

## **New Prospects on ICT Standardization**

### **A Presentation to ITSCJ**

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**Good afternoon** ladies and gentlemen.

My name is **John Hill** and I am here today to inform you about some **macro problems** in the **ICT industry** and how **Sun** Microsystems addressing those problems.

While the **focus is on the ICT market**, and that, of course, is **Sun's** specific **area of interest**, I **believe you will find** many of the **ideas and principles apply to similar markets** such as **biomedical** and **advanced materials**.

I **hope** you will all **agree**, **after** I have **finished**, that what **Sun** are **doing** is truly **constructive and worthwhile**. I **hope you** will **interested** enough **to** want to **work with us**.

**Before I start**, let me **thank all of you** for **honoring me with your attendance**. Let me **also thank those of you who have invited me to speak** with you.

I will be most happy to **answer any questions** you might have **when I finish** the presentation.

# To Speak About

- Make an assertion
- Present supporting background information
- Explain what Sun Microsystems is doing about it
- Predict the future
- Working together

Let me give you a **preview** of what you can expect during this presentation.

I will **start** with a **view of ICT standardization** so we can all share a **common background**.

Following that, I will make an **assertion** about the **overall health** of the **ICT standardization industry**. Surely **standardization is an industry** with many **products**, **providers** and **markets**.

**Next** I will present to you the **compelling evidence** that supports my assertion. I assure you there is **hard evidence** that the assertion is true.

Then I will tell you **what Sun Microsystems is doing** about it. The problems are **serious** and we are taking serious steps to deal with them.

After that, I will gaze into my **crystal ball**, and like the **Oracle of Delphi of Greek mythology**, I will predict the future.

Lastly, I will **ask** you to **consider partnering** with Sun in this program.

# Assertion

- The needs of today's marketplace are not being met by the ICT standardization industry in terms of:
  - Timeliness
  - Functionality
  - Interoperability

The **dynamic ICT marketplace** of today is **not** being as **well served** today as it was served over the **past 40 years**. In the USA, standardization of **communications** began as a way to rein in **AT&T**, provide a more **level playing field for providers**, and give **consumers broader range of choice**. In the information technology industry years ago **IBM** was the **villain** being pursued for the same reasons by the **BUNCH**.

**Market conditions** of today are vastly **different** than they were when these standardization activities began. Today, the **rate of technological change** is faster, **product life cycles** are briefer, and the **requirements for interoperability**, are more severe.

In Sun's opinion, the question is **not whether to fix things**. The **goals are all worthwhile** for nearly every participant in the industry. The question is **how to fix them**.

I **understand** you may be **reluctant to accept** what I say are **problems**. But please **hear what I have to say**. The **problems are real** and I am now going to **show you how I know**.

# Supporting Evidence

- December, 2002 conference of 72 CEOs, CIOs, academics, government officials, experts, movers & shakers.
- Topics:
  - Role of Government
  - Economics
  - Structure and Organization
  - Intellectual Property Rights

**Last December** the **US Department of Commerce**, the **Information Technology Industry Council** and **MIT** held a conference on the **future of ICT standardization**. **72 decision makers, not standards professionals**, were sufficiently motivated to spend 2 days trying to get a better understanding of the situation.

**Four** major **topics** interested them.

The **Role of Government** explored the **ways** in which governments **participate** in standardization. The idea was to help governments to think **strategically** about the roles they assume.

The **Economics** topic explored developing a **business case** for organizations to use to **justify participation** in standardization.

The **Organization and Structure** topic focused on the **needs of the groups** within which standards are set.

The **IPR** topic addressed important IPR issues

So there you have it. Topics covering the **customers, providers of resource**, the **organizations that do the standardization activity**, and the single **largest issue of the day**.

# First Formal Proof

- During the conference, free drinks were delayed a half hour because the audience wanted to ask a panel questions about the **economics** of standardization.
- Their level of interest was truly unbelievable!

For me the **most compelling evidence**, although it is an informal proof, **happened spontaneously** toward the end of the first day of the conference. I like simple proofs.

We were having a **question and answer session on economics**. The audience was asking questions and a panel of experts were responding.

