EARTHQUAKES IN OUR MINDS

Yes, we wrote the Forum invitations before October 17...

The biggest impact of an earthquake is generally not the damage it causes, large as that may be, but the way it changes people's perception of reality. Generally, change is small and unnoticeable. The closer you are to change, the harder it is to see how seemingly random movements add up. For example, people ask how things have changed in the Soviet Union between our two visits -- last April and last month; see 89-5 and pages 8 to 21. Outsiders see much more change than the Soviets do: Outsiders read the news, from time to time, but the Soviets face a slowly changing reality, every day.

Earthquakes are news. They give even insiders the benefit of outsideness: a dispassionate look at reality, a taste of impermanence. No, the ground is not firm. That lovely scenery, so calm and peaceful when we saw it last week, had only a week before trembled and heaved, tossing people and structures around like so many toys in a bathtub.

And so it is with standards. The actual movements -- product installations -- that lead to their adoption are imperceptible from afar. Earthquakes signify standards' arrival after the fact, indicating the silent shifts underground that have been occurring all along. The creation of the Open Software Foundation was such an earthquake; it reflected and ultimately eased existing strains. It changed little that hadn't already happened, but it irrevocably shifted the world's outlook on UNIX. The divestiture of UNIX Software Operation by AT&T or a merger of OSF and UNIX International would be aftershocks: consequences, not precipitating events.

Any geologist can tell you where there will be an earthquake sooner or later, without specifics, but the world carries on oblivious. In the same way, any market seer could tell you now that UNIX and OS/2 together will supersede DOS.

COME SEE US AT BOOTH 157 (CONVENIENT!)
The exact details of market share and product names are unclear, but people who can't see beyond DOS and Windows are showing the same blindness that led a majority of home-owners to pass up earthquake insurance.

Can you "set" an earthquake (the way you set a fire)?

But the parallel eventually breaks down. In geology, perception makes little difference. The structures people build are too insubstantial to affect the earth. In the computer market, perception can influence reality; there is interaction between expectations and those little movements that shift the ground. On the other hand, it takes more than just a few vendors getting together to change the landscape without the underlying products to secure the ground. From this perspective you could call many of the standards movements landfill -- attempts at landscape architecture that don't stand up to the forces created by real products in actual use.

Soviet landscape is all landfill

The Soviet disaster is that the earthquake of perestroika has changed perceptions, but the system has frozen people's ability to respond. People are more hopeless now because the changes in perceptions -- glasnost and information -- have not been matched by changes in the power structure. In essence, most government officials and even regular folks (see page 11) want to repair the damage of 70 years or more with landfill -- a government-directed economy -- rather than let nature take over.

God or nature gave humans free will so they could operate by themselves; ideas do not spontaneously translate into action without the motivating life force of incentives -- and absent the stilling hand of fear. The Soviet government still arrogates the job of moving all the pieces around, and of course it is inadequate to do so. It has the power to put any particular individual in jail, but it does not have the power to make them work. It must learn not to force them to work, but to free them to work.

Line drawings in this issue by Soviet artist Andrei Borodin.

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UNIX AFTER THE SHOCK: STANDARDS PRECEDE PRODUCTS

The way the world sees UNIX changed irrevocably last year, with the advent of the Open Software Foundation. Movements since then have been less visible, but they're about to culminate in some aftershocks, such as a formal rapprochement of the two camps (OSF and UNIX International) which would reflect movement that has already occurred in private.

UNIX V.4 seems to have some fairly firm ground underfoot, while OSF was built on landfill -- a loose coalition of vendors. A couple of structures have survived intact -- notably Motif and possibly some of the Requests for Technology (RFTs) -- and OSF should move them onto firmer foundations by supporting V.4.

(See also Release 1.0, 88-6, "Open Software Foundation: Delusions of certainty," where we said: "Interfaces are the fault lines between standards... Openness and standards may avoid the pain of change from vendor to vendor, but [they] will not obviate the pain of change due to fundamental improvements. The smaller changes may be hidden by interfaces, but long-run, when the earthquake of improvements finally surfaces, it will be monumental."
And 88-11: "Vaporwords: If you don't have the product, sell a concept.")

OSF has already accomplished the most important task for its founders: It has slowed the AT&T/Sun juggernaut (although Sun helped a little itself). If you believe that OSF was just a manifestation of the market system at work, then the market has worked, producing an improved operating system on improved terms.

