

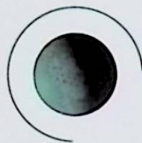
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# CONNECT 96

**The Global Summit  
on Building Electronic  
Communities**

Conference Proceedings  
Key Themes and Lessons Shared

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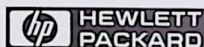
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# Foreword

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Connect 96 was a Global Summit on Building Electronic Communities co-sponsored by Smart Valley, Inc.<sup>®</sup> and Stanford University, September 9-11, 1996, on the Stanford University campus, Stanford, California. We are pleased with the results of this inaugural event and want to share with you some of the conference insights.

Connect 96 was a diverse gathering of pioneers. While every participant was applying information technology to create opportunities for his or her region, each community was going about this quest in different ways. We learned from this diversity.

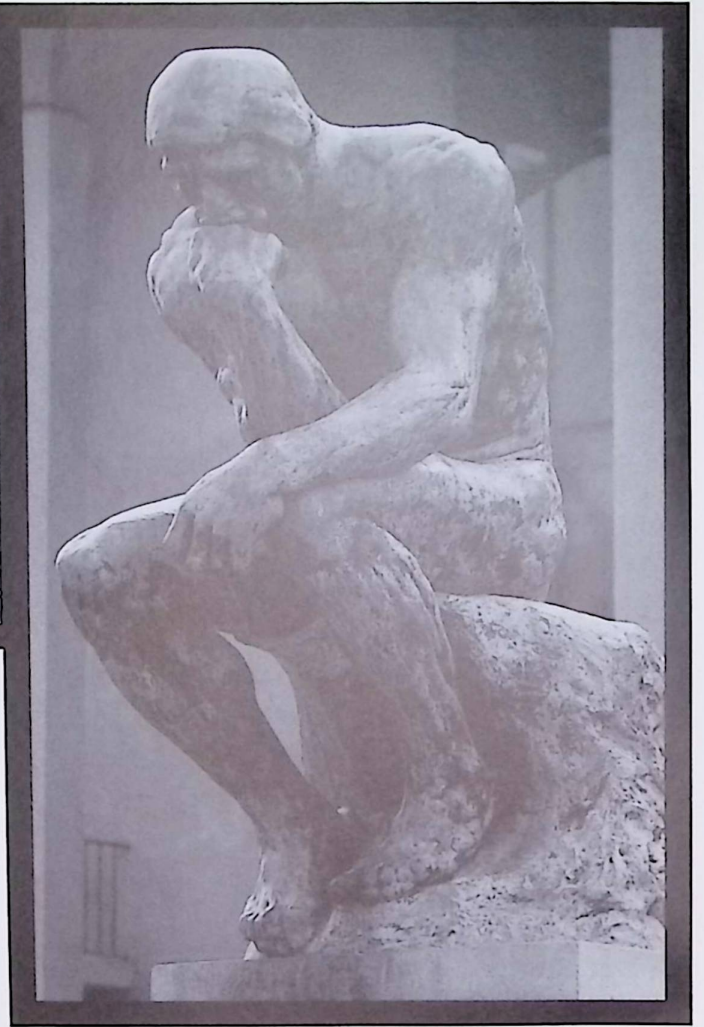
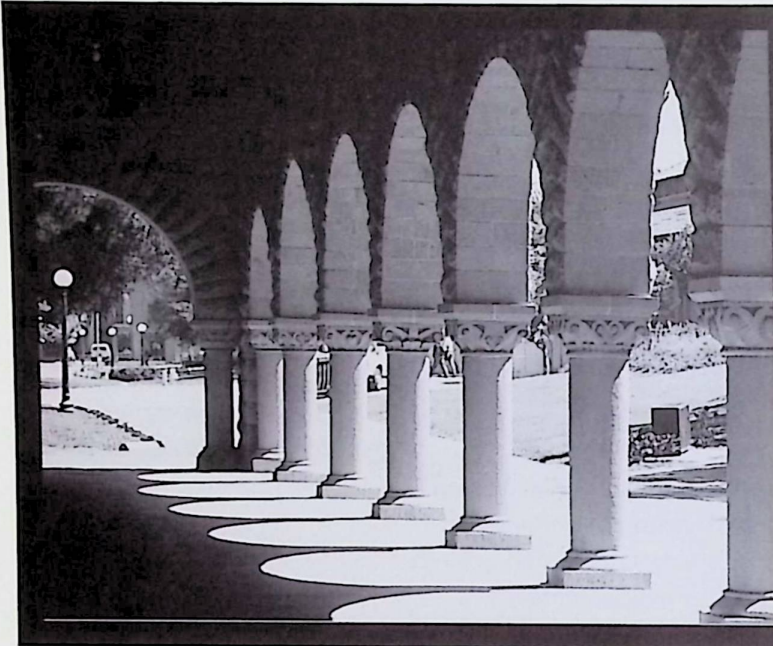
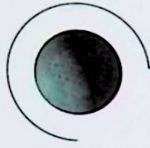
This document highlights the lessons learned from community-level efforts and identifies common patterns as well as differences. We found a strong desire to learn from each other and a willingness to share experiences. We determined that we need to continue to build this learning network by creating an ongoing "community of electronic communities."

One of the most satisfying aspects of Connect 96 was its global character. Participants came from Asia and Europe as well as from North America to share lessons learned. Although the participants came from around the world, they shared a common goal: to build new communities using new information technologies. This new community is likely to be both global and local at the same time.

We hope that you find this report useful. The conference marked the beginning of an ongoing global dialogue about building electronic communities, which you can join as we plan the next steps.

**Dr. Harry J. Saal**  
*Connect 96 Conference Co-chair*  
*Director, Smart Valley, Inc., and Chairman, Network General*

**Professor William F. Miller**  
*Connect 96 Conference Co-chair*  
*Vice Chairman, Smart Valley, Inc., and Professor, Stanford University*

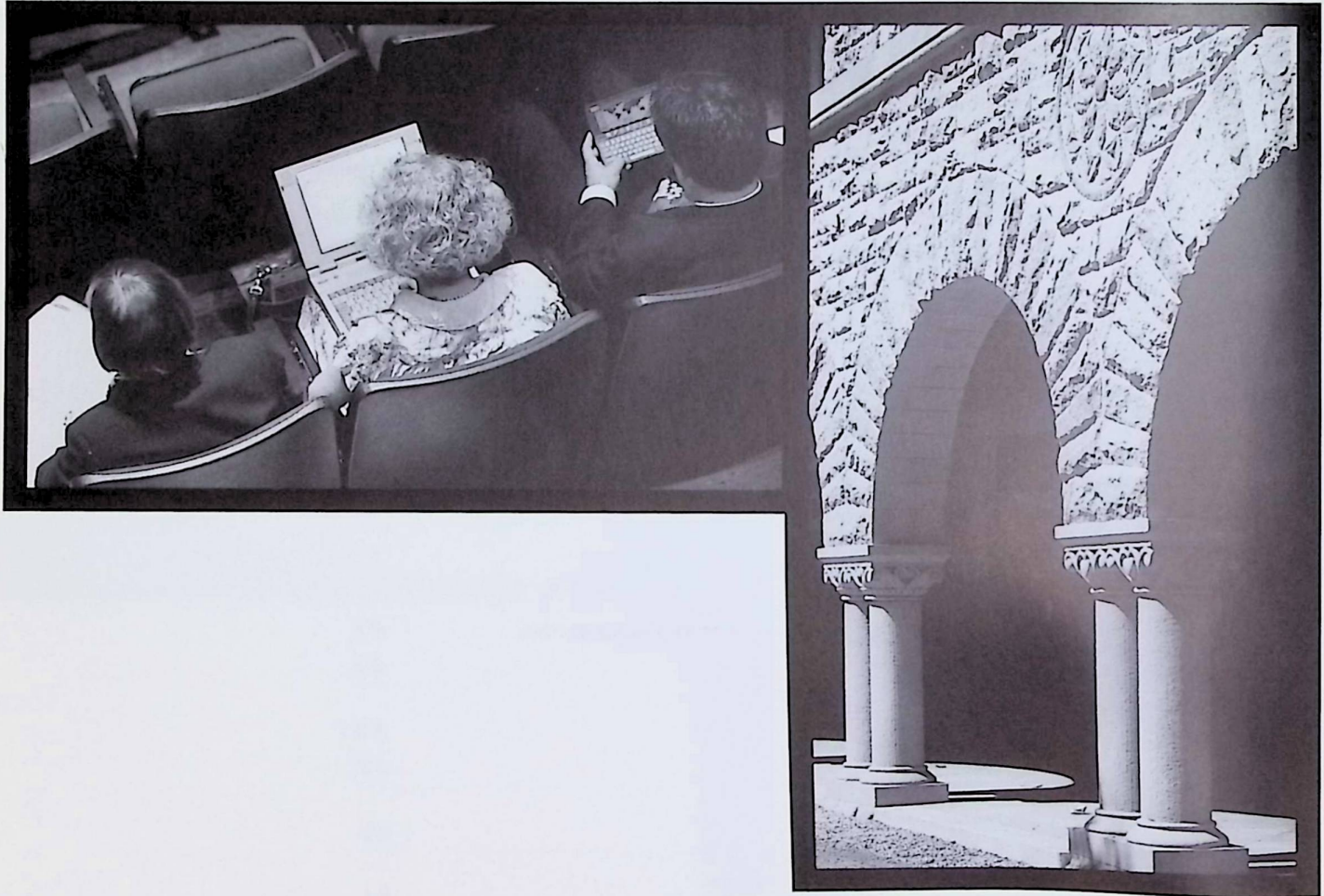
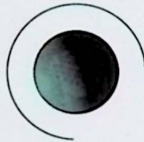




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# Summary of Major Themes

Connect 96 was a gathering of pioneers who are applying information technologies in diverse communities from around the world. The conference provided the opportunity to examine a wide range of electronic communities to determine similarities and differences and begin a dialogue about lessons learned.

The electronic communities at Connect 96 were of one or more of four general types:

- **Community Networks:** Sharing information among people and organizations within a community
- **Thematic Applications:** Projects focused on one or more specific domains, such as education, government access, health care, electronic commerce
- **Information Infrastructure:** Programs leveraging community networks and thematic applications to build a general-purpose communications and information infrastructure in preparation for a new, knowledge-based economy
- **Regional Economic Development:** Broad regional efforts to support public-private collaboration to enhance the regional economy and quality of life

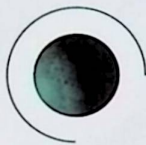
A broad theme that emerged from the discussion was that the Internet can provide the opportunity to connect people and organizations in ways that create new kinds of communities. Electronic communities of this nature and scope have never

existed before, so we can gain important insights about society and technology as new applications emerge. By sharing with each other, we can speedup our learning process and create a new "community of electronic communities."

Some major themes emerged from this international discussion:

- **Technology develops through interaction with society.** Every new technology needs pioneer users who test new applications. Only through interaction with real, diverse markets can new technologies be born.
- **Challenges are social and cultural, not technological.** The challenges facing electronic communities are more related to social and cultural barriers than to technology.
- **Experimentation is the way.** Diversity and choice are important because there are different ways to apply the new technologies depending on the nature of the community.
- **Leadership is top-down and bottom-up.** Although leadership is essential in creating electronic communities, it can come from many places. It can come bottom-up from





the grass roots or it can come top-down from government. The appropriate approach depends on the community culture. Europe and Asia have a stronger role for government than the United States, which is driven more by grass roots initiative.

- **Agendas are both economic and social.** Although both Europe and Asia are quickly catching up to North America in the application of the Internet, the drivers seem different for each region. Asia appears to be using information to accelerate, or leapfrog, country economic development; Europe appears more concerned about creating an Information Society that addresses a social agenda.
- **The vision is shared, but strategies are divergent.** Electronic communities share a common vision: to apply information technology to promote the economic well-being and quality of life in their region. The specific strategies and applications pursued vary depending on the culture and economy.
- **Common organizational challenges exist.** Electronic community initiatives share fundamental challenges of organizational development. These challenges include translating broad visions into specific projects and measurable objectives, marketing a message so that target audiences internalize it, raising funds, and recruiting and renewing leadership.
- **Neutral intermediaries are helpful.** Nongovernmental/nonprofit organizations can be valuable for implementation because they can act as a neutral party between the public and the private sector, help to share risks associated with new ventures, and provide necessary continuity.
- **Successful projects survive a series of leadership changes.** Projects often start with a group of volunteers who develop a vision. A board of directors then develops a strategy for implementing the vision and raising money. Finally, a staff executes the strategy.
- **Having a “burning platform” increases the chance of success.** Without the perception that the problem is urgent, it is difficult to recruit a qualified board and to raise funds.
- **It takes time.** The successful projects reported that they took at least two or three years to get off the ground. Singapore started 15 years ago.
- **Participants want ongoing dialogue.** There was a strong desire to continue the international dialogue through an electronic network of communities, scanning of best practices and successful initiatives, and future Connect conferences.



