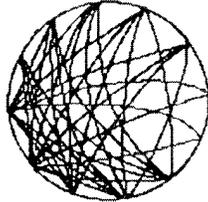


# Lessons from the Past

## Stories about World-class Collaboration

by Jessica Lipnack and Jeffrey Stamps



## Corporate DNA

### Sun Microsystems

Red-hot Sun Microsystems is the poster child for the Network Age. Started by a group of college buddies, Sun is synonymous with networking since it ships its first workstation in 1982.

The company begins the 21<sup>st</sup> century with major claims to Internet indispensability: Sun computers run four-fifths of Internet backbone traffic and more than half of Internet service providers.<sup>i</sup> Triple-digit increases in Sun's stock price followed by multiple stock splits and sky-rocketing revenues with good profit margins indicate how the financial markets view Sun. The company deserves its ownership of the trademark tagline that many others paraphrase:

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*"The Network is the Computer™."*

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On the economic green of Silicon Valley that Sun calls home, there's always room for improvement.

Ten years after helping found Sun, Scott McNealy, the CEO, convenes a series of annual meetings for his senior staff. He invites speakers from the companies he most admires—Federal Express' Fred Smith, Motorola's then-CEO Gary Tooker, and Xerox's then-CEO Paul Allaire. Their talks target teamwork and customer satisfaction as major improvement areas for Sun.

Tooker's message particularly resonates with McNealy. Pointing to how teams profoundly improve quality at Motorola,<sup>ii</sup> Tooker provides McNealy with the outlines of

a model that Sun will follow. If Sun can apply its extraordinary technology strength to resolving its quality issues, Tooker suggests, it will have dramatic competitive advantage in the years ahead.

The classic “lean-and-mean” company, Sun always has celebrated the independence and initiative of its individual engineers. Now, going it alone seems to have run its course. “The high-flying cowboy of Sun’s culture doesn’t work anymore,” says John McEvoy, Western Area operations manager in Sun’s Enterprise Services division. “We’ve grown too large. One person can’t make it happen.”

There always have been teams at Sun: It’s natural for people to come together in teams to get their work done. What is about to happen at Sun, however, is new—the deliberate use of cross-boundary teams to tackle the company’s most challenging issues. It will require ingenuity, delicacy, and a particular spin that can seduce Sun’s free-wheeling culture.

Sun’s strength is technology innovation. Jim Lynch, the company’s vice president for quality, points to Java, Sun’s paradigm-shattering innovation that spun the web into a sea of dancing icons. Java delivers tiny chunks of “nimble, interactive”<sup>iii</sup> software across the Internet on an as-needed basis. Once released, Java becomes central to the company’s offerings and the face of the Internet.<sup>iv</sup>

“Java is not a technology idea that came about because we were improving processes,” Lynch says. The first efforts to produce Java came as a midnight hack, initiated by a few engineers working together in off-hours to try out something new. It takes the company a while to catch on to the power of what the Java team produces. If Sun is to deliberately create teams, it doesn’t want to, cannot afford to, quell such creativity.

“It’s extraordinarily complex when you’re tampering constructively with a company’s DNA,” says Lynch, who takes on responsibility for SunTeams. “You have to be very careful.”

## Virtual SunTeams

Once McNealy and his staff decide to introduce teams, they move quickly. In Fall 1994, just a few months after Tooker’s visit, McNealy and his staff meet with leaders of Motorola’s team effort. Motorola’s widely admired model for teams proves particularly applicable to Sun, most especially because the two companies are in related industries. Five months later, Lynch gets the go-ahead to launch SunTeams, which, since its 1995 start, has involved nearly a third of the company’s 37,000 employees.

To kick things off, McNealy takes to the web-waves on SWAN (Sun Wide Area Network). The company’s vast computer network includes “WSUN Radio,” not a traditional radio station, but rather an internal web site that transports all media—text, graphics, audio, and video. McNealy challenges people to enter a competition to solve the company’s most vexing customer problems as fast as they can with small, cross-company “SunTeams.” He proffers an appealing incentive: An all-expenses-paid weekend for members and significant others of the 16 finalist teams at a posh hotel in San Francisco. They’ll compete for medals in the first annual “SunTeams Celebration.”