On the other hand, you can't set an earthquake if the ground underneath hasn't already shifted -- i.e., if people don't or can't use the "standard" you're trying to establish. So while OSF derailed AT&T, it didn't create a new standard; it just shifted control of the existing one. OSF so far has produced specs and cobbled together a popular user interface, Motif, but it is not yet close to offering a working operating system.

On firmer ground

UNIX Software Operation rounded up an impressive show of support for its debut of UNIX System V Release 4.0 at UNIX Expo last week. The third-party vendors' message, cleaned of cant, was simple: "They've got the product, so we'll sell it." If OSF comes up with a desirable product, they'll sell that too. For instance, it's pretty clear that UNIX International will support Motif as soon as there's a working version. The market likes the sound of standards, but salesguys can sell only products, not concepts.

So where do we go from here? Although OSF is a laggard in developing a working operating system, it is still in the game in attention to such worthy issues as distributed computing, interoperability, multi-processor support and architecture-neutral distribution. If OSF could take UNIX V.4 as a standard to build upon rather than a standard to replace, it might find a market eager for the gems it has been rounding up with its RFTs. (However, in assessing the Distributed Computing Environment submissions, it should take careful note of the installed bases using each proposed technology -- a factor in favor of the Sun/Netwise RPC, among others.) "It's all an experiment," says OSF CEO David Tory -- which we take to mean that such a shift is
plausible. Motif has more takers than Sun/AT&T's Open Look and might serve as a handy pivot for compromise. These are the underground shifts going on; now all it takes is a few aftershocks to resettle the surface accordingly.

Aftershock: USO for sale

AT&T's sale of its UNIX Software Operation is one such likely aftershock. But who would buy it? AT&T made the decision to spin off USO easily enough. But selling takes two; AT&T needs to find a buyer. Any buyer with a vested interest in the business would have the same problems as AT&T. The OSF board is hardly likely to give OSF the hundreds of millions necessary to conclude such a deal. Finally, the company could simply be spun off to shareholders or sold in a private placement or public offering through an investment banker, turning a highly political transaction into a mostly financial one. One might expect a number of industry players to want to invest, ideally for control, but at least to keep control out of AT&T's hands. Ideally, USO should end up an independent software company, building a product to sell to all comers, with control exerted through purchasing power. (One possible buyer could be Computer Associates, an ironical idea given that CA's arch deal-maker Dave Tory now runs OSF. But CA prefers end-users to ISVs and installed bases to potential.)

Take the case of Apple/Claris: Apple decided to spin off Claris in April 1987, to solve problems similar to those AT&T faces with USO (although there was no catalyst playing the OSF role). Two and a half years later, Apple still owns 80 percent of Claris (with 20 percent in employee hands). The company simply hasn't been profitable enough to warrant selling, says an insider. When it was spun off, most of its revenues came from Apple II products, and its flagship Mac software products had been written by outsiders Bill Atkinson and Randy Wigginton. USO is a little better off; more than half of UNIX V.4 was written by AT&T engineers, but it's not yet clear exactly who will come with USO. In the case of Claris, a new smaller structure without bureaucracy is starting to flourish, but it has taken years. The same scenario is likely with USO.

UNIX triumphant; now let's fight over binaries

It's time to say that the free-market competition ("openness" is just one more product pitch, as far as we're concerned) between OSF and the V.4 camp has led to a better product. Now let's unify the components and get on to another set of competitive battles. As System V.4, UNIX is now in solid shape, for all the jockeying among its various proponents. USO has some breathing room to prepare its next-generation product to compete with OSF, which may or may not be around in 1992 or 1993, and may or may not have a full-scale alternative at that time. By then, the issue will be binary compatibility, a notion all the chip vendors support -- especially for their own chips. Intel is the most vigorous in this regard; Sun would like to be, but it is hampered by history in the form of its 68000 and 386i machines. Intel also has the installed-base advantage on the desktop, with 57 percent by its own count of units installed, but can't offer the promise of scalability that appeals to high-end vendors. We expect there will be a variety of binary "standards" for years to come.

Program in haste; repent at leisure!

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NEW GEOLOGY: NEW VALUES

After an earthquake, real estate values get "rearranged." The layout of the land may change; desirability of various locations changes. The canny real estate investor doesn't sit around waiting for things to go back where they were (DOS's day is over, folks), but instead takes his losses and moves on.