# Context and Challenges

Globalization and the prevalence of information technology are predominant forces which drive economic decentralization. In turn, this decentralization provides context for the development and growth of electronic communities. These networks exist to overcome the challenges of diversity, complexity, and real-time activity within society. By breaking down these barriers, trust and relationships are built and community is created.

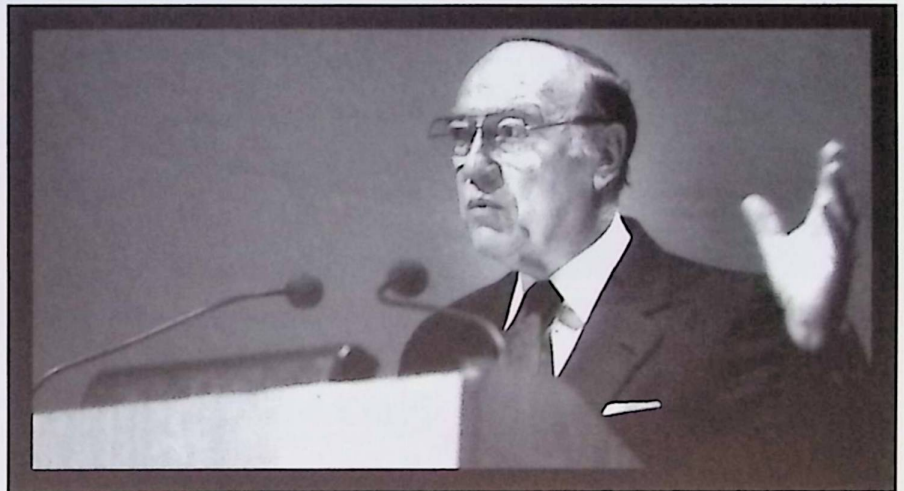
## THE ACTION IS IN THE REGIONS

*Dr. William Miller, Stanford Graduate School of Business  
Vice Chairman, Smart Valley, Inc.  
Connect 96 Conference Co-chair*

Dr. William Miller is professor of Public and Private Management, Graduate School of Business, Stanford University; chairman of the board of Borland International, Inc., and president and CEO emeritus of SRI International. Miller is actively engaged in development of new applications for the information infrastructure in Silicon Valley and California.

"In a certain way, the locals have taken over, particularly in large countries." Miller painted a contextual picture of a world with action increasingly at the regional level— "sub-nation-state." This conference is a way to share experiences, both similarities and differences, across a range of electronic community initiatives.

What is driving this economic decentralization? Globalization means that companies no longer produce and sell products in one place. Extended corporate networks connect companies and regions across national borders. As companies search out specialized environments and



*Prof. William Miller, Stanford Graduate School of Business, welcomes participants to Connect 96.*

expertise, regions strive to differentiate themselves. Rather than wait for a national directive, new local leadership is emerging to develop local capacities.

Immigration and travel forge business and social connections between regions in different countries. Cultural diversity provides human connections to business opportunities in other lands. Furthermore, information technology is itself a decentralizing force, enabling smaller organizational units and dispersed decision making.





Increasingly, regions will interact directly with each other, learning together, collaborating, and sometimes competing. Miller envisions a new economic alignment similar to the Hanseatic League, a grouping of highly networked communities in Europe that existed from the twelfth to the seventeenth centuries. As a loose, self-governing confederation, city-regions

in the league worked to expand trade and had a shared perception of their economic interests. The Hanseatic League became the longest-surviving urban confederation in world history.

Decentralization provides critical context for understanding the genesis of the electronic community movement.

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## **THE DANCE OF TECHNOLOGY WITH SOCIETY**

**Regis McKenna**  
**Chairman, The McKenna Group**  
**Director, Smart Valley, Inc.**

Regis McKenna is chairman of The McKenna Group, a management and marketing consulting firm located in Palo Alto, California. McKenna is responsible for helping to launch some of the most important technological innovations of the past 25 years, including the first microprocessor (Intel Corp.), the first personal computer (Apple Computer), the first recombinant DNA genetically engineered product (Genentech, Inc.), and the first retail computer store (The Byte Shop). He is a founding board member of Smart Valley.

“The world of electronic communities, and this conference itself, is about how technology and society interact with each other,” McKenna stated as he addressed the Connect 96 conference. He challenged the participants to recognize that the major barriers to realizing the human potential of the information age are not technological, but cultural and social. This perspective set important context for the thematic discussions of the next few days.

McKenna has learned firsthand the importance of “pioneers,” like those at Connect 96, to the development and diffusion of new technology. “The unsung heroes in the development of any new technology are the pioneers developing applications and providing user feedback.” All technology is ultimately progressed as a dance between technology developers and society.

McKenna argued that networks—electronic

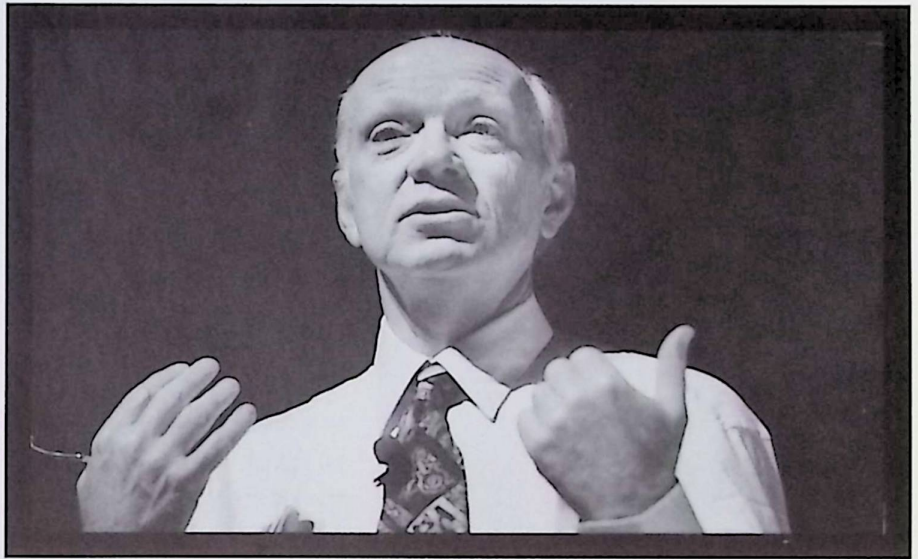


and human, personal and business—exist to overcome three fundamental forces of change: diversity, complexity, and real-time activity. These forces of change affect both society and business.

- **Diversity.** More and more market segments and fragmentation exist. With mass customization, technology can create solutions for everyone. Society is also becoming more fragmented, with interests groups multiplying and power structures decentralizing.
- **Complexity.** All aspects of society are becoming more complex, and complexity will only increase. Business is developing technology solutions to deal with complex societal systems, such as health care.
- **Real-time.** Technology allows us to participate in instantaneous activity and creates demand for rapid access and response to information. The future will bring more frequent and unexpected changes in consumer behavior. Consumers will increasingly participate in product development and service.

Networks are a way to bring people together again in a diverse, complex, real-time world.

Real-time information technology transforms time and space. It has brought the death of distance. Companies are connecting outside themselves in a way they never did before.



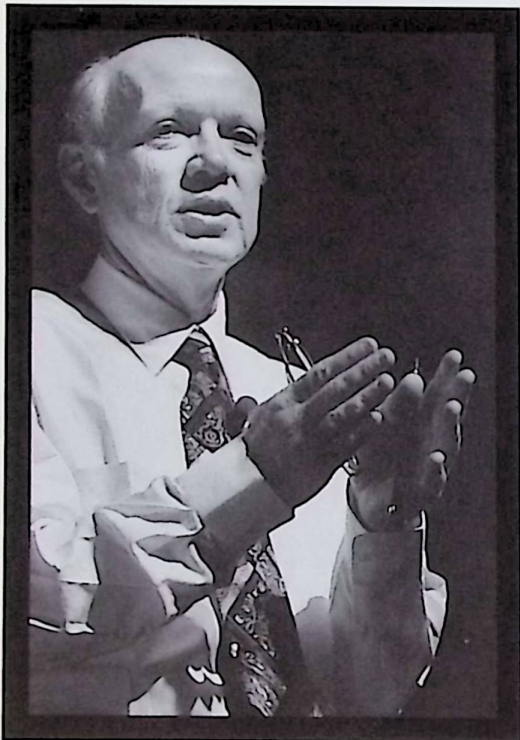
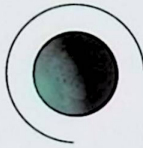
Regis McKenna, The McKenna Group, explains how technology interacts with society.

**“Any new technology creates a new human environment.”** -Marshall McLuhan, referenced by Regis McKenna explaining that the digital networked world is no exception.

In the past, the government played a stronger role in technology diffusion. When new technology was conducive to being highly regulated by, controlled by, or dependent on government, institutional acceptance came first, and social acceptance took a long time. An example is the automobile, whose social acceptance came only after the post-1950s highway system and initiation of suburban developments.

Today, technology innovation happens at private initiative, market diffusion is rapid, social acceptance comes more quickly, and institutional acceptance trails. Market





*Regis McKenna emphasizes that the real barriers to networking are social, not technical.*

diffusion of new technologies is chaotic, exciting, and more rapid than it has ever been—witness the growth of Internet users. In 1995, there were 56 million Internet users; by 1999, 200 million users are projected. We have never seen such rapid acceptance by the marketplace.

In the past, individuals were afraid of institutions and the control they might exercise. Today, institutions are afraid of individuals and the unbridled influence they might have on institutions and society.

The opportunity: information technology can liberate people and make the past less determinate of the present. We can create new types of work, education, and play environ-

ments. We can use the Internet to break barriers: temporal, geographic, social, political, educational, economic, age, value, and cultural.

The major barriers to the new internet-working media are, however, not physical. Issues surrounding security, bandwidth, access, and other physical dimensions will be resolved. McKenna believes that the challenges surrounding the “spiritual dimension” are the most difficult and important for the Connect 96 conference. In this new world, how do we build trust and relationships? How do we foster curiosity and exploration? How can we communicate in innovative and effective ways? How do we create community to address the problems and opportunities of diversity, complexity, and real-time?

As a people, we do not yet know how to live in a world without boundaries. We have to learn. The future will be different in ultimately unpredictable ways. This conference is a critical step in anticipating and creating that future.



# Benefits and Obstacles Faced by Regional Networks

**Moderator:** Gary Fresen, Baker & McKenzie  
 Connect 96 Regional Chair, Mid North America

**Panelists:** Michael Bookey, Issaquah Network, Washington  
 Andrew Michael Cohill, Blacksburg Electronic Village, Virginia  
 Anders Comstedt, City of Stockholm, Sweden  
 Harry Saal, Smart Valley, Inc., California  
 Stephen Yeo, National Computer Board, Singapore

## DISCUSSION TOPICS

The opening panel addressed questions concerning the major benefits experienced by regional networks and the major obstacles experienced in their development. Questions addressed included:

- What are the qualitative and quantitative benefits achieved?
- How do benefits vary by stakeholder group?
- What are the primary obstacles you have overcome?
- What have you learned that you would like to have known earlier?

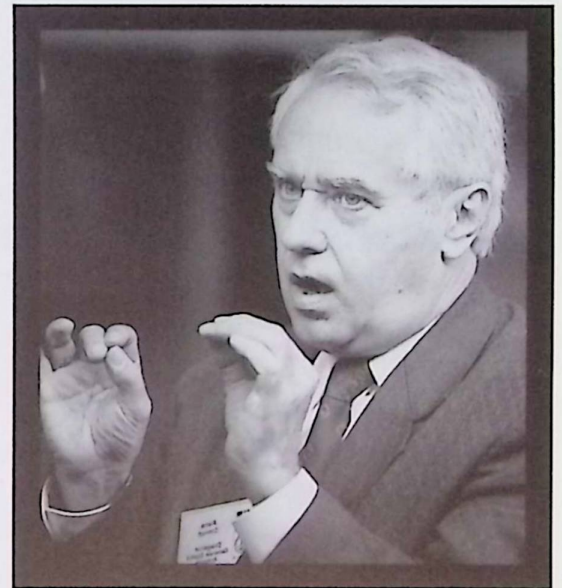
## A DIVERSE GROUP OF PIONEERS

The diversity of panelists and audience participants was striking. The panel featured an organization that fosters community collaborations around specific applications of the information infrastructure (Smart Valley), as well as a municipal operator of dark fiber capacity (City of Stockholm). Also represented was an organization that has facilitated a ubiquitous intracommunity network (Blacksburg Electronic Village) and a 600-person national planning agency charged with developing information infrastructure and applications in a small country (Singapore's National Computer Board). Another organization existed to develop in a local school system an information capacity and culture equivalent to that of

world-class companies (Issaquah Network). Community size ranged from 25,000 to more than two million.