It doesn't get much more **boring** than **theoretical economics** at the end of a **long, intense day**. I know. One of my university **degrees is in economics**.

The questions and answers **went on and on**. Even though they knew that **free drinks and dinner were waiting**, they just continued asking questions.

Imagine their **priorities** at that time.

**Unprecedented.**

But **seriously, there is more scientific, and formal proof.**

Before that, let me **show** you about the **attendees.**

# Attendance

Agere Systems	FedEx	Open Source
AOL/TW	Finnegan,...., LLP	Openwave Software
Associate Professor	Global Inventures, Inc.	Oracle
Bolin Communications	Grundig AG	Quinnipiac College
Bowstreet	Harvard University	Qwest
Broadcom	HP	Raytheon Company
Computerworld	IBM	Sun Microsystems
Creative Commons	IEC	Ericsson
DISA	ITI	UC Berkeley
DOC	JEDEC	University of Maryland
EIA	Lucash, Gesmer & Updegrove	VITA
Electronic Frontier Foundation	Lucent	W3C
ESRI	MIT	Zot Group
European Commission	NIST	
Federal Trade Commission	OGC	

It is reasonable for you to ask about the organizations from which the attendees came.

There were 72 attendees from these organizations.

As you can readily see, a high percentage of the attendees come from organizations you recognize.

# A Survey

- Attendees and speakers completed a formal survey.
- All four topics have serious problems that deserve corrective action.

One of the **unique aspects** of this conference was that the attendees and speakers were formally **surveyed**.

A **20-question** survey, focusing on these **same four topics**, was **independently analyzed** using **applied statistical methods**. The **results are startling**.

On a **5-point Likert scale**, with **5** being the **best**, **no median score was greater than 4**.

Let me take a moment to **explain** something about **Sun**. Like most **professionally managed organizations**, we periodically **survey** our **customers** about their degree of **satisfaction**. We use a 7-point Likert scale. Any time we have a median score less than 6, we treat it as a **real problem and take corrective action**.

Let us **take a look at the results** of the survey. I am not so much interested today that you probe these deeply. We can do that another day, if you like. I want you to obtain a **feeling for the collective severity of the problems** the results of the survey reveal.

# Attendee Survey Summary

5 point Likert scale (unfavorable to favorable)

## Inquiry Median

ICT Marketplace Needs	4.0
Interoperability	3.0
Timeliness - Product Development	<b>2.5</b>
Timeliness - Market Window	3.0
Standards Quality	4.0
IPR Law Consistency (individual)	<b>2.0</b>
IPR Law Consistency (multiple)	<b>2.0</b>
IPR Policies - Consistency	3.0
Government Participation	3.0
Government Role – Phase	----

Changing the World

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8

Let me just point out a few of the **low lights**.

As for **interoperability**, the truly **distinguishing characteristic** of the ICT industry, the median was 3. This suggests standards do **not adequately meet the needs** of interoperability.

**Timeliness** is a problem both for **product development** and for **market windows**. Standards that are unavailable to assist in product development, or are **too late** for market windows, **are not worth the expense** of development.

The **IPR** questions concerned the **laws** of individual countries, across countries and the **policies** of standards setting organizations. All are bad.

Let us **look at the rest** of the survey results.

# Attendee Survey Summary

## Inquiry Median

Standardization: Efficiency	<b>2.0</b>
Standardization: Cost Justification	4.0
Standards Development: Environment	4.0
Overlapping Standards	4.0
Alignment with Marketplace	3.0
Standards: Consortia v. Formal	3.0

This truly shows an overall **unhealthy situation**.

Here we have the **perception**, held by the people from those organizations I showed you a bit ago, that **standards setting organizations are inefficient** and do **not produce standards** that are **aligned with the needs of the marketplace**.

Of course, **any of us can criticize** the **report** for many reasons.

But what we **can't** do is **deny** that **these people** said **these things** about **these questions** on **that day**. As an **academic**, I would be **reluctant to assert** that the results are in any **universal**.

But **one thing** we can all be **sure of**. Collectively taken, the **results** of the survey **show** an **unexpected severity** of the problems.

As for me, **I am** somewhat of a **risk taker**. I'm willing to **bet** that these **problems are systemic** and are **worth solving**. That is exactly **what Sun is trying to do**.