Databases and pcs have become commodities; desktop publishing is old-hat. But there are new markets where you can now buy cheap, and build and sell high later: Tools, servers and object-oriented programming will provide new markets. Below are some companies responding to such rearranged markets.

Examples abound. With the exception of Sybase or some niche products, it's unlikely that a new entrant could make much of an impact in the relational database business. Dbms vendor Unify is responding accordingly, shifting its focus to its application development tool Accell. A single input file can generate applications with your choice of Windows, Open Look and soon Motif front-ends, and your choice of SCO Integra, Unify, Oracle or soon SQL Server and Informix back-ends. Its pricing (tools rising, database falling) reflects the shift in value to tools from databases. For its part, Informix is moving to address multimedia, mapping, image and other rich-data applications, and close integration with spreadsheets such as its own Wingz.

Compaq: Bigger than a ...box

Compaq has long taken the view that it is a platform vendor, providing a simple, standard box on top of which customers and software vendors could innovate, specialize and build solutions. The company punctiliously eschewed entanglements with software that might compromise its independence and impartiality. But last year it tried to set an earthquake, when it created and championed a would-be extended standard, EISA, rather than support one that was already there. It has been working hard ever since to rearrange the ground to fit the earthquake it instigated.

This year the company is going with the flow, responding to the shifts visible in the prolonged earthquake that has decimated the mini market. A fair number of people had already been using Compaqs as servers and multi-user systems, but those machines weren't optimized for the heavy throughput that servers ideally can provide. Compaq's new SystemPro is a full server, complete with operating system, database and communications -- an Extended Edition clone, in a word, but better suited to being a server than the single-user EE. IBM blindly put technology together; Compaq waited but seems to have done it right.

NeXT's pitch: Earthquakes don't strike twice...

We believe NeXT's workstation publishing pitch won't work precisely because it expects the earthquake that created desktop publishing to quake in the same place again. VisiCalc did it for the Apple //; 1-2-3 did it for the PC, back when markets were smaller. Desktop publishing did it for the Mac, but can workstation publishing play 1-2-3 to PageMaker's VisiCalc?

We'd like to suggest a different approach, by way of a digression. Many products would serve to make the same point, but Criterium is one we saw recently and mostly liked. Our reservations could be addressed by precisely the features that we believe could constitute NeXT's competitive edge.

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Criterium comes from Sygenex, an established software consulting firm that wanted to share some of its expertise through a software package (see "Software as medium," page 8). It has a flavor of Lightyear, Decision Pad, Expert Choice and Texas Instruments' Arborist. It helps you make and communicate decisions by setting up criteria, weighting the criteria, and ranking alternatives by each criterion. You can also fancy it up a bit, using words or sliding scales instead of points, or pairwise comparisons. (Juan is twice as good as Alice; Alice is significantly better than Jeremy; Jeremy is somewhat better than Fred. And yes, if you say Fred is twice as good as Juan, it will catch the inconsistency.)

<table>
<thead>
<tr>
<th>Goal</th>
<th>Decision-Makers</th>
<th>Criteria</th>
<th>Alternatives</th>
</tr>
</thead>
<tbody>
<tr>
<td>Beat the Trojans</td>
<td>Agamennon (CEO)</td>
<td>Risk Analysis</td>
<td>Trojan Horse 0.89 45.2%</td>
</tr>
<tr>
<td>1.00 100.0%</td>
<td>0.70 70.0%</td>
<td>Storm the Walls 0.83 16.1%</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Continue the Siege 0.87 30.7%</td>
<td></td>
</tr>
<tr>
<td>Feasibility</td>
<td>Trojan Horse 0.14 48.7%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>0.28 39.8%</td>
<td>Storm the Walls 0.08 29.6%</td>
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<tr>
<td></td>
<td>Continue the Siege 0.96 21.7%</td>
<td></td>
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</tr>
<tr>
<td>Resources Required</td>
<td>Trojan Horse 0.11 45.5%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>0.24 35.8%</td>
<td>Storm the Walls 0.1 39.6%</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Continue the Siege 0.84 15.6%</td>
<td></td>
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</tbody>
</table>