McNealy succeeds in putting a Sun spin on teams—challenge, speed, and competition. Seventy-five teams, about 10% of the company, signs up immediately.

To become a SunTeam, a group has to:

- Identify an important customer (whether external or internal) with a significant problem;
- Secure an executive sponsor; and
- Agree to adhere to SunTeams' methodology.

By observing a common methodology, the teams work consistently, even though the content of their projects differs. Virtually every SunTeam application is accepted, which guarantees that the team's work will be in the annual competition.

SunTeam's team architecture (its term), originally a blend of Motorola's and Xerox's team-building processes, continues to evolve, combining newer elements with even older ones. McNealy joins General Electric's board of directors in 1999 coincident with that company's decision to bring e-commerce to all of its businesses. As a result, SunTeams is adapting GE's Six Sigma program, a cross-enterprise program. In an interesting intertwine of corporate histories, GE obtains its original Six Sigma course—and the black belt terminology—from Motorola which initiates the process in 1987 and wins the U.S. government's prestigious Malcolm Baldrige National Quality Award one year later.

Six Sigma (also known as “six steps to excellence”) signifies using statistically-based methods to drive down defects in a process until the number reaches near perfection—99.99999%—or fewer than 3.4 imperfections per million cycles. Applied to Sun, the so-called 5-9s, “equates to four-to-five minutes of downtime per year at a customer site,” Lynch says.

SunTeams rise to the challenge. Since the late 1990s, SunTeams have solved more than a thousand such customer-related problems from “availability” (in other words, uptime) and eliminating what it calls customer “dissatisfiers” to redesigning internal processes and reporting systems. Calling SunTeams its “workhorse for addressing some of the company's key issues,” the company credits the initiatives with saving millions of dollars.”<sup>v</sup>

*All* of the teams—nearly a thousand as of this writing—are virtual in some respect. Typically team members are in different locations and time zones. In fact, they don't refer to their locations by their geographies; they call them “time zones” (“the AustralAsia time zone,” for example). The teams, usually about 10-15 in size, comprise specialists in areas relevant to the problem being solved. They frequently include people from outside the company—suppliers and customers are members of numerous teams.

A typical SunTeam comes about when someone proposes an idea to a few others; together, they apply to become an official SunTeam. This entitles the group to a face-to-face kickoff where the team gets to know one another and learns a basic problem-solving method that Sun adopted from Xerox. They work together intensively for six to nine months, sometimes a year, while carrying on with their day jobs. It's not rare for a particular SunTeam to spawn its own children. In the story we're about to tell, a

successful effort to solve a quite substantial customer problem gives birth to another. Sixty percent of the original team moves to the new one.

## The Glass House Gang

Sun needs to electrify its reflexes in responding to mission-critical customer problems, the result of what Lynch calls “time compaction.” No one can afford to be down anymore.

“Uptime” for Sun’s customers is the difference between being *in* business and out of it completely. We speak to Lynch the day after the February 2000, hacker attack on a number of the Internet’s most popular commercial sites. “Yahoo didn’t have a business for six hours yesterday. When we sell a mission-critical system to Fidelity for its trading floor and it goes down, it costs them serious dollars, aggravating them and their customers.”

So the Time-Based Notification team comes together and sets its purpose: To create a “reliable automated customer problem escalation process” for one of Sun’s critical products. In 17 months’ time, the SunTeam of 25 people cuts the response time to the report of a mission-critical problem to four hours or less in 94% of all cases.<sup>vi</sup>

Before the team’s work, customer problems are escalated on a case-by-case basis. A “time-based notification system” will eliminate the vagaries of handling each problem idiosyncratically.

If a major customer like ebay or Amazon goes down, Sun now escalates the problem hourly. “No one has to watch the clock,” says John McEvoy, the team’s leader. “It’s all automated. Customers like it. Each request starts an hourly paging process. Every sixty minutes we apply increasing levels of management and technical resources against the problem.”

