java standards and infrastructure will therefore be established in the same format with the Java standards implementation team soliciting feedback from the business users and posting the developing standards on the company intranet for employee reference. The implementation of standards for Java is similar to the implementation of web standards that was successful due to the CTO and Keeley inadvertently creating a controversy that lent itself to the wide deployment and interest in web standards.

**2.3** - Train employees on new Java standards

**2.4** – Establish and implement Executive Support Strategy

### **2. 4 Executive Support Strategy**

Integral to a successful deployment is the role of the project sponsor and the support of a project sponsor was clearly shown during the SunWeb team's attempt to change the corporate "mindset" and their work to convince employees to use the internal web as a compliment to email. While the team had created a webspace that had intrinsic value, it was when Scott McNealy, Sun's CEO offered his support of the technology that it was adopted in a major way by recording and posting audio "McNealy Report" clips of interviews with employees, industry analysts and key customers on the Human relations web site. Similarly, the project sponsor for this implementation will be heavily involved in the internal communications strategy and will be used as a model for use of the new business software and for encouragement of innovative development among employees using Java for external use.

**2.5 – Develop internal and external communications strategy**

**3.1 - Train employees on Java benefits and new network architecture**

**3.2 - Establish KM portal to capture new Java standards as they are developed**

**4.1** - Establish new incentive and compensation policies to encourage new Java development

Currently senior managers have established a culture where employees are encouraged to experiment and the prohibitions to behavior are limited. Employees were encouraged to explore with their computers. Deagman

[KAWb7]mentions, "Sun can do (computer-related) things faster than most companies because everybody at Sun is computer savvy." While individualism among the employees is encouraged it also developed employees with strong opinions.

#### **4.2 - Conduct Knowledge Management (KM) training for all managers**

Prior to the beginning of the launch of the KM portal, all managers will receive training developed by the **who** in knowledge management and virtual teaming. The training will address such topics as the role of KM in the organization, building communities of interest/practice and encouraging and rewarding knowledge sharing.

**4.3 - Establish communities of practice within the KM portal to encourage the sharing of ideas and to stimulate Java innovation**

#### **To Use?**

These documents provide guidance and address how certain process within the project should be performed, in order to reduce issues, risk and increase quality, performance and meet deliverables.

For such a long-term project as this one, some of resources the project managers have in place are:

- Team Charter
- Project Plan
- Project Overview
- Project Definition
- Design Configuration Strategy Document
- Improvement Opportunities Plan
- Communication Management Plan
- Issues Management Plan
- Phasing Outline
- Testing Strategy
- Quality Management Plan
- Risk Management Plan
- Functionality Change Review Plan
- Cultural Change Approach Strategy

Many of these plans are a living documents and evolve during the project. These documents will assist the project manages to keep the fires from erupting when process, communications, program plan, and staffing issues, to name a few, come up.

## Timeline

### These will include:

- Brown bag lunches
- Email distributions
- 3 different web pages
- Event to stimulate a little controversy

Action Plan

Identify Project Team members

Kickoff meeting

-Coach the goals, vision, and measurable objectives within the new objectives

Create an Architecture Vision

Develop Architecture Gap Analysis

Develop Evaluation Plan based on system and user requirements

Develop Business Case to Measure the ROI of the pilot program

Develop Implementation Plan

Pilot Software Among Employee Volunteers

Conduct Wide-spread Internal Communications Meeting/Event to announce the new features of the new software

Begin Deployment and Training on New Software (tiered training-train the trainer)

KM Training (pg. 10 Prototype)

Page: 4

[KAWb1]Should this be within the KM section? Maybe it should talk more directly about employee education and training...

Page: 5

[KAWb2]Is this correct?

Page: 5

[KAWb3]who?

Page: 6

[K4]More...

Page: 7

[KAWb5]Different word...

Page: 8

[KAWb6]Look over this paragraph...should be intro to how the plan is going to be developed

Page: 10

[KAWb7]who?