## Sun's Activity

- Sun is addressing these 'macro' problems.
  - Role of Government
  - Economics
  - Structure and Organization
  - IPR
  - Education

Sun has decided to use **combinations** of several **tools** to address these important problem areas.

Those tools are **workshops**, **seminars**, **conferences**, **publicity**, **legislative activity** and **basic research**.

We have **custom-tailored** our approach **to each topic**.

**Let me** briefly **describe** our approach to each. Maybe one, or more, will interest you.

# Role of Government

- Identify the possible roles governments could assume
- Take an inventory
- Analyze the results
- Raise awareness by conferences

Please **recall** my having mentioned that our **goal** here is to have the single **largest class of customers** treat standardization as a **strategic matter**.

We first want to be sure that a **list of the possible roles** exists.

Then we take an **inventory** to determine how the national governments of the world participate in standardization. We will conduct a statistical **analysis of the results** in order to accurately assess the findings.

Finally, we **disseminate** the findings by means of a **conference** focusing on the findings.

This is **not rocket science**. It is simply using **proven management principles** to **collect a few facts before acting**.

Please **note** that the **process** we have **chosen** to use **could be used to analyze and address problems of local governments**.

# Economics

- Identify the factors that should be included in a business model for justifying participation in standardization.
- Build a model
- Training classes and conferences

The **idea here is to have the organizations sending their people** to do the work of standardization **treat standardization as a strategic, business matter.**

We are **building a business model** that companies could apply to **determine the proper extent of participation** in standardization. Using that model they can **systematically make their decisions** and **better manage their scarce resources.**

Sun Microsystems is **working** actively **with the British Standards Institution on** this topic and **expect them to develop training classes and materials.**

On **Sun's** end, we **intend to hold seminars and conferences** to **inform people** about the model and **how to apply** it.

# Organization and Structure

- Exchange best practices
- Implement those that fit best

The **goal** here **is to help** the **standardization organizations** themselves to **become more healthy**. Practically **all of them** are **facing some sort of crisis** today. It may be **operational, financial, legal or whatever** ... but they all face some major challenges.

The **basic thought** here is to **share best practices** using a **case study methodology**.

We will have a **series of conferences and workshops**, the **attendees** at which will be the **staff people** of the standardization organizations. We **hope for a comprehensive, open exchange of experience**. **Then they go home and make changes** appropriate to their environment.

# IPR

- Small groups focus on specific, confined topics
- Conferences disseminate findings.

What we **want to accomplish**, from the perspective of the program, is address the **single most visible problem** of all, **IPR**.

It probably won't surprise you that the **IPR laws** are **inconsistent with one another**. Also, the **IPR policies** of standardization organizations are **inconsistent**. That **leads to many undesirable results** including a high **reliance on lawyers**.

We will **have a series of workshops on specific issues**, designed **to gain consensus, then** have larger **conferences to disseminate** what has been learned in the workshops.

As earlier, this is **not rocket science**.

# Education

- Survey education institutions about standards-related teaching
- Disseminate the results through small-group workshops

**Education** is a topic that **would have been addressed at the December 2002 conference** . It was **not addressed** because **time didn't permit** it.

The **goal** is to **address** the issue that **all we folks who manage our company's standardization activity have gray hair, unless we color it or have lost it**. The thing is, **we are all mature** and it is **nearly impossible to plan for succession**.

We also know that **we cannot hire people** with the necessary **technical, collaborative, diplomatic,** and **political skills** that are so **necessary to success** in this field.

There are several **relevant questions**:

- Do we **need a profession** for standardization?
- To **what extent is standardization being taught**?
- Should **course content be modified**? And, if so, **how**?

Our **plan** is to **work directly with academicians, government officials** and **industry representatives to answer the questions,** **then** let the **academic institutions make the appropriate improvements**.

# Education - Expanded

- Focus on:
  - Students
  - Managers of standardizers
  - Standardizers themselves
- Possible US government activity

The **focus on students in universities** will have a **long-term effect**. We would like to be able to have **business, engineering, and law graduates** having knowledge of standardization. We expect to **use the business model** for standardization as a key element.