## TANGIBLE AND INTANGIBLE BENEFITS

Smart Valley's Harry Saal stressed that electronic community initiatives must achieve and document specific outcomes. Examples in Silicon Valley include the number of networked computers used in schools, use of public access terminals, and applications used in electronic commerce. Yet Saal believes that the intangible, more generic changes in attitudes and relationships are equally important. He reports, and other



*Pierre Conruyt, France Telecom, details France's networking activities.*





*Michael Salvato, Resources and Operations Institute, proposes a course of action.*

**“You don’t have to know how high up the mountain you’ve gone to know that you’ve gone up.”** -William Miller on the question of defining success.

panelists agreed, that forums and meetings to pursue tangible outcomes often produce remarkable personal and organizational transformations.

#### **INSTITUTIONAL TRANSFORMATION**

Michael Bookey of the Issaquah Network introduced a key challenge: how do you use the power of information technology to transform entrenched institutions, in his case, a community school system?

Electronic community is a revolutionary concept; the largest, most powerful institutions need to change, but will be the last to change. Saal explained that breaking down barriers to institutional collaboration was central to Silicon Valley’s turnaround. Fundamental problems in areas such as education and regulation could be solved only by working across barriers, both public-private and geographic.

#### **HIGH, UNBOUNDED EXPECTATIONS**

Panelists agreed that a key challenge is the enormous, unbounded expectations often placed on electronic community initiatives. Organizations have to make choices about their focus and identify what they will not do. This necessity is as true for smaller organizations as for larger ones. All initiatives need constantly to strive to be nonduplicative and to target changing points of leverage.

#### **EXTENSIVE EDUCATION REQUIRED**

Andrew Michael Cohill of Blacksburg Electronic Village reported that the biggest obstacle was consistently under-estimating the amount of education required. Teaching people to access the Internet is perhaps the biggest adult education project the world has ever seen. Stephen Yeo of the National Computer Board added that one of Singapore’s major challenges is to get teachers up to speed; this budget item is significant. Anders Comstedt added that Stockholm has no



insurmountable technical problems; rather, the greatest barriers have to do with how people think about the usefulness of the Internet in their lives.

### TELECOMMUNICATIONS DEREGULATION

Positioning community information services in a deregulated world is a difficulty for some, an opportunity for others. Low-density Sweden, one of the first European communities to deregulate telecommunications, faces the challenge of broadband access to rural areas. Blacksburg strives to put its information infrastructure on a solid financial base, like other municipal utilities. One central implementation issue facing Blacksburg is

the interpretation of the recent national Telecommunications Deregulation Act of 1996, which opened new markets and expanded competition in the communications industry. Specifically, the issues involve how to finance what is in essence a new municipal utility and how to determine what a municipal utility can or cannot do in this new environment.

### WHAT IS SUCCESS?

Conference participants believed more work needs to be done (on an individual and a collective basis) to answer the fundamental questions: How do we know when we're successful? What do we do then?

## How to Get Started

- Moderator:** *Seth Fearey, Hewlett-Packard  
Director, Smart Valley, Inc.*
- Case:** *MassNet, Massachusetts*
- Presented by:** *Jessica Lipnack*
- Panelists:** *Stephen Yeo, National Computer Board, Singapore  
Andrew Michael Cohill, Blacksburg Electronic Village, Virginia  
Michael Bookey, Issaquah Network, Washington*

Connect 96 included four how-to workshops. Designed to elicit lessons learned, the workshops featured a real case study organization, which presented three to four key questions on which the organization sought advice. Panelists then offered consultation based on their experience.



*Jessica Lipnack presents the MassNet case study.*

### **CASE STUDY**

MassNet is a new initiative whose ultimate goal is to build a culture of collaboration among organizations in Massachusetts. Their mission is to promote collaboration through collaborative tools and processes, supported by accessible technology. After an extensive amount of volunteer work on initiation, including a highly visible kick-off event, the organization is struggling with what to do next. Jessica Lipnack sought counsel on the following questions:

- How do we engage the traditional business community when the founders of MassNet are from small start-ups, nonprofits, and education?
- How can we sustain cross-organizational momentum without a “burning platform” such as a disastrous economy?
- Do we need a distinguished luminary to make it happen?

### **LESSONS OFFERED**

- Successful organizations quickly translate their vision into pilot projects that can be started today. The development process is evolutionary: start small, achieve some successes, and then build on these successes.
- Every electronic community initiative needs a visible champion—a motivator and driver who leads the way forward. Champions can come from many places, but they must have the ability to get results working with diverse people.
- Do not ignore large players in your community who may not yet value electronic community initiatives. Rather, listen to and consult with them so that you understand their perspective. You will need these large players later.
- Especially in the start-up phase, electronic community initiatives need a “burning platform” issue—an issue that is urgent and easily understood—to motivate individual and organizational involvement.
- Organizations must have good collaborative processes, but they must know how to infuse community process with substantive knowledge and how to keep this process moving toward results. Otherwise, participants become frustrated and the initial energy and interest dissipate.
- Managing organizational transitions is key to sustainable success. Major transitions include moving from start-up to implementation and from implementation to renewal. The process of revisiting the mission, activities, and structure of the organization should be continuous.



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## ENGAGING TRADITIONAL BUSINESSES

The panelists disagreed about whether and how MassNet should court traditional businesses. Michael Bookey of Issaquah and Andrew Michael Cohill of Blacksburg both argued against spending time trying to engage traditional businesses that are resistant to change. Focus on making your organization provide real value, and some traditional businesses will come around. Stephen Yeo of Singapore and many audience members, on the other hand, urged MassNet to consult with and listen to the traditional business community and keep players informed about what MassNet is doing. Later, their involvement, or willingness to step aside, will be well worth this upfront effort.



*Yaz Santo, Osaka Gas Company and Richard Pauls, Calgary Economic Development Authority, share their views.*

## THE RELENTLESS EVANGELIST

All panelists agreed that a champion is needed. This person does not need to be a celebrity, but in certain cultures this status would be helpful. A key ability for a champion is to be able to communicate the benefits of collaborative networks through the use of charismatic, yet straightforward language. The person must be relentless.

Initiatives need someone with the ability to make things happen, by virtue of position, connections, wealth, ability, or time. This person may or may not be the evangelist.

## VALUE OF PILOTS

To avoid losing momentum, a key next step is to pick a pilot initiative and “just do it!” Cohill pointed out the need to stop asking, “What should we be doing?” Instead the question should be, “What can we do today?” Audience members reinforced that genuine enthusiasm and credibility come through specific projects and success stories. Start small, provide value, and then people will come to your side and you can begin to grow.



*Anneliese Mauch, NRI Pacific, and Hideo Miyashita, Center for Cyber Communities Initiative, Japan, discuss their reaction to a session.*

### **CHANGING CULTURE**

Bookey presented a typology on how different segments of a population accept new technology. The first 10% of the population are innovators who are willing to experiment with new technology. The second 20% are early adopters who will quickly integrate new technology into their lives, after the innovators have tested it. Once these two segments have adopted the technology, the 50% of the population who are followers will then embrace it. The remaining 20% of the population are generally not willing to accept change in their lives.

Electronic community initiatives should not try to change everybody at once, Bookey argued. They should focus on the innovator and early adopter segments of the population. The overall community culture will change very gradually by working together in new ways on specific projects.



# The Role of Leadership in Regional Networks

**Moderator:** George Koron, Hewlett-Packard  
 Connect 96 Regional Chair, Western North America

**Panelists:** Eugene Leong, Association of Bay Area Governments, California  
 Michael Bookey, Issaquah Network, Washington  
 April Young, Potomac KnowledgeWay, Virginia  
 Tooru Ono, New COARA, Oita Prefecture, Japan  
 Kuk-Hwan Jeong, National Computerization Agency, Korea  
 Anders Comstedt, City of Stockholm, Sweden

## DISCUSSION TOPICS

"All of the Connect 96 participants are by definition leaders," observed panel moderator George Koron. "Everyone, panelists and audience members alike, has learned about leadership in the course of building electronic communities." This panel focused on questions about leadership:

- Where did the initial leaders come from?
- What groups in the community did these leaders represent?
- Who joined later? Why?
- Which organizations contributed money?
- What people and organizations are needed to sustain the network?

## TOP-DOWN AND BOTTOM-UP

One of the biggest contrasts among Connect 96 participants was the cultural difference in how electronic community initiatives are initiated: top-down or bottom-up. The American model, to the degree that one is emerging, is based on individual initiative in communities. Michael Bookey of Issaquah, working as a private citizen to bring his daughter's school into the information age, is an example. The contrast with strong government leadership in some Asian and European countries is stark. Although in Asia government initiative is more standard, Tooru Ono of Oita Prefecture is an

example of a private-sector community entrepreneur. His New COARA initiative started with people in a junior chamber of commerce wanting to improve the local economy.

## **"The hybrid corn is the strongest corn."**

-Tooru Ono, New COARA, Japan, speaking about new hybrid organizations blending business, government, and community.

Yet even in Singapore and Korea, consultation with business and some community leaders is becoming more common and important for sustaining momentum.



Harry Saal, Smart Valley; Mary Oakes Smith, The World Bank; and George Koron, Hewlett-Packard conference during break.





*Michael Bookey, Issaquah Network, tells how he got involved networking his daughter's school.*

### **COME FROM MANY PLACES**

Leaders come from many diverse places. In some cases (e.g., Potomac KnowledgeWay), a successful individual decides it is time to use what they have “learned and earned” to benefit society. Leaders can come from politics or government. According to panelist Kuk-Hwan Jeong, Korea’s National Computerization Agency was formed by chief officers of key ministries “so that Korea will not miss the information technology revolution, as we missed the industrial revolution.” In the case of ABAG, Eugene Leong, as a staff professional, first emerged to lead a skunkworks project to prove that the idea of online access to government had merit. After this demonstration stage, other leaders came on board.

### **CHARACTERISTICS OF LEADERS**

What common traits do these leaders share? They are visionaries who see opportunity in the information revolution that no one else yet does. They can articulate a compelling vision in a way that

others can understand. They are credible, bring a valuable network of contacts, and a collaborative style. These leaders are people who can let go and do not need to control every activity or project; rather, they are comfortable managing a web of relationships. They are bridge builders who are effective in bringing together the worlds of “hard” and “soft” infrastructure.

### **NEW ORGANIZATIONAL PLATFORMS**

Leaders need an organizational platform on which to stand. Ono explained that New COARA in Oita Prefecture is an example of a new hybrid organization whose structure facilitates collaboration among government, business, and citizens. It is a neutral organization that provides a “soft” infrastructure for working across boundaries to advance the region’s vitality.

A second organizational concept was that of the “information utility” evolving from the smaller concept of information community. Anders Comstedt pointed out that Sweden has recently defined an information utilities platform for facilitating information collection and dissemination. This platform would be operated as a new type of municipal utility. Much like the water and electric utilities of the past, the information utility would provide consumers with access to information services as part of community life.

### **DEVELOPING AND RENEWING LEADERSHIP**

As electronic community organizations evolve, they must bring in new leaders.



Early leaders are often innovative in conceptual ways, but organizations must transition to leaders who innovate to get things done. The initial leaders can be thought of as "leading innovators," but then a broader base of "innovative leaders" in the existing community must be brought in. This challenge can be particularly difficult for initiatives founded around a core of charismatic visionaries. The panel split over whether leaders emerge naturally or must be recruited. Many organizations spend a significant amount of time and effort recruiting the right combination of leaders.

The leadership discussion prompted thinking about how to connect and support electronic community leaders around the world. Audience members raised the following questions that point

to opportunities for leadership development:

- How can we provide support for leaders here and for leaders who couldn't attend?
- How can we reduce the burn-out rate for all of us?
- How do we train the hundreds and thousands of professional managers and volunteer leaders for communities worldwide?
- Do we need an electronic community leadership "university," virtual or otherwise?

Although these questions were not answered specifically, they all reflect interest in continuing to learn from each other's successes and failures.