The program builds a hierarchy (above) displaying the portion of the total allocated to each criterion or contributor to a decision. (The points allotted each alternative are summed across the branches.) You can do clever stuff such as consolidating ratings by several interviewers or importing summary ratings from other people or workgroups (Odysseus and Achilles in the example), making nested models many levels deep. And you can use the product as a publishing medium: You can publish criteria and weightings and let people fill in their own rankings ("This is how we assess employees here at Galactic Toothpaste Company") or you can publish products and ratings and

1. The difference between Criterium, Expert Choice and Arborist on the one hand, and Decision Pad and Lightyear on the other, is that the first three rate things as alternatives -- they share a total score, borrowing many mathematical techniques from probability, where the chances of alternative events always add up to 1. Decision Pad and Lightyear, by contrast, rate things independently, each on a similar scale, and there's no influence across items. At the end, of course, you can divide by the total to get percentages, but the intermediate mathematics is more complex, especially when you have relationships among a number of alternatives or factors.

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let users apply their own weights and criteria ("Here are 200 PC clones, rated by 29 features and with scores from 42 publications' reviews; now use your own weightings to assess how each product meets your needs").

But somehow Criterium didn’t quite grab us. It seemed too stand-alone. (We could -- should -- have said the same about Decision Pad, Lightyear and the others, but we’ve come to expect more these days. The market is earthquakes older.) There’s no simple format to import, say, the ratings from a dBASE file of product listings, or real-time stock prices or an employee file with skills, experience and salaries. (Afterwards, you can export summary rankings into a 1-2-3 file, but that’s de minimis.) Criterium could be a handy add-on tool for a large number of casual users who could combine it with other tasks, but in its present form it is likely to appeal only to a small market of people willing to devote a lot of time to entering data and to using its functions exclusively.

Secondly, once inside Criterium, you still can’t interact with it easily. You feed it data; it chunks and displays a result. Its model is "enter and answer," instead of, "enter the data, move it around a little, and watch the corresponding rankings move around in another window as you do so." In other words, how would the relative rankings of Moscow, Tucson and Aspen as vacation spots change if we gave more weight to Juan’s criteria, or Alice’s, or Misha’s? How sensitive is the choice of Aspen to assumptions about snowfall? We can get the answer, but we’d like to be able to slide a value across a scale, and watch the relative rankings change in real-time.

No object is an island

Of course, the company is aware of these...call them opportunities for enhancement. It is using Criterium to decide which ones to work on first. The problem is, they will be hard to achieve within DOS.

The promise of systems such as NeXT and its object-oriented NextStep environment is the ability to add these kinds of functions in an integrated way. With a little math (maybe a class or two from a decision-making class library), you could hack together your own decision-making program -- one that would work off data you already have rather than require you to re-enter it. (SQL could help here too.) And with V.I. Corp.’s DataViews (see Release 1.0, 88-9) or an equivalent NextStep tool, you could easily build output objects as well -- slides and rules and pie charts -- to display not just results but intermediate data interactively and visually. In other words, you could apply decision-making logic to the data objects you already have by adding some new behaviors to them, rather than translate and re-enter the data to accommodate some application’s particular way of doing things.

This is the potential of object-oriented programming. It is the ability of users to construct their own tools from components, rather than to have to buy applications whole. It allows them to deal with objects and tasks rather than data formats, files, and protocols.

(IBM did not show NextStep in its UNIX Expo booth. Insiders tell us that IBM is now only 50/50 behind NeXT. That is a great pity: IBM could help create and could benefit from this new market of desktop object modeling.)
SOFTWARE AS MEDIUM: THE LENS, NOT THE PICTURE

The following is about software that happens to be Soviet...

Consider the notion of software as an active publishing medium for ideas and analytical frameworks. We don't mean the popular (and legitimate) notions of hypermedia and hypertext, which contain a variety of content that a user can wander through interactively. Rather, we mean the use of software as a medium for analytical techniques or schools of thought, ways of defining, manipulating and classifying content. Instead of publishing the content, the software vendor publishes techniques for looking at data that the user may provide -- perhaps with some generic content (rules of thumb or reference models) included. A spreadsheet model, of course, is a simple instance of this concept, as are a number of forecasting programs. Yet another example is Criterium (above), which is sold with six sample analytical frameworks: for personnel evaluation, litigation strategy, media planning, college selection, business funding strategy, vendor/product selection and facilities selection.