Today's **management needs assistance too** in order **to treat standardization as a means of implementing corporate strategy**.

Also, those **directly involved** in standardization **require training**. They **need to understand** better **collaboration techniques, legal matters** and generally **how best to represent their respective organizations**.

The **US House of Representatives asked Sun Microsystems** for **assistance** in starting a **broad-ranging standardization initiative**, to be **directed by NIST**. Last month **we presented a comprehensive plan**. We **proposed university centers of excellence, and a broad range of academic investigation and derivative development**. The **proposal is now being seriously discussed**.

## Education - Expanded More

- European Study
  - commissioned a survey
  - independently analyzed
- Results Obtained

**Another facet** of our activities in **education has just finished**. We **commissioned a consulting firm, Akela, to survey all the higher institutions of learning in Europe concerning standards in education**. Here are some facts about the survey:

They surveyed **1800 institutions** with a **return of 6%**.

This **sample allows** us to make **statements about the total population** with a **97% confidence level**.

While the **analysis is not yet complete**, there are several things we have learned already.

**Standardization** education in **business schools** is virtually **absent**.

**Standardization** in **engineering schools focuses on individual standards, not standardization**.

The **situation shows** that there is **an opportunity for improvement** of education in standardization.

I am **willing for you to use the same survey here** in Japan if you wish to use it.

# The Future

- Improved standardization industry to enable standards-compliant products to become real alternatives to proprietary products.
- This leads to better products.

**I foresee important changes to the standardization industry. Companies will better manage their standardization activity. The largest customer will become strategically aligned to standards. The organizations in which standardization takes place will be healthier. Key issues will be addressed.**

**It is important that you understand why Sun wants this. The answer is simple. We compete best in markets that are not dominated by proprietary interests, including those markets in which we have proprietary interest. We strongly believe, and are putting resources in place to demonstrate our commitment, that standardization is the best way to competitive marketplaces.**

**We believe that a healthy standardization industry is a necessary prerequisite for producing and enforcing standards that are sufficiently high in quality that products that conform to them are strong competitors to proprietary products. The reason is as simple as that.**

## Why This Type of Plan?

- Sun was unable to make formal standards bodies understand the severity of the issues.
- Sun believes the issues should be eliminated.
- Sun decided to:
  - Bypass the formal processes
  - Seek partners

It is completely **natural to wonder why Sun chose this type of plan** instead of working with the existing formal structure.

The **answer has two parts**. First, we think **the problems** are serious enough that they **need solving**.

**Second** is, we tried. **We really tried**. We **proposed** solving these plans **via JTC 1** as a part of **JTC 1's strategic planning activity**. We did so by **contributions in France, the UK, Canada, and the USA** because we were active in the JTC 1 mirror committees there.

**We received no support**, apart from a tiny amount in the UK. **Our assessment, frankly, is that they are comfortable and entrenched, therefore they want no substantive changes** to happen.

It simply **makes more sense to bypass** the formal processes **and take our plan in a different direction**. That direction is, in part, what I have already described. However, there is **another important dimension of our plan that can involve partners who are interested as Sun is in taking action**.

## Working Together

- Believe we have common interest
- Can we work together on this?
- If so, what should be the next steps?

We would **like to have Japan** as an **active partner** in this program.

**We see Japan, its people, its culture, its institutions, all having many of the same frustrations as Sun has in this matter.**

We would be **most pleased to work** in the areas of **economics, education, intellectual property rights, role of government,** and **organization,** using practically **any means,** in order **to address these problem areas.**

I would like for us **together to determine ways to make that happen.**

# Summary

- This is a constructive program that has worthwhile objectives.

Thank you for your kind attention!

The **final message** I would like to leave with you is this.

**What Sun Microsystems is doing** with this program is **highly constructive**. Perhaps it is **revolutionary**, too, but certainly constructive.

We have **scientifically identified problems**, **built a strategy for correcting them**, and are now **implementing that strategy**. It is **a fact-based specific strategy to correct known problems**.

We fully **expect a better world to evolve** from this program.

**You have been most attentive**.

**Thank you for listening to my evangelizing**.

Now, if there are any questions...