## How to Raise Funds

**Moderator:** *Harry Saal, Director and former CEO, Smart Valley, Inc.  
Connect 96 Conference Co-chair*

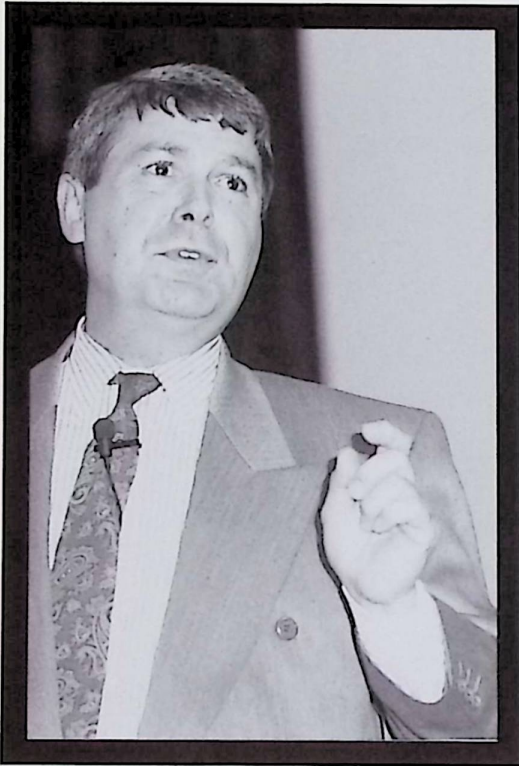
**Case:** *Northern Informatics Applications Agency, United Kingdom*

**Presented by:** *Chris Drew*

**Panelists:** *Robert Berry, Enterprise for Economic Excellence, California  
Eugene Leong, Association of Bay Area Governments, California  
Fumio Shintani, The Smart Islands, Japan  
April Young, Potomac KnowledgeWay, Virginia*

### CASE STUDY

The Northern Informatics Applications Agency (NiAA) has taken on the goal of



*Chris Drew poses questions from his case study, Northern Informatics Applications Agency, United Kingdom.*

accelerating development of the Information Society in the peripheral region of northern England. This region has suffered badly from the decline of traditional industries. A new strategic thrust is attracting remote “teleservice” operations, including upgrading workforce skills. An important consideration is to avoid creation of a two-tiered society of communications haves and have-nots. Funding has been secured for the core team and some initial projects, primarily through the European Union’s Regional Development Fund.

Chris Drew raised the following questions:

- What is a good way to “market and sell” the Information Society against several priorities and services?
- What are routes to people who can find or provide resources?
- What routes are suggested to engage the world’s leading information services businesses in supporting a peripheral region in major developments?

#### **LESSONS OFFERED**

- To effectively “sell” the concept of electronic community, organizations must move quickly from their inspiring vision to specific projects.
- Electronic community initiatives should seek multiple funding sources, such as private investors, members, service fees, government, and in-kind contributions.
- Successful organizations evolve their funding sources to suit different phases. Initial funders for an organization must be “patient,” that is, they must be willing to fund the initiation process before projects are defined or results achieved. Later, funding can be tied to specific projects of interest to the funder.
- As preparation for private-sector fund-raising, panelists recommended identifying the intersection of business self-interest with community interest. Fund-raisers must help companies see the win-win benefit of investing in an electronic community initiative.
- Do not shape your local objectives to meet grantee interests. This effort can result in undertaking activities that are not right for your community. Rather, try to shape what the grantee is interested in funding.

#### **PHASED FUNDING**

Eugene Leong reported a phased approach to funding his project to connect San



Francisco Bay Area cities to the Internet. Phase I initiation funding was patched together from local and internal sources. Phase II pilot and scale-up funding came from local public and private resources matched by a federal government grant. Phase III sustainability funding comes from a mix of non-federally funded sources that includes fee-for-services, advertising revenue, government contracts, and internal organizational allocation.

April Young of Potomac KnowledgeWay also spoke of an evolutionary, diversified approach to fund-raising. Potomac KnowledgeWay started with in-kind contributions, then raised private funds, then secured a state matching grant and more in-kind services, followed by more extensive professional private-sector fund-raising. The approach of The Smart Islands project in Japan is also phased, but involves a stronger central role: access central government funds to set up a private consortium, add funds from local government, and then access central funding for specific projects.



*Fumio Shintani, The Smart Islands, offers a suggestion as Robert Berry, Enterprise for Economic Excellence, listens.*

### **LINKING BUSINESS AND COMMUNITY INTERESTS**

Central to private-sector fund-raising is convincing investors of the link between business and community interest. Young outlined five types of business attractors:

- Marketing/exposure (be part of the “club”)
- Potential for deal flow
- Workforce improvement benefits
- Regional self-sufficiency and efficiency
- Opportunity to have a collective voice on regulatory barriers

Like Potomac KnowledgeWay, Smart Valley has learned that a fundable role for an intermediary civic organization is to “fly cover” for large companies. Sometimes, large companies would like to try collaborative projects and market research, but could not do it effectively on their own. A reason could be that they would not have credibility





*Jeffrey Alan Smith of Bridge to Asia debates with Pierre Conruyt, France Telecom.*

operating solely under their own name, or because the project would be too risky to fund alone.

### **COMMERCIAL WORK**

Harry Saal pointed out that a surprising number of electronic community initiatives have evolved to do fee-for-service work. Robert Berry of San Bernardino's Enterprise for Economic Excellence recognized that "if you live by the grant, you die by the grant." His organization decided from the beginning to earn its way by providing fee-for-services to customers. Drew acknowledged that his board has changed its thinking from "we'll never do commercial work" to "we must."

### **PERIPHERAL REGIONS**

"Being rural, isolated, and poor is a huge advantage in the long term"—with that comment Andrew Cohill of Blacksburg opened an interesting dialogue on the topic of remote, peripheral regions.

Regions without existing technology may have the best opportunities to leapfrog, such as move directly to wireless. Peripheral regions can be marketed as low-risk, test-bed opportunities. Since information technology has the power to remove barriers of time and space, there may no longer be peripheral regions in our future society.

Every region needs to identify and synthesize its "DNA," or unique features, as a region. Remote regions can play a unique role as a content provider to a global marketplace.



# The Role of Visions and Goals

**Moderator:** *Stephen Yeo, National Computer Board  
Connect 96 Regional Chair, Pacific Rim*

**Panelists:** *Steve Albertson, ONE/Northwest, Washington  
Cheryl Davis, WinonaNet/Luminet, Minnesota  
Michael Raggett, Smart Toronto, Canada  
Chris Drew, Northern Informatics Applications Agency, United Kingdom  
Tengku Mohd Azzman Shariffadeen, Malaysian Institute of  
Microelectronic Systems, Malaysia*

## DISCUSSION TOPICS

This panel discussion focused on important questions about vision and goals:

- What were the original vision and goals?
- Have they been met?
- What is the relationship between vision and goals?
- How have the vision and goals evolved over time?
- How is progress tracked?

## SHARED VISION AMONG ELECTRONIC COMMUNITIES

Although Connect 96 included a broad range of electronic community initiatives, at their core, most shared a common vision: to prepare their communities and economies for the opportunities and challenges of the information age. Information technology is viewed as tool—one that can become a major force for improving a community's economic vitality and quality of life. Malaysia, for example, wants to reach developed-country status by becoming an information-rich society. Winona wants to improve its school performance and reduce out-migration by exposing young people to Internet communications. In no case was the compelling end vision specifically about technology.

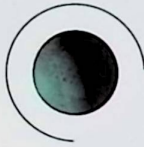
The implicit assumption, which panelists

and audience participants explored throughout the conference, is that building an "electronic community" is linked to advancing broader economic and social objectives related to the information age. More work needs to be done to understand fully the real and perceived link between electronic community and broader community development.

## TRANSLATING VISION INTO GOALS

The origins of vision are many. Steve Albertson explained that the vision for ONE/Northwest—to facilitate electronic communication among hundreds of environmental advocacy organizations in the northwestern US—came from a single individual whose life had straddled environmental and technology worlds. Cheryl Davis of WinonaNet/Luminet said





*Tengku Mohd Azzman Shariffadeen, Malaysian Institute of Microelectronic Systems, explains how Malaysian people have internalized the country's vision of an information-rich future.*

**“To see the application is to understand the potential.”** -Yaz Santo, Osaka Gas Company, Japan, explaining the importance of real-world applications for community buy-in.

the vision started with a successful group of Winona-raised people who wanted to make a better world in Winona for their kids. Smart Toronto and Smart Valley developed an initial vision through a highly participatory process. Both organizations expressed frustration with the time and ambiguity inherent in a large group visioning process.

Since most electronic community initiatives work between the public and private sectors, a key to sustaining the partnership is to identify a shared, win-win vision for all sectors.

Regardless of the vision's origin, the key challenge identified by all panelists is to translate vision into specific goals. This is the absolute critical transition for all electronic community initiatives. Visions are seldom controversial; goals typically are. Yet, as Chris Drew pointed out, only by working on specific initiatives do people beyond the original core group truly understand the challenges and opportunities.

#### **OBJECTIVES MUST BE MEASURABLE**

Michael Raggett of Smart Toronto also argued that electronic community initiatives must not get stalled on vision and must move quickly to measurable objectives. This is the only way to gain credibility and galvanize action. Initiatives must clearly state objectives, track progress toward them, and communicate results. This is an ongoing process, not a one-time occurrence.

#### **ORGANIZATIONS MUST FOCUS AND BE FLEXIBLE**

Organizations must focus, but not be so rigid that they fail to seize opportunities. Albertson pointed out that electronic initiatives are organic and will move through cycles of their own. Davis added that it can be difficult to maintain the vision over time, when you have constantly shifting individuals, organization players, and power centers. Raggett remarked that if it becomes difficult to keep a vision going, that may be a sign to change course.



## OUTREACH AND INTERNALIZATION

Malaysians, from government leaders to taxi drivers, are driven by Vision 2020—a vision of Malaysia as an information-rich, developed country, reported Tengku Mohd Azzman Shariffadeen of the Malaysian Institute of Microelectronic Systems. This vision was articulated initially in a top-down manner, but then through extensive outreach and targeted communication the Malaysian people have internalized the vision and made it sensible for their lives. Internalization, on a broad scale, is an essential middle step for translating vision into action. Every successful top-down approach must have some degree of bottom-up buy-in and implementation. Due to the Internet and more widespread access to information, politicians in Asia cannot govern their countries the way they had in the past.

## RELATIVE IMPORTANCE OF VISION

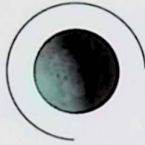
Connect 96 participants were split on the importance of “playing up” the vision. The pragmatist camp implied that vision is not important; doing things is. The visionist camp claimed that vision is what gets people going on action, and is therefore essential. All agreed on several points, though. Vision can be important for sustainability as various technology tools come and go. People must be given tools and structures to realize the vision. Vision should not be pushed on everyone; rather, a key responsibility of leadership is to help others interpret what the vision can mean to them.

# How to Develop an Effective Communication Strategy

- Moderator:** *Kathie Blankenship, VP of Communication and External Affairs, Smart Valley, Inc.*
- Case:** *Potomac KnowledgeWay, Virginia*
- Presented by:** *April Young*
- Panelists:** *Paul Cross, La Plaza de Taos Telecommunity, New Mexico*  
*Cheryl Davis, WinonaNet, Minnesota*  
*Liz Kniss, City of Palo Alto, California*  
*Yoshihide Kimura, KIMEC, Kobe City Government, Japan*

Kathie Blankenship of Smart Valley kicked off the panel by proclaiming that communications is really about marketing (aka the “m” word)—positioning and selling a vision and





*Kathie Blankenship, Smart Valley, draws parallels between effective communication in the nonprofit sector to marketing in the private sector.*

strategies, and enrolling people's minds, hearts, and resources. Sometimes, there is hesitancy to view the communications function in electronic community initiatives as similar to the marketing function in the private sector, simply because the initiatives operate in the nonprofit sector.

#### **CASE STUDY**

Potomac KnowledgeWay is a new project to catalyze the northern Virginia region to participate more fully in the communications revolution. The emphasis is on collaboration in order to reduce risks and increase rewards. A successful entrepreneur, Mario Morino, is its founder, and the initiative is predominantly business based. Four strategic programs are

envisioned: community awareness and education, regional collaboration, information entrepreneurship, and regional networking. Significant investment has been made in a Web site. Other forms of communications include newsbriefs, town hall presentations, and media advisories.

Young posed the following questions for consultation:

- What are the best ways to promote community use of a regional information Web site?
- What are good ways to encourage organizations and enterprises to use the Web site for information, event planning, and/or referrals?
- Are there creative ways of promoting connectedness?
- What have others found to be the appropriate mix of online versus traditional communications?

#### **LESSONS OFFERED**

- Every organization should have a concise, understandable statement of purpose.
- This statement should be used consistently.
- The goal should be to market your message through a variety of means, not just to market the fact that you have a Web site.
- A Web site is just one tool with which to communicate. Also use traditional media, such as newsletters and radio. If you just focus on the Web, you will

miss important audiences.