Increasingly, scientists are implementing their work as software; a number of doctoral theses exist as programs with brief documentation. As we noted last May, the Soviet Union has a number of excellent scientists. One of them, Vladimir Pokhilko, has turned his work into two programs.

Pokhilko, 35, has a PhD in psychology and holds a post at Moscow State University's Department of Psychology and Knowledge Engineering. His specialty is cognition and how people perceive the world -- how they relate concepts to one another in semantic nets, or webs of related words/meanings.

His Semantic Maze is an educational game which requires you to move from word to related word through an unseen maze to reach a target word in the minimum number of steps. The shortest way would be clear if the software displayed the net on the screen, of course, but for the purposes of the game you see only one step at a time. For example, your target is "adventurous." You begin with three choices: "happy, sad, active." Pick "active." Now you have three more choices: "timid, curious, candid." Pick "curious." Now choose from "thrill-seeking, lazy, refined." Pick "thrill-seeking," and your choices are "careless, bored, adventurous" -- you've finished!

By itself, Semantic Maze has a wide range of applications as a language teaching or testing tool. Underlying the game is a huge 15-dimensional semantic net of 350 base words with thousands of related words, reduced to two dimensions. It is a sort of quantified thesaurus, listing the words and their level of correlation with the top 20 homonyms and antonyms for each.

It also has a mode in which you can build your own maze, by connecting items on a character-based grid, but it is implemented more as a parlor game than

Credits: We met Pokhilko through Aleksei Pazhitnov, author of Tetris, the hot-selling game. Both men are involved with the cooperative Doka, which owns Welltris, the follow-on to Tetris (both are available from Spectrum HoloByte in the US). Doka also owns Semantic Maze, Pokhilko's first program. Doka's Andrei Snegov programmed both Welltris and Semantic Maze.

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a serious tool. We could imagine a game with Juan and Alice and Tom and Bruce... How many people do you have to go through to show your perpetual-motion machine deal to Juan, the adventurous venture capitalist? Third parties could build a variety of third-party mazes, sort of a new kind of trivial pursuit pandering to people's fascination with the semi-familiar in a new medium. The program is available in Russian or English, and Doka is negotiating to find a US publisher.

Tell it to Kelly

By contrast, Kelly, Pokhilko's next program (with co-author Alexander Shmelev), is a professional-strength knowledge-engineering tool designed to elicit and build such nets using the "repertory grid technique" developed by psychologist and mathematician George Kelly at Ohio University. Dr. Kelly used the technique to study patients' cognitive patterns, in a field called personal construct psychology.

Kelly the program could easily be applied to marketing, political analysis or jury evaluations (much like Neuron Data's Nextra, a program with some similar functions and much snazzier graphics, but different mathematical techniques; see Release 1.0, 89-2). Where Criterium (above), for example, attempts to take the richness of the relationships among items and reduce them all to a single number so you can rank them or allocate resources among them, Kelly attempts to expand single concepts to represent a rich, multidimensional semantic net of links and trees that can be used to analyze an individual's or a group's perceptions of the world.

Kelly is both a way of defining words -- or knowledge acquisition -- and knowledge publishing. This capability is of interest not only to philologists but also to linguists, sociologists, psychologists and of course marketers, forecasters, spies or anyone else who needs to explore meanings.

The program works by asking a subject to define objects of the field in question: anything from a patient's family members to kinds of animals to political candidates, brands of toothpaste (Bulgarian, Syrian, Indian), or solutions to a problem. It uses a total of 20 techniques, from asking the user to describe things free-form, to standard questions -- Which is best? Worst? -- to asking the user what feature distinguishes two objects from a third. The Russian version of Kelly is in FORTRAN on a Soviet DEC-compatible machine; the English version, which Pokhilko hopes to finish by February, is in C on an IBM PC. (We were unable to see the graphics output, since we saw the unfinished version at Pokhilko's home, where he has only a PC.) Kelly is owned by another cooperative, Ostord.

Models of meaning

Pokhilko's lens sees the world as a semantic net. Words are not themselves concepts, but reference points in a web of concepts. In the same way, neural net folks tell you, you don't have a "grandmother cell," a neuron specialized to recognize your grandmother, but a unique set of interconnections that refers to your grandmother. Get part of that set right -- a certain perfume, the rustle of silk, the shadow of a smile that your cousin inherited -- and you recall your grandmother as a whole.