McEvoy says the automated process “gets them involved as a real team effort. It eliminates one or two people on site who say, ‘Give me another 10 minutes and I’ll have the problem solved’ and then it’s another 10 minutes.”

This SunTeam brings together people from five major Sun organizations in nearly a dozen locations. They meet face-to-face three times during the year, once at the beginning to build trust and agreement on how they will work, then twice more at key review points. Sub-teams split off to tackle pieces of the problem.

They meet on the phone for at least an hour or two every other week. In between the conference calls, they use e-mail, one-on-one phone calls, and Show-Me, Sun’s home-grown e-whiteboard program. All of their work is posted to their common web site that serves as home base for the team as it creates its web-based tool, WebEsc (as in web escalation).

Why does the project work so well when Sun has tried the same thing twice before and failed? Ed Hoff, leader for the team’s follow-on effort, cites three reasons: The high trust level of team members; “significant confidence from senior management;” and the project being “driven at mid-management which made it more grassroots.”

The project proves so successful that the company hires 26 people for its successor, the Glass House Gang. (The Glass House is how computer people refer to the high-powered computing systems so delicate that they live behind glass walls.) Their task is to extend the escalation process to the rest of Sun's mission-critical products.

Even before the Glass House finishes its work, Sun uses virtual teams to monitor critical customer accounts.

“We design our products to be used under particular loads,” Lynch explains, “and they're getting pinged<sup>vii</sup> [computer talk for being contacted] millions of times a day. Failure, regardless of the source, is usually horribly complex. No one single person at Sun knows how to solve the problem when a major account goes down. This is the Ground Zero example. We have to put a team of people to work on the account, drawing on services and engineers all through a sequenced escalation process.” Virtual teams lie at the heart of Sun's success.

The era is over when customers wait several days before a senior Sun person knows about their problems. Every morning, the company's president and chief operating officer, Ed Zander, convenes a conference call with his staff. “Scott [McNealy] joins most of the time, and we go account-by-account for 20-30 minutes, looking at the hotter situations and where we failed,” Lynch says describing how he begins his day. “We're solving problems faster and learning where we need to make process investments. Do we intend to do this forever? No, but we're doing this as an experiment to increase customer availability.”

This too is a virtual team, with people calling in from wherever they are, Lynch says. “Ed can be in Barcelona, Scotty's in Hawaii, some are in California, and at 8 AM Pacific Time, we all are on.” And the solution depends on virtual teams. “We have to bring headquarters and the field together to get them [customers] back up.”

Lynch picks up the idea from Cisco. Every night at 10 PM PST except Saturday, Cisco's CEO, John Chambers, receives a report on the handful of most important problem accounts. The two companies have strong ties; their products are complementary, providing the basic infrastructure for UNIX-based networking, and Cisco's chief technology officer, Judith Estrin, sits on Sun's board.

“We've clearly established culturally that proactive effective teams are far better than individual heroics and we have the infrastructure to go with it. The challenge is to expand the footprint of teams in the midst of the incredible transition going on,” Lynch says.

## **Finance Net**

Daniel Poon's cell phone rings at 5 AM in Hong Kong, waking him up. He's ready to talk about SunREVs, the team he leads. “The reason we were chosen to talk to you is that we're the most virtual SunTeam.” His team has people in AustralAsia (one word at Sun), the U.S., Hong Kong, Korea, Singapore, and two sites in Australia, one on each coast. Therein the problem: Sun's sales people, who are “very virtual” (they operate in many time zones), need accurate timely financial information.

“They ring up finance and finance says, ‘Give us a week or two weeks, we’re doing a close,’” Poon reports. So his team sets out to solve this and other problems, including what he describes as the “Can you just plop this in?” problem. Many “solutions” get pushed down from corporate don’t fit local requirements.

So Poon and his colleagues grow the project from one that originally is managed locally in Australia to spread throughout Sun. The idea is to create the standard for financial reporting throughout the company, right up and across to McNealy and his team. “That’s pretty good,” Poon says humbly.

A small group of about five do the conceptual design. When SunTeams anoints the local Adelaide project, the team is 10 strong. Another ring of 20 become involved when management changes, followed by another 50 or so analysts, finance and sales executives and vice presidents. In first release the product has 300 users, a rather large virtual team of its own, along with its own user community. “I’ve been getting calls in the past two days about how it can be used in different contexts,” Poon reports.

The project’s beginning is classic Sun. It starts out taking a third of Poon’s time, then grows to three-quarters of his time while extending into other people’s time. “It was very hard,” he laments, “because it was grass-roots and we didn’t have the money to do it. We lived off an allowance from month-to-month and a programmer on a monthly basis.” Then the project becomes very popular. It’s helped by an e-mail from Scott McNealy himself. “He wrote to my boss and said, ‘I don’t want any more e-mail attachments. Give me a URL that I can access anytime, anywhere with reliability and accessibility. We’re preaching this to our customers.’”

In short, SunREVs dynamically reports the company’s numbers on the web. It’s the *place* where Sun’s financial picture exists in the aggregate. The team works for a year, never meeting face-to-face until six months into the project. Like other successful virtual teams, they communicate extensively via conference calls, e-mail, and shared web sites. Poon points out that his team doesn’t have revenue management skills (the content of the project) but it does have information technology expertise. Trust is built on faith in one another’s expertise and the benefit everyone involved can derive.

Of the 19 teams competing at the SunTeams celebration where SunREVs appears, it alone receives the platinum medal.

## **“We’ve Done Away with Paper”**

Three aspects of Sun’s virtual team program merit study by other companies because they are beacons of virtual team success: Sponsorship, preparation, and infrastructure.

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*First, Sun insists that every team have an executive sponsor.*

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Sun does this one right from the start using their peers to introduce the idea to the senior executives, who committed from the beginning and have stayed involved. McNealy’s senior team serves as the judges for the San Francisco finals each year, and have adopted greater teamwork among themselves. To ensure ongoing involvement, each

SunTeam has to recruit an executive sponsor whose role can be as simple as approving travel budgets that become an issue when people on the same team are working for different bosses.

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*Second, Sun prepares carefully for the SunTeam launch while leaving room for a great deal of flexibility and creativity.*

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Unfortunately, many companies decide to move to teams without a great deal of forethought. An edict comes down from on high to “form teams” with no supporting guidelines or resources. Alternatively, a company launches its team initiative with so much bureaucratic baggage that the effort is stillborn before it begins.

While Sun has put some basic processes in place, teams can be creative. This means that each team is free to develop its own agenda and schedule while also holding administrative overhead to a minimum. When teams experience unanticipated conflicts, they quickly resolve them themselves with guidance from the team sponsors.

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*Third, Sun has the collaborative technology infrastructure to support a large number of virtual teams.*

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Sun has been a boundary-crossing e-mail culture since it began in the early 1980s. An Internet original, Sun built a culture where people have long used e-mail the way other companies still use the phone.

Possibly connecting the world’s largest intranet in terms of numbers of web servers, SunWEB did not even exist in 1994. Virtually everything of value at Sun is on the web. At Sun, the web is the place.

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- <sup>i</sup> See <http://www.sun.com/dot-com/whatis/index.html>.
- <sup>ii</sup> Motorola was the first recipient of the Malcolm Baldrige Award, the U.S. government's quality award (see Chapter 9, Links).
- <sup>iii</sup> Definition of Java from <http://java.sun.com/nav/whatis>.
- <sup>iv</sup> Sun Microsystems Inc.'s divisions include Java, Computer Systems, Enterprise Services, Microelectronics, Network Storage, Network Service Providers, and Software Products & Platforms.
- <sup>v</sup> E-mail from Suzie Grace, Communications Manager, Sun Microsystems Corporate Quality, "Subject: SunTeams details & key information," January 24 2000.
- <sup>vi</sup> Need to document fact
- <sup>vii</sup> Ping is an acronym for "Packet Internet or Inter-Network Groper." "Loosely, ping means 'to get the attention of.'" <http://www.whatis.com/ping.htm>.