- Build in redundancy; communicate the same message through multiple media.
- People will be drawn to a Web site if it offers information they need.
- Determine what the magnet will be to draw users to the Web.
- Use the Web to decrease the costs of providing routine information.
- Effective organizations use organizational and individual partners to get the message out.
- Every member of the team can help communicate.



*April Young, presenter of the Potomac KnowledgeWay case study, considers advice offered by panelists.*

### **CONCISE STATEMENT OF PURPOSE**

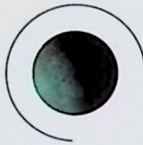
Each panelist was asked state his or her initiative's purpose, to illustrate the importance of a clear message.

- La Plaza de Taos creates a supportive learning environment through the application of friendly, accessible technology that becomes part of everyday lives.
- WinonaNet strengthens community by providing a communications/information network about, for, and by the community.
- The City of Palo Alto fosters two-way communications between government and constituents.
- KIMEC operates an advanced information/communication network and promotes applications for economic revitalization.

### **ATTRACTING WEB SITE USE**

Paul Cross from La Plaza de Taos emphasized that it is the content that drives whether or not people will use a Web site. Liz Kniss of Palo Alto agreed that you have to find a "carrot"—a need-to-know practical reason for accessing the Web. The most dramatic lure to the Kobe Web site was the earthquake of 1995. The city's advanced information-communication network quickly went into action, providing critical information to help emergency personnel and citizens deal with the aftermath of the earthquake. Now that people have seen its value, the network is being used for disaster prevention and education applications.





*Liz Kniss, City of Palo Alto, describes how and why constituents access Palo Alto's municipal Web site, as Cheryl Davis of WinonaNet and Yoshihide Kimura of KIMEC, Kobe City Government, look on.*

Oftentimes, special populations need support to become comfortable with the Internet. Taos has effectively used events to pull people in. A lot of hand holding goes on, in showing people what they can access and contribute to the Internet. Palo Alto puts computers where people, who do not have them at home or work, can access them, such as in the city hall and library. SmartCities, an electronic community initiative in Southern California represented by an audience member, has children bring their parents to school with their computers. Software and modems are installed for free on-site.

### **DIVERSIFIED COMMUNICATIONS MEDIA**

All panelists emphasized that the Web is only one medium to get the message out. Electronic community initiatives need to use traditional media to reach beyond the segment of people who regularly use the Web. In Japan, as well as in the United States, this means using print material, radio, and television. Specific ideas were to utilize public service announcements and to have cable channels air previously taped workshops. As with product marketing, electronic community initiatives need to tailor their message and media to particular audiences. Often, more time needs to be spent defining who is the "customer." A market may need to be created in regions where computer and Internet literacy is low.

### **CONTENT IS KING**

Panelists urged Potomac KnowledgeWay to stop focusing on marketing its Web site and instead focus on defining and marketing its message. Smart Valley views the Web as a means to reduce costs of getting information out and to demonstrate that the organization "walks the talk." Disseminating information via the Web is a way for Smart Valley to demonstrate the Web's practical use. The real value, however, is in the content, which comes from the substantive projects Smart Valley facilitates. Young acknowledged that as a result of this Connect 96 discussion, she will encourage Potomac KnowledgeWay to revisit its initial assumptions about its Web site, and to integrate its Web activities into a broader strategy.



# The Role of Organizational Structure

**Moderator:** *Jan Greylorn, Delta S  
Connect 96 Regional Chair, Northwestern America*

**Panelists:** *Liz Kniss, City of Palo Alto, California  
Robert Berry, Enterprise for Economic Excellence, California  
Richard Taylor, Smart State Alabama, Alabama  
Hideo Miyashita, Center for Cyber Communities Initiative, Japan  
Philip Moody, MFP Australia, Adelaide*

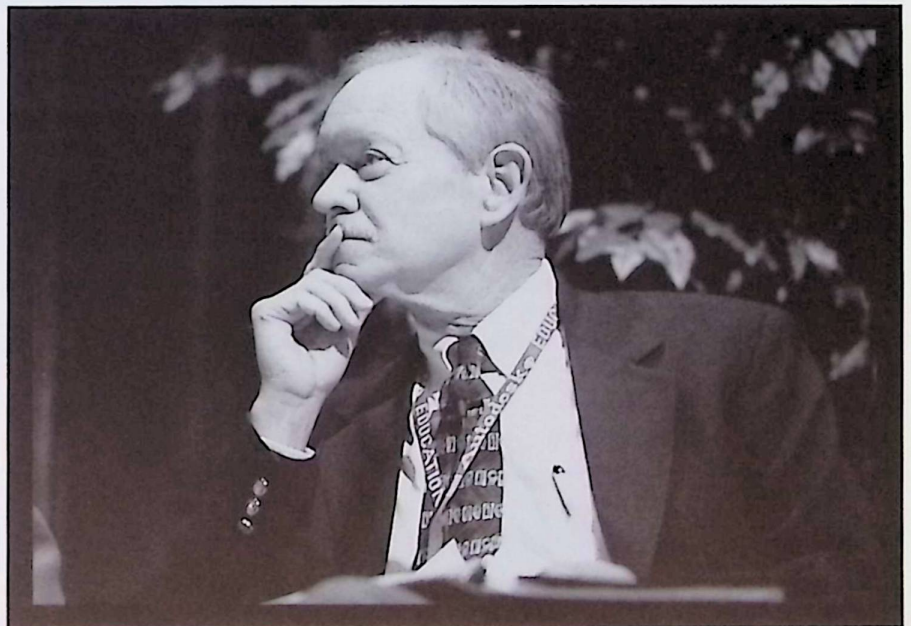
## DISCUSSION TOPICS

The role of organizational structure was the focus of this panel session. Panelists discussed questions such as:

- Does the initiative have a centralized, decentralized, or mixed organizational structure?
- What is the legal structure?
- What role do funders play in the network?
- What is the composition of the board?
- What roles to members play?
- How easy would this organization be to replicate?

## CULTURE AFFECTS ORGANIZATION

Richard Taylor of Smart State Alabama made the point that culture affects organizational role and structure. It also determines what needs to be done. Taylor contrasted the “hot tub/Nike” culture (i.e., let’s all get together and just do it) of Silicon Valley, with the “town hall” culture (i.e., let’s get together and debate it) of Massachusetts, with the “front porch” culture (i.e., let’s chat and be polite but not get off our chairs) of Alabama. Every community must pay attention to its unique culture.



*Robert Berry, Enterprise for Economic Excellence, listens to panelists discuss the role of a board of directors.*

## NONPROFIT INTERMEDIARY ORGANIZATIONS

Some panelists have experienced the benefits of being organized as an independent, not-for-profit organization that operates between the public and private sectors. Hideo Miyashita of the Center for Cyber Communities reports that the





*Yoshihide Kimura, KIMEC, Kobe City Government, describes how people accessed information through the Web after the Kobe earthquake.*

nonprofit structure provides flexibility and allows it to function as a “middle organization” for regional network communities. Smart State Alabama works between state government, business, and grass roots communities. A benefit of intermediary organizations is that these new structures can take on projects and risks that would be inappropriate for any one sector working alone.

Nonprofit intermediary organizations, and the boards that oversee them, can provide continuity over the long term that political systems cannot. Liz Kniss, former mayor of Palo Alto, reinforced that substantive and strategic continuity among elected officials is important, but difficult.

New politicians have to be continually reeducated.

Nonprofit organizations, independently chartered, can provide flexibility that government agencies cannot. Philip Moody of MFP Australia, which brings best practices in economic sustainability, urban design, and environmental sustainability to the Adelaide region, reports that being a state government-chartered and funded entity brings benefits, but restricts flexibility. Opportunities are missed when bureaucracy is high.

### **ROLE OF BOARDS**

Engaged, well-connected board leadership is critical for every electronic community initiative. Panelists reported that board selection was a systematic, thoughtful process. Board members play different roles in different phases, and board membership will evolve over time. First, the board must sell the vision, then it must find resources, and finally oversee the implementation and renewal process. Board members are often surprised at how electronic community initiatives operate in more open, “fishbowl” environments, compared with private companies.

### **ORGANIZATIONAL TRANSITIONS**

How do you move from a fresh, vigorous start-up to an organization that keeps reinventing itself? When do you declare victory, move on, transition projects and the entire organization? Should you build in a life expectancy? In time, every electronic community organization will have



to answer these questions.

Building in the capacity for flexible teaming appears key. This means having an organizational structure that facilitates the joining of talent for specific projects. Some electronic community organizations are explicitly designed as network organizations, where teams can form and reconfigure around projects. Robert Berry reported that the Enterprise for Economic Excellence is structured this way, integrating volunteer talent from the business community with staff to work on specific projects. Having board members who understand the need for continuous transition and renewal is also important.

#### **TECHNOLOGY NOT ENOUGH**

Not surprisingly, electronic community initiatives are experimenting with integrating technology tools into their organizational structure. Smart State Alabama is testing collaborative software. Electronic mailing lists are widely used to distribute information. The panel, however, reinforced the overall conference theme that technology is not enough. Technology is not good for building participation, commitment, and trust. Ultimately, these factors, built through face-to-face contact and shared experience, are most important for changing culture—the basis for the electronic community.

## **How to Manage Partners, Staff, and Volunteers**

**Moderator:** *Pete Sinclair, President and CEO, Smart Valley, Inc.*

**Case:** *MFP Australia, Adelaide*

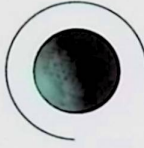
**Presented by:** *Philip Moody*

**Panelists:** *Tooru Ono, New COARA, Oita Prefecture, Japan*  
*Richard Kubetz, Champaign County Network, Illinois*  
*Michael Raggett, Smart Toronto, Canada*  
*Marinus Gelijns, RED-Line, The Netherlands*

#### **CASE STUDY**

MFP Australia is an initiative to bring best practices in economic development, urban design, and environmental sustainability to the community of Adelaide, Australia, and to





*Philip Moody presents the challenges faced by MFP Australia in identifying partner organizations.*

an adjacent new urban development site. The new site will serve as a test-bed for demonstrating how access to communications and information technologies can improve work, education, and home life. The organization has 40 staff members, 15 of whom focus on finding commercial collaborators to develop the new site.

MFP sought advice on the following issues:

- How does one identify and recruit organizations that have a partnering aptitude?
- How does one involve the small and medium-size companies with technologies to contribute to the project?
- How can MFP continue to collaborate with other electronic communities to share partnering, innovation, and development experiences?

#### **LESSONS OFFERED**

- Mobilize local leaders to attract global partners. Global partners will be attracted to regions that have organized leadership and demonstrate, through actions, that they can contribute to the partner's business objectives.
- Develop local partners, as well as global partners. Investing in local partners will help build the local industry base. Encouraging global partners to work with local partners exposes the local partner to valuable best practices.
- Trust is key to partnering relationships and is built over time. Since future events cannot be predicted, make sure partners are adaptable, share the fundamental vision, and can add value to it.
- Partnerships should be reciprocal. They should involve shared responsibility and risk. They should be well-defined in writing.
- Access and build social capital. Partners should bring to the table relationships and professional networks that are distinct and valuable.
- Electronic community initiatives can be part of broader regional development efforts. Initiatives must manage the relationship with other economic development players in their community.

#### **DIVERSE FORMS OF PARTNERING**

Partnering is central to most electronic communities initiatives and takes many forms. These forms include financial partners, joint venture partners, and in-kind partners. Volunteers are also a form of partner. Since many electronic organizations are quite



streamlined, cultivating and managing relationships with partners is an important role of staff.

### **ROLE OF SOCIAL CAPITAL**

Electronic community networks both rely on and help build social capital. Social capital is the trust, reciprocity, and extensive personal and organizational networks that exist within a community. Pete Sinclair of Smart Valley pointed out that access to social capital can be one key criterion for choosing partners.

The MFP Australia case illustrated that sometimes electronic community-type initiatives are part of broader regional development efforts. Smart Valley, Smart Toronto, and Potomac KnowledgeWay are other examples. An end result is that communities have many venues through which to build social capital by working together.



*Tooru Ono of New COARA offers advice on how to build capacity in local partners.*

### **NEW ATTRACTORS FOR THE NEW ECONOMY**

Richard Kubetz of the Champaign County Network has learned that to attract global partners you must organize your local community first. The community of Champaign rallied its local leaders, developed a vision of itself as a test town, and successfully approached a major national telecommunications company. Champaign marketed itself as a community of appropriate scale and sophistication for trailing new information and communications services.

Tooru Ono of New COARA pointed out that quality of life has become a key attractor in the global economy. His advice was to improve the living conditions of the community so that citizens like to work and live there, and outsiders will be drawn. Many entrepreneurs are motivated by a fun and stimulating lifestyle, not money. He emphasized developing local partners to build up their capacity to serve demanding markets. Michael Raggett described a model from the United Kingdom, where small companies were successfully partnered with big companies to undertake significant contracts.





*Kuk-Hwan Jeong, National Computerization Agency, Korea, offers his advice during a workshop session.*

### **ROLE OF VOLUNTEERS**

Every electronic community initiative depends to some degree on volunteers, at minimum to provide board leadership. Sinclair reported that Smart Valley experimented early on with extensive use of volunteers. Today, Smart Valley does not use individual volunteers to “get the work done.” The high level of professionalism and stick-to-itiveness demanded requires use of paid staff. However, pro bono professional services (communications, accounting, legal) by reputable organizations have proved extremely valuable.



# Global Perspectives: Asia and Europe

Both mega-regions are moving quickly. In both, government plays a strong role, and organizational leadership is more common than individual initiative.

The key difference between the regions is motivation. Asia, apart from Singapore and Japan, is motivated by the desire to advance rapidly to a developed-country status by using information technology. Europe's vision is, at its base, a more social agenda of all people participating in the Information Society.

Stephen Yeo of Singapore's National Computer Board and Franco Mariotti of Hewlett-Packard presented broad perspectives on the development of electronic community in Asia and Europe.

## ASIA: DIVERSITY IN DEVELOPMENT

Stephen Yeo is the chief executive of the National Computer Board (NCB) of Singapore. The NCB, a statutory board with more than 600 professional staff, is responsible for comprehensive national information technology planning, policy formulation, and implementation.

Yeo cautioned that generalizing about Asia is very difficult because the region, with 20 countries and three billion people, is incredibly diverse. It includes people from more than 1,000 different ethnic backgrounds and significant variations in income, political systems, and priorities.

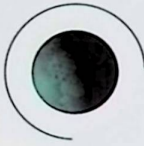
Asia faces a number of issues. Basic telecommunications infrastructure is either not in place or expensive. The least developed countries—such as Vietnam, India, and Sri Lanka—are adopting leapfrog technologies such as moving directly to wireless technology because they have very low phone density. Except in



Stephen Yeo, National Computer Board, Singapore, explains that, generally, the approach of Asian countries to electronic community comes top-down from government.

Singapore, information technology literacy rates and computer penetration are low. More than 68% of World Wide Web sites





are from North America; only 4% are from Asia. Many countries are at a development level where there simply are more pressing basic needs such as housing, nutrition, and employment.

Nonetheless, the building of electronic communities has started, and government commitment is high. All countries are characterized by the top-down, national committee approach similar to Singapore. The American concepts of individual initiative, recruiting volunteers, and raising money are quite alien. By contrast, in Asia, vision and resources come top-down.

Yeo identified three important future developments: developing an Asian

Internet backbone, integrating an Asia-Pacific Information Infrastructure to the Global Information Infrastructure, and liberalizing the telecommunications industry by 2010. Developing content in local languages will also be important.

Yeo concluded that although penetration of information and communication technology in Asia is in general not yet significant, progress is being made rapidly. Different surges of development will emerge in different countries at different times. Eventually, the business potential across the entire region will be tremendous.

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### **EUROPE: THE INFORMATION SOCIETY**

Franco Mariotti is senior vice president of Hewlett-Packard Company and chairman of Hewlett-Packard S.A., HP's European holding company located in Geneva. Mariotti has the high-level strategic responsibility to define new corporate initiatives, to create global programs, and to develop strategic partnerships for the company. He is also responsible for spearheading greater HP participation in European Union programs and involvement in information technology programs.

The deployment of information technology in Europe is lower than in the United States, but Mariotti has never seen anything move so quickly throughout Europe.

Government is much more involved in the deployment process than in the United States. Regulation is heavier. With myriad countries and languages, there is a need to

ensure interconnectivity and interoperability and a desire to avoid chaos. The market is 400 million people with a 95% literacy rate and high education levels and standard of living. Central Europe adds another 300 million.

Established by the European Commission in Brussels, the Information Society is the framework under which Europe is



deploying the concept of an information infrastructure. An emphasis, distinct from that in the United States and Asia, is on the social impact of information technology in Europe and elsewhere. Concern for out-lying areas is high. Part of the vision includes helping neighboring countries in the Mediterranean and Middle East advance and connect through technology.

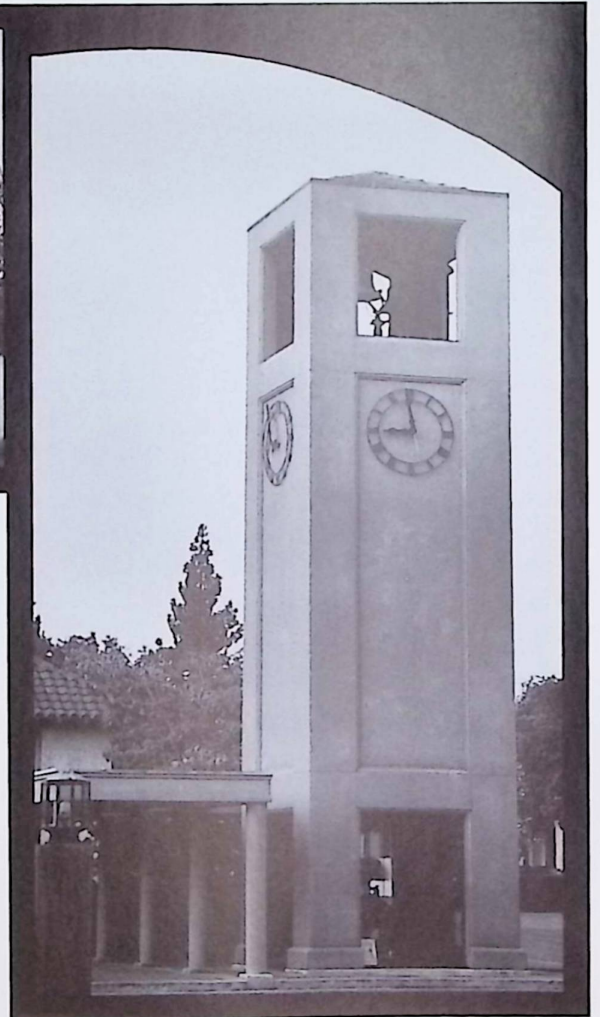
Mariotti outlined important future developments. Deregulation must proceed to drive down the cost of telecommunications. Many areas have introduced tariff and services competition, but liberalization needs to go deeper. Commitments to coordinate in critical areas—such as security, intellectual property, and ethics—must be realized through regulatory and legislative actions. The hundreds of bottom-up electronic community initiatives must be integrated so learning can occur.

Bottom-up in the European context implies leadership by organizations from the community level, rather than leadership by citizen initiative. In Europe, individuals are more likely to participate in electronic community initiatives through their representative union or association than on their own.



*Franco Mariotti, Hewlett-Packard, Geneva, discusses the Information Society framework established by the European Commission.*







# Cultural Needs and Preferences in Regional Networks

**Moderator:** *Izumi Aizu, Institute for HyperNetwork Society, Connect 96 Regional Chair, Japan*

**Panelists:** *Paul Cross, La Plaza de Taos Telecommunity, New Mexico*  
*Jeffrey Alan Smith, Bridge to Asia, China*  
*Yoshihide Kimura, KIMEC, Kobe City Government, Japan*  
*Romeo Macaria, Computer Communication and Training Center, Soros Foundation, Romania*  
*Marinus Gelijns, RED-Line, The Netherlands*

## DISCUSSION TOPICS

This panel discussion focused on the role played by cultural needs and preferences in the development of regional electronic networks. Questions discussed include:

- What are the challenges that your electronic community initiative faces in relation to your community's culture?
- What opportunities does your community's culture provide?
- What are the chief cultural assumptions behind underlying network?
- Does your initiative intend to become international over time?
- How do your cultures view privacy and security?

## CONNECTING TO THE OUTSIDE WORLD

Panelists report a hunger to connect to the outside world in places historically set apart by barriers of politics, distance, or poverty. Jeffrey Alan Smith of Bridge to Asia explained how China is building electronic bridges between research and academic institutions in China and also between Third World players and First World knowledge. In Romania, Romeo Macaria reported that the Soros Foundation is funding free Internet training, connectivity, and Web page design. Individuals, libraries, museums, businesses, and medical services are all benefiting from access to the Internet.

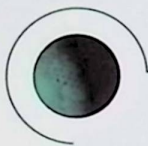
The issue was raised of appropriate tech-

nology. Slower, less advanced technology might be appropriate for less developed areas or those that worry technology will change their culture and pace of life in undesirable ways. Panelists, however, believed that people everywhere want the opportunity to go faster. Therefore, we should not assume that they will be content with older or slower technology.

## SEARCH FOR THE "KILLER APP"

Paul Cross describes the three distinct cultures served by La Plaza de Taos Telecommunity in New Mexico. To date, 10% of residents use the network on a regular basis. The key has been to find what kind of information users really want to access or contribute. Spanish-heritage people, for example, are interested in





*Romeo Macaria, Computer Communication and Training Center, Soros Foundation, Romania, explains how foundation support dramatically increased access to the Internet.*

communicating with family. Indigenous people are interested in preserving culture and natural resources.

The search for a powerful reason for large numbers of people to use the Internet in their daily lives (i.e., "the killer app") transcends cultures. Cross believes that in Taos there is no compelling reason for 90% of the people to use community networks, and that this is likely the case worldwide. Although some claim that it is economics or culture that keeps people away, it may be that there is yet no compelling reason to be on the network.

Others offered examples of powerful applications. Yoshihide Kimura explained how the earthquake, and the need-to-know nature of its aftermath, was a compelling application for people in Kobe. In Beijing, Smith explained how a young girl's mysterious medical condition was diagnosed from an SOS e-mail message propagated globally. Romanian schoolchildren are sending their English papers to American high school students for coaching and correction, reported Macaria.

#### **CULTURAL OBSTACLES AND FEARS**

Not only do electronic community initia-

tives have to demonstrate the beneficial applications, but they also have to confront fears. The nature of these fears is different in every community. One set of fears is that the technology will change the culture, or not accurately reflect it. This is the case, for example, with indigenous Americans, but not with Romanians. Fears of cultural imperialism affect China; to counterbalance the influx of outside culture and ideas, the Chinese hope to generate and internationally disseminate their own content. Another fear, which can be a motivator, is the fear of being left out. Older generations and people at the top of hierarchical organizations sometimes fear loss of standing to younger people more comfortable on the Web. Others fear the loss of face-to-face human contact.

Technology developers need to be more understanding of cultural differences. To date, the technology culture has had a lot of built-in assumptions and narrow views of the world. In general, technology developers are just learning how much culture varies and how they will have to adapt their products to meet the needs of diverse cultures.

#### **CULTURAL BENEFITS AND OPPORTUNITIES**

Panelists and audience members cited examples of information and communications technologies reinforcing culture. Marinus Gelijns of RED-Line, the Netherlands, believes that the Internet is both uniting Europe and making people



much more aware of their unique cultural roots. In Taos, the network is a way to disseminate accurate information about their culture. Through information networks, people with limited, special cultural interests can find and reinforce each other.

Internet technologies help countries deal with diversity. In South Africa and Malaysia, the Internet is facilitating communication across very diverse societies and helping to open these societies.

#### PRIVACY AND SECURITY

Issues concerning privacy and security certainly affect deployment of the Internet. Cultures differ, though, in the extent to which they view these issues as a serious problem. Cross reported that in Taos there is enormous interest in

privacy, yet people are comfortable using secured servers for credit card transactions. In Sweden, security is a serious, growing issue. Macaria reports that Romanians are not overly concerned about these issues and are comfortable with an "unwritten law" approach. Smith explained that the international medical community now "anonymizes" cases discussed over the Internet to protect privacy. Presently, the United States seems to be the country most concerned about privacy and security issues.



Paul Cross, La Plaza de Taos Telecommunity, describes the cultures that co-exist in the Taos, New Mexico community.

## Regional Advantage

### Dr. AnnaLee Saxenian, Professor of Regional Planning, UC Berkeley

Dr. AnnaLee Saxenian is a professor in the Department of City and Regional Planning at the University of California, Berkeley, and an internationally recognized scholar of regional development. Her research on technology regions such as California's Silicon Valley, Boston's Route 128, and Cambridge, England, has been published in a wide range of trade and academic journals.

The author of *Regional Advantage: Culture and Competition in Silicon Valley and Route 128*, Saxenian's research has explored the question, "Why does Silicon Valley continue to





*Annalee Saxenian emphasizes the importance of a social infrastructure within a regional economy.*

**“How well an individual, an organization, an industry, a country does in acquiring and applying knowledge will become the key competitive factor.”**

*-Peter Drucker, as quoted by April Young when describing the rationale for the creation of the PotomacKnowledgeWay.*

grow when traditional economic models do not explain its success?” Saxenian’s talk reinforced the importance of understanding culture when building regional economies or economic communities.

Saxenian depicted Silicon Valley’s organizational structure as a decentralized production system where companies both collaborate and compete. Supplier infrastructure is extensive, providing advantages to established firms and start-ups alike. Relationships matter, and whether companies explicitly recognize it or not, the social infrastructure and collaborative milieu are critical. Geographic concentration, organizational openness, and extensive personal relationships foster rapid innovation.

Saxenian portrays the Route 128 high-tech region surrounding Boston—in contrast to regional networks—as a collection of independent “fortress” firms where networks are internalized. Labor market mobility is low; corporate loyalty is valued highly. The more staid, conservative culture frowns on entrepreneurial experimentation. Forums for information exchange are virtually nonexistent.

The lesson, explained Saxenian, is that regions with network structures have enhanced ability to innovate continuously. In a world of fast change and extreme competition, it is no longer possible for organizations to go it alone. Electronic communities are a tool to move toward more resilient organizations and regions.



# Implications for the Future

**Moderator:** *Seth Fearey, Director, Smart Valley, Inc.*  
**Panelists:** *Izumi Aizu, Regional Chair, Japan*  
*Gary Fresen, Regional Chair, Mid North America*  
*Marinus Gelijns, Regional Chair, Europe*  
*Jan Greylorn, Regional Chair, Northwestern America*  
*George Koron, Regional Chair, Western North America*  
*Stephen Yeo, Regional Chair, Pacific Rim*  
*(represented by Ken Wye Saw, NCB, Singapore)*

## INSIGHTS

The panelists summarized some of their key insights from the conference:

- **Top-Down and Bottom-Up**  
 It should be possible to marry some features of the American-pioneered, bottom-up model, based on citizen initiative and volunteerism, with some features from the top-down government leadership model found in other parts of the world. Neither model on its own is sustainable. Bottom-up energy and innovation, if not matched by top-down involvement and resources, will dissipate. Top-down directives, if not internalized by a large number of people, will prove ineffective at implementation.
- **Electronic Communities Are Inevitable**  
 Global talk radio was made possible because of low barriers to entry. The Internet is drastically lowering the barriers to entry for electronic communities. The issue is what do we want to do with these new electronic communities—build economic opportunity, promote

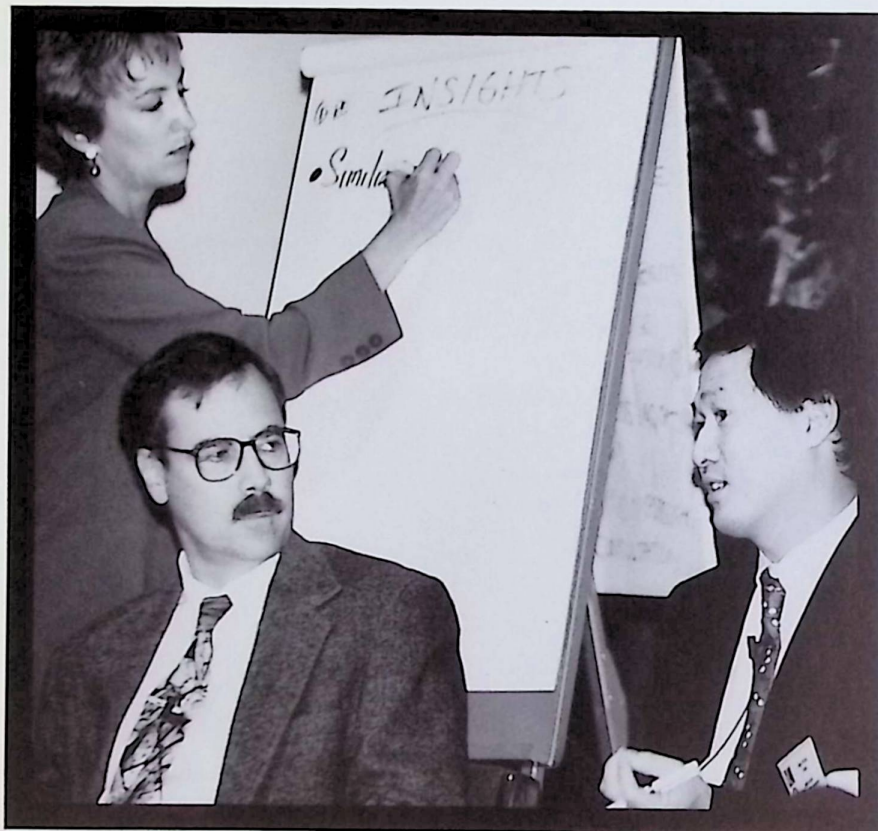


*George Koron, Connect 96 Regional Chair, Western North America, outlines his insights from the conference with the other regional chairs.*

quality of life, create lifelong learning?

- **Linking Electronic Communities**  
 A next step is likely to be the linking of regions for purposes of sharing information, opportunities, and lessons learned. Community networks need to join together to create a global





Panel moderator Seth Fearey, Smart Valley, listens to Ken Wye Saw of the National Computer Board, Singapore talk about next steps as Kim Walesh of Collaborative Economics summarizes his remarks.

network of electronic communities.

- **Civic Entrepreneurs Required**

The Industrial Revolution gave rise to the Carnegies and Rockefellers, who acted as philanthropists. Today, we need "civic entrepreneurs" for the information age who will provide not just resources, but also collaborative leadership.

#### **NEXT STEPS**

The panelists and participants identified a

range of next steps. Some expressed interest in working specifically on the following three activities.

- **Create a Connect 97 Steering Group to Begin Organizing a Next Session**

There is a need to begin organizing the next Connect session. This will require a steering committee and regional chairs. The planning should focus on how the conference should be organized, who should be invited, and where it should be held. One input was to have a Canadian regional chair for the next conference.

- **Establish a Directory of Pioneering Projects and an Electronic Mailing List**

To grow a global network of electronic communities, it is necessary to create a directory of pioneering projects and create an e-mail listserv so they can communicate with each other on a global basis.

- **Scan Information on Successful Initiatives and Disseminate Results**

There is a need for a continual scanning of information on successful projects and sharing of results. This could be done both electronically and in written documents. The work begun through Connect 96, to identify projects, needs to be continued in preparation for subsequent Connect sessions and shared on a regular basis among the network of electronic communities. Each of these efforts would require the establishment of an



ongoing partnership to move forward. Smart Valley indicated its willingness to continue to be involved in working with other groups and offered to establish an electronic mailing list. Smart Valley and Stanford will pass on their learnings from Connect 96 to the next host.

The discussion produced some other areas of interests, which individuals volunteered to make happen.

- Projects within regions (e.g., Midwest United States) should organize into regional interest groups.
- Projects of like-type should also organize into special interest groups.
- A "circuit rider" who can meet with projects and help them get started should be created.
- The International Telecommunications Union (ITU) conference in Geneva in 1997 was identified as an opportunity to link efforts.

## Ecology of Regions

### **Dr. Harry J. Saal, Director, Smart Valley, Inc.**

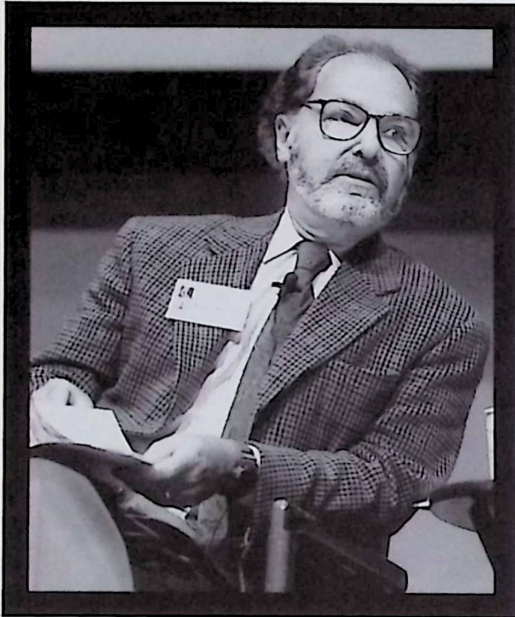
Harry Saal closed the conference with the theme of region-to-region relationships. Connect 96 confirms the potential for regions to work together in new ways. This new ecology of regions—their relationships and dynamics—is less a short-term fad than a long-term reality. How can we all find success? Saal outlined three issues electronic communities need to face together in the next several years.

First, there is a need for continued diversity of approach. Experimentation is the best way to deal with challenges in a time of turmoil. Can we have common technology systems and still support diversity? Or does technology need to become more amenable to cultural difference?

Second, we will continue to need decentralized systems. We need parallel, not serial, development. We must all undertake experiments and share with each other, rather than wait for some universal solution.

Last, regional developments need to have a spirit of cooperation. Information tech-





*Conference Co-chair Harry Saal concludes Connect 96 by urging continued learning and networking among regions.*

nology creates unprecedented opportunity for win-win, mutual success. We can all be winners.

Saal ended by presenting three potential models for continuing the learning process. The first is independent region-to-region collaboration. The second is integration under a mega-organization umbrella structure. The third, and perhaps most attractive, is expanded networking within major regions (e.g., Europe) with occasional worldwide get-togethers.

It was clear from Connect 96 that regional initiatives to build electronic community are here to stay. By working locally and linking globally, electronic community pioneers can help individuals, organizations, local communities, and the global community achieve the potential of the information age.

**“We can no longer look at the past as a model for our future.”**-Paul Valery, quoted by Regis McKenna at the close of his presentation, urging conference participants to learn about the new world together.



# Conference Program

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**CONNECT 96:**  
**The Global Summit on Building Electronic Communities**

September 9-11, 1996  
Cubberley Auditorium, School of Education  
Stanford University

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**Monday, September 9**

- 9:00 AM      **Plenary Session**  
Welcoming Remarks:  
*Prof. William Miller, Stanford University,*  
*Vice Chairman, Smart Valley, Inc.*  
  
Keynote Address:  
*Regis McKenna, Chairman, The McKenna Group*
- 10:00 AM      **Panel 1:**  
Benefits and Obstacles Faced by Regional Networks
- 11:30 AM      **Workshop 1:**  
How to Get Started
- 12:30 PM      **Networking Lunch**
- 2:00 PM      **Panel 2:**  
The Role of Leadership in Regional Networks
- 3:30 PM      **Workshop 2:**  
How to Raise Funds
- 4:30 PM      **Summary of Key Points from Day One**  
*Prof. William Miller*
- 5:30 PM      **Poster/Demo Session and Reception**
- 

**Tuesday, September 10**

- 9:00 AM      **Plenary Session**  
Global Perspectives:  
Presentations from Asia and Europe  
*Stephen Yeo, National Computer Board, Singapore*  
*Franco Mariotti, Hewlett-Packard, Geneva*







- 10:00 AM **Panel 3:**  
The Role of Vision and Goals
- 11:30 AM **Workshop 3:**  
How to Develop an Effective Communication Strategy
- 12:30 PM **Networking Lunch**
- 2:00 PM **Panel 4:**  
The Role of Organizational Structure
- 3:30 PM **Workshop 4:**  
How to Manage Partners, Staff, and Volunteers
- 4:30 PM **Summary of Key Points from Day Two**  
*Seth Fearey, Director, Smart Valley, Inc.*
- 6:00 PM **Dinner**  
*Speaker: Dr. AnnaLee Saxenian*  
*Professor of Regional Planning at UC Berkeley*  
*Author of "Regional Advantage"*
- 

**Wednesday, September 11**

- 9:00 AM **Panel 5:**  
Cultural Needs and Preferences in Regional Networks
- 10:30 AM **Panel 6:**  
Implications for the Future
- NOON **Luncheon**  
*Speaker: Dr. Harry J. Saal*  
*Director, Smart Valley, Inc.*



# Featured Organizations

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The conference program featured panel participants from 27 electronic community projects, spanning nine U.S. states, and 12 countries. Profiles of these projects, in a standardized format, are available on the Web ([www.svi.org/connect96](http://www.svi.org/connect96)). The following is a list of these initial projects, their contact information, and their primary objective.

**Association of Bay Area Governments Online**  
(abagonline)  
Contact: Terry Bursztynsky  
E-mail: [info@abag.ca.gov](mailto:info@abag.ca.gov)  
URL: <http://www.abag.ca.gov>  
Create an electronic network for local governments in the San Francisco Bay Area.

**Blacksburg Electronic Village**  
Blacksburg, VA  
Contact: Andrew Michael Cohill  
E-mail: [bev.office@bev.net](mailto:bev.office@bev.net)  
URL: <http://www.bev.net/>  
Provide Internet access to all residents of Blacksburg.

**Bridge to Asia**  
People's Republic of China  
Contact: Jeffrey Allan Smith  
E-mail: [jasmith@bridge.org](mailto:jasmith@bridge.org)  
URL: <http://www.bridge.org/>  
For Third World users, to provide more efficient and cost-effective access to First World knowledge.

**Center for Cyber Communities Initiative**  
(CCCI)  
Yokohama, Japan  
Contact: Yasuhiko Torii  
E-mail: [ccci-ofc@nri.co.jp](mailto:ccci-ofc@nri.co.jp)  
URL: <http://www.cci.or.jp>  
Support research and social experiment of cyber communities.

**Champaign County Network (CCNet)**  
Champaign, Illinois  
Contact: Richard Kubetz  
E-mail: [kubetz@prairienet.org](mailto:kubetz@prairienet.org)  
URL: <http://www.prairienet.org/SiliconPrairie/ccnet.html>  
Facilitate access to high-speed communications for Champaign County residents and businesses.

**Computer Communication and Training Center, Soros Foundation**  
Northwestern Romania  
Contact: Romeo Macaria  
E-mail: [Rmacaria@office.soroscj.ro](mailto:Rmacaria@office.soroscj.ro)  
URL: <http://www.soroscj.ro/>  
Provide Internet connectivity, training, and home page services for individuals and educational, medical, and cultural institutions and NGOs.

**Enterprise for Economic Excellence (EEE)**  
San Bernardino County, California  
Contact: Robert Berry  
E-mail: [Robert\\_Berry@eee.org](mailto:Robert_Berry@eee.org)  
URL: <http://www.eee.org/>  
Coordinate and develop a regional information infrastructure through five strategic initiatives.

**Internet Home Page Development and Internet Access for the City of Palo Alto**  
City of Palo Alto  
Contact: Rob Pound  
E-mail: [Rob\\_Pound@city.palo.alto.ca.us](mailto:Rob_Pound@city.palo.alto.ca.us)  
URL: <http://www.city.palo-alto.ca.us>  
Provide the citizens of Palo Alto with timely information about the activities and events of the city.

**Issaquah Network**  
Issaquah, WA  
Contact: Michael Bookey  
E-mail: [bookeym@dnac.com](mailto:bookeym@dnac.com)  
URL: <http://www.issaquah.org/>  
Build and operate an advanced technology infrastructure within the Issaquah public schools that rivals the technology infrastructure used by area businesses.





**IT2000**

Singapore

Contact: Ken W. Saw

E-mail: [kenwye@ncb.gov.sg](mailto:kenwye@ncb.gov.sg)

URL: <http://www.ncb.gov.sg>

Bring information technology to government, businesses and homes.

**Joint Advanced Research Integrated Networking Project (JARING)**

Malaysia

Contact: Tengku Mohd Azzman Shariffadeen

E-mail: [tmas@ms.mimos.mu](mailto:tmas@ms.mimos.mu)

URL: <http://www.jaring.my>

Provide affordable access to Internet; acquire and develop strategic technologies; facilitate development of information-intensive economic and social activities.

**Kobe Multimedia & Entertainment City Project (KIMEC)**

Kobe City, Japan

Contact: Yoshihide Kimura

E-mail: [kimura@pc.city.kobe.jp](mailto:kimura@pc.city.kobe.jp)

URL: <http://www.kobe-cufs.ac.jp/kobe-city/>

Establish advanced information-communication network for disaster prevention, offer administrative information (application in public relations) and applications in schools.

**La Plaza de Taos Telecommunity**

Taos, New Mexico

Contact: Paul Cross

E-mail: [pacross@laplaza.org](mailto:pacross@laplaza.org)

URL: <http://www.laplaza.org/>

Create a supportive learning environment that is part of the daily lives of all citizens.

**MassNet**

Commonwealth of Massachusetts

Contact: Jessica Lipnack

E-mail: [info@massnet.org](mailto:info@massnet.org)

URL: <http://www.massnet.org/massnet/index.html>

Promote collaboration across business, social, and government sectors through the use of collaborative tools and processes supported by accessible technology.

**MFP Australia**

Adelaide, Australia

Contact: Philip Moody

E-mail: [moody@mfp01.mfp.com.au](mailto:moody@mfp01.mfp.com.au)

URL: <http://www.mfp.com.au>

Demonstrate world class practices in economic and social development, information and telecommunications technology, and environmental sustainability.

**National Administrations Information Systems (NAIS)**

Korea

Contact: Kuk-Hwan Jeong

E-mail: [jkh@nca.or.kr](mailto:jkh@nca.or.kr)

URL: <http://www.nca.or.kr>

Create a smaller and more efficient government, improve the daily life of citizens, and lay the foundation for the development of IT industries.

**New COARA**

Oita Prefecture, Japan

Contact: Tooru Uno

E-mail: [00001@coara.or.jp](mailto:00001@coara.or.jp)

URL: <http://www.coara.or.jp/>

Let the citizens become the central players of the new networked society.

**Northern Informatics Applications Agency Ltd. (NiAA)**

Northern England

Contact: Chris Drew

E-mail: [Chris.Drew@NIAA.org.uk](mailto:Chris.Drew@NIAA.org.uk)

URL: <http://www.niaa.org.uk>

Accelerate the evolution of the Information Society to underpin social and economic development of the region.

**ONE/Northwest**

Northwest United States

Contact: Steve Albertson

E-mail: [stevea@onenw.org](mailto:stevea@onenw.org)

URL: <http://www.onenw.org>

Provide electronic networking assistance to non-profit environmental conservation organizations.



**Potomac KnowledgeWay Project**

Greater Washington, D.C., region

Contact: April Young

E-mail: [info@mail.knowledgeway.org](mailto:info@mail.knowledgeway.org)

URL: <http://knowledgeway.org>

Serve as a catalyst to help the region seize the economic, educational, and social opportunities of the communications revolution and become the global center of the knowledge industry.

**RED-Line**

Eindhoven, The Netherlands

Contact: Marinus Gelijns

E-mail: [red@iaehv.nl](mailto:red@iaehv.nl)

Stimulate the development and marketing of multi-media services.

**The Smart Islands**

Tokyo, Japan

Contact: Fumio Shintani

E-mail: [shintani@ird.jr.co.jp](mailto:shintani@ird.jr.co.jp)

URL: <http://www.park.or.jp>

Develop digital data terminals other than personal computers, to study and improve the security of data transmissions through the public network, to create markets for electronic commerce, and to develop content for the network.

**Smart State Alabama**

Birmingham, Alabama

Contact: Richard Taylor

E-mail: [smartala@traveller.com](mailto:smartala@traveller.com)

URL: <http://www.hsv.tis.net/smartstate>

Promote information sharing regarding Internet applications in Alabama, promote coordination of Internet/information highway planning, and minimize duplication of cost and effort in implementing Internet applications.

**Smart Toronto**

Greater Toronto, Canada

Contact: Michael Raggett

E-mail: [m.raggett@resonet.com](mailto:m.raggett@resonet.com)

URL: <http://www.canada.hp.com/smarttoronto/>

Create a network of people in business who will work in partnership to create high-value jobs, a strong economic foundation, and better future for the Greater Toronto area.

**Smart Valley, Inc.**

San Francisco Bay Area

Contact: Pete Sinclair

E-mail: [info@svi.org](mailto:info@svi.org)

URL: <http://www.svi.org>

Create collaborative infrastructure projects that demonstrate the positive value of the application of technology in education, health care, local government, business, and the home.

**Stokab**

Stockholm, Sweden

Contact: Anders Comstedt

E-mail: [anders.comstedt@stokab.se](mailto:anders.comstedt@stokab.se)

URL: <http://www.stokab.se/>

Enable all operators of telecom services access to dark fiber.

**WinonaNet/Luminet**

Winona, Minnesota

Contact: Cheryl M. Davis and Jennie G. Florness

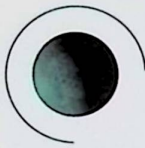
E-mail: [winnet@luminet.net](mailto:winnet@luminet.net)

URL: <http://www.luminet.net/winnet>

Strengthen the Winona community by offering community information and news, as well as opportunities for interactive community participation via a site on the World Wide Web.



# Participating Organizations



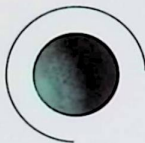
- 3Com, CA
- AB STOKAB, Sweden
- Andersen Consulting, CA
- Apple Computer, CA
- Association of Bay Area Governments, CA
- AT&T Research Labs, NJ
- Baker & McKenzie, IL
- Bay Area Economic Forum, CA
- Bay Networks, Inc., CA
- BC TEL Advanced Communications, Canada
- Bell Global Solutions, Canada
- Blacksburg Electronic Village, VA
- Bridge to Asia, Hong Kong
- Cable Co-op, CA
- Calgary Economic Development Authority, Canada
- California Legislature, CA
- Center for Cyber Communities Initiative, Japan
- Champaign County Chamber of Commerce, IL
- City of Kawasaki, Japan
- City of Palo Alto, CA
- City of Stockholm, Sweden
- Clark County Public Education Foundation, NV
- Collaborative Economics, CA
- Com21, CA
- CompuMentor, CA
- Consulate General of Japan, CA
- Department of Administration,  
State of Minnesota, MN
- Digital Network Architects, WA
- Enterprise for Economic Excellence, CA
- Epson Palo Alto Laboratory, CA
- Foundation for Multimedia Communications, Japan
- France Telecom, France
- Hewlett-Packard Company, CA
- Hewlett-Packard, Europe, Belgium
- Hewlett-Packard, S.A., Switzerland
- High Tech Center Babelsberg, Germany
- Hitachi Research Institute, Japan
- Hochschule Bremerhaven, Germany
- Industry Canada, Canada
- I-Net Technologies, Inc., Korea
- Institute for HyperNetwork Society,  
GLOCOM, Japan
- Japan Research Institute, Japan
- JETRO, Los Angeles, CA
- Joint Venture South Florida, FL
- Kobe Multimedia & Entertainment City  
(KIMEC), Japan
- La Jolla Institute, CA

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|--|--|
| La Plaza Telecommunity Foundation, Inc., NM              | RED-Line, The Netherlands                        |
| Malaysian Institute of Microelectronics System, Malaysia | Resources and Operations Institute, NY           |
| MassNet, MA  | SAEM Sophia Anitpolis Cote D'Azur, France        |
| MFP Australia, Australia                                 | SeniorNet, CA                                    |
| Michigan State University, MI                            | Singapore Telecommunications Ltd., Singapore     |
| Ministry of International Trade and Industry, Japan      | Smart State Alabama, AL                          |
| Monterey Bay Region Futures Network, CA                  | Smart Toronto, Canada                            |
| Morino Institute, VA                                     | Smart Valley, Inc., CA                           |
| NASA Ames Research Center, CA                            | SmartCities, CA                                  |
| National Computer Board, Singapore                       | SML/ Business Arena Stockholm, Sweden            |
| National Computerization Agency, Korea                   | Soros Foundation, Romania                        |
| National Technological University, CO                    | Stanford Computer Industry Project, CA           |
| New COARA, Japan   | Stanford University, CA                          |
| Nomura Reseach Institute, Pacific, Inc., CA              | Statskontoret Administrative Development, Sweden |
| Northern Informatics Applications Agency, United Kingdom | The World Bank, DC                               |
| NTT Software Laboratories, CA                            | U.S.-Japan Technology Management Ctr., CA        |
| ONE/Northwest, WA  | University of California, Davis, CA              |
| Osaka Gas Company, Japan                                 | University of Minnesota Duluth, MN               |
| Potomac KnowledgeWay Project, VA                         | University of Wisconsin - Milwaukee, WI          |
| Price Waterhouse LLP, CA                                 | WinonaNet, MN                                    |
| PRIMAS, Inc., CA   |  |
| Puget Sound Power & Light Company, WA                    |  |
| Puget Sound Regional Council, WA                         |  |



# About the Sponsors



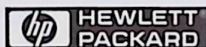
**3COM CORPORATION**, whose name is derived from its emphasis on COMputer, COMmunication, and COMpatibility, became a driving force of the computer networking industry 17 years ago. Today, with 71 offices in 32 countries serving more than 32 million users, 3Com continues to be a leader and innovator, providing a wealth of local and wide area network (LAN and WAN) solutions to the global marketplace. Its products and systems connect users throughout the network, in workgroups and building/campus LANs, on WAN backbones, at remote offices, and wherever mobile users plug in and log on. 3Com manufactures network adapters, the interface devices that connect computers to networks, for network connections to servers, desktop PCs and notebook computers. Outside the traditional enterprise, 3Com offers products for small business, small site and individual users environments, including ISDN (Integrated Services Digital Network) internetworking platforms, digital modems and adapters.

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