That's why all but the simplest words don't translate well; their frameworks are different. This applies both to simple words, such as "yes" -- context
is all -- and more obviously complex ones, such as "house/home," "privacy," "property," "subway." In New York, "subway" connotes crime and grime and lower-class; in London, "subways" are underground walkways (the trains are the "tube"); and in Moscow, "metro" means speed, convenience, reliability -- and crowds. In New York, locations are indicated by street and avenue intersections; in Moscow, by the closest metro stop.

Language as a second language

This simple example illustrates the difficulties of working across cultures. The question of language is bedeviling Soviets and Americans these days. Anatoli Yevseyev, a Leningrad teacher, has been trying for a couple of years to round up support for a nonprofit language training and exchange program -- but in these heady days of perestroika, ventures designed to be nonprofit are getting lost in the shuffle. Very interesting, people say, and go back to business.

His attempts at raising nonprofit funding abandoned, Yevseyev joined private cooperative JV Dialogue (page 12) instead, to head a language-training program for profit. Language training doesn't get much respect in a world of computer sales and international trading; it's easier to teach -- and to quantify the benefits of -- a computer language than a human one. But Yevseyev makes a telling point when he says, "You can't talk business together until you can talk together." Trade is easy, but cooperation and technology transfer require communication, not just contracts.

Translation services, valuable and necessary, are still unsatisfactory. The coziest conversation becomes a confrontation, because the nuances get lost. Just as things get interesting and you want to explore deep topics, the barrier goes up and your most intricate thoughts are muffled and flattened by a well-meaning translator.

In the long run, we think problems of language will hamper the European Economic Community far more than currency or legislation, even though most European businesspeople already know several languages. Worse, language is an factor which will put the United States at an extreme disadvantage worldwide.
PERILS OF PERESTROIKA: RUSSIA REVISITED

We took our second trip to the Soviet Union, a shorter, eight-day visit, last month. Unfortunately, we didn't find much to change our mind from what we wrote after our three-week visit last April (Release 1.0, 89-5); the following will be more meaningful if you have read that issue. There have been some changes -- and, distressingly, greater conviction among many that those changes aren't sufficient. "We have stopped watching the [Supreme Soviet] meetings on television," one man told us, "because we have lost hope that they will result in anything." In short, glasnost yes; action no. Despair is more visible, but the system is still incapable of response. Its citizens are still hunters and gatherers in a crumbling industrial landscape.

Cooperatives under siege

One programmer told us he prefers to work free-lance because he considers it dangerous to get too close to a commercial venture, especially a cooperative (a small private enterprise, of which there are about 85,000) as opposed to a joint venture, a formal partnership with a foreign entity. The government is encouraging joint ventures because they bring in hard currency, but public opinion and new legal restrictions are rapidly swinging against cooperatives, and they are frantically looking for joint-venture partners. A recent Soviet poll (a new thing in itself) found that half the respondents disapprove of co-ops, and only one-quarter approve. (More broadly, 40 percent think the solution to widespread economic problems is "a strong hand;" only 25 percent favor free markets.) This is extremely discouraging, because joint ventures require a significant investment, to say nothing of a foreign partner, whereas co-ops are the kind of private effort that can arise almost spontaneously and are a necessary part of self-organizing economic activity. There are only about 1000 joint ventures registered, up from 200 a year ago, and of those only 150 or so (including JV Dialogue, page 12) are active.

Our friends Marat and Sasha Akchurin, who had such trouble getting their Freud book published last spring, have now overcome the bureaucrat who tried to stop them and have distributed the book. But their cooperative is printing new books in a number of places to spread the risk, and they are looking for foreign partners to turn the co-op into a joint venture. They cite the following conversation in the vestibule of their apartment building:

Neighbor one: "You know, I've looked all over for a tv set, and I just can't find one."

Neighbor two: "Yeah, it's all these cooperative guys. They're buying them two and three at a time!"

Nonetheless, there are local centers of great activity. The government's best hope is to get out of their way and let them flourish and multiply. But it's more complicated than that...

Following is the story of one such venture. Some day we hope to write about others, including the Soviet-Bulgarian joint venture run by Vladimir Tikhomirov which represents Nantucket (among others) in the Soviet Union. Each story is different, just like all the start-ups that eventually led to Silicon Valley and changed the U.S. infrastructure irrevocably.
ANATOMY OF A JOINT VENTURE

Long ago, a little Russian boy watched a Japanese cartoon. Two teams were trying to launch rockets: A spiffy, high-tech, punctiliously organized group of athletic Americans, and a scruffy, hung-over, bewildered band of poorly dressed Soviets. The Americans worked with split-second precision, flawlessly co-ordinated, and the team leader pressed the button as the countdown hit 0. Nothing happened.

For their part, the Soviets ambled about in confusion, some smoking, some not, and discovered they had forgotten the match to launch the rocket. A team member was dispatched to get one; he returned an hour later with a bottle of vodka -- but no match. Finally someone found one and held it to the fuse. Off went the Soviet rocket, climbing victoriously into the sky.

That little Russian boy, Petr Zrelov, eventually grew up to become a Party member and is 43 now, but he never forgot the cartoon. It stayed with him as he took on the job of running MIS for the Kama River truck plant, and later when he started JV Dialogue, the exclusive distributor of Microsoft products in the USSR and the second US/USSR joint venture under the Soviet Enterprise Law of 1987.

The relaxed approach the cartoon espoused is necessary to deal with the vagaries of business in the Soviet Union. It's an attitude Zrelov's American partner, Jack Byers, is trying to adopt without losing has value as organizer and catalyst. Byers, 46, is mild-mannered, a cheerful but persistent character, so young-looking that he appears prematurely grey. He ran a couple of large systems integration projects and then his own consulting company in the US, but it would be hard to say he was Making A Difference. Then Joe Ritchie called. Ritchie is founder and chairman of Chicago Research and Trading, a private securities firm with a good record, who had met Jack years earlier. Now he wanted someone to run Management Partnerships International, the American arm of the computer-oriented joint venture he had joined in the Soviet Union.

Byers is one of the breed most likely to succeed in the Soviet Union -- driven to make a profit not by greed but by conviction. His short-term goal is to have fun doing so. Of course, it's not everyone's idea of fun. His apartment, luxurious by Soviet standards, is only tenuously his and would seem cramped to most Americans -- certainly to most software-industry executives. The kitchen counter looks onto the dining room; a door across the kitchen leads to the bathroom, which also opens into the master bedroom. There's a living room, a foyer, and a guest bedroom where the baby will sleep when Byers' wife and partner Laura and their baby join him in February. (The baby will be born in a US hospital next month.)

A second look

Last trip, we visited JVD's headquarters and training facilities on the southern edge of Moscow; this trip we also visited two of its 15 branch offices throughout the Soviet Union, stayed in the Byerses' guest room, and got a closer view of JV Dialogue. Before you wonder: Conflict of interest is an inherent part of life in the Soviet Union. Where the market doesn't work, access to resources is always controlled by friendship, position, or other forms of influence; the heads of JVD's affiliates generally held -- or still
hold -- high government jobs. We paid our own way to the Soviet Union (with American Airlines miles, actually!), but we were a guest of JV Dialogue during our eight days in the country. You can't even enter the country, except as a tourist, without a formal invitation from someone, and it takes a sponsor to get a hotel room. So you can assume what you like about our biases: We're a big fan of JVD, but we came by that enthusiasm honestly.

Zrelov's connections with an assortment of luminaries and powerful people have helped the company to win business and to survive, but they certainly haven't made life a breeze. In fact, the apartment we stayed in was at risk: Rescued by Zrelov from someone who couldn't use it, it was also claimed by another party member who had his henchmen turn off the gas and seal the door two weeks before we arrived. Zrelov made a call to a powerful friend and the apartment is now JVD's at least until January.

In the end, you can solve any particular problem through the careful application of influence, but there are so many problems that you don't have the time to solve them all that way.

The set-up

JV Dialogue has a blue-chip list of Soviet partners, all government units: Moscow State University, the Central Institute of Economics and Applied Mathematics (the primary national planning outfit), the Computer Center of the Academy of Sciences, KAMAZ (the truck plant where Zrelov worked), Vneshtekhnika (the technology-trade unit) and VDNKH (the testing and assessment agency which works for other agencies and industrial organizations). JVD now has about 100 people, up from 30 when we visited last April, plus 100 branch employees throughout the Soviet Union and 400-odd "friends" who count as part of the JVD family -- customers, board members and their staffs, suppliers, prospective affiliates and the Computer Center's staff, which does a lot of training and programming for JVD. Its basic business is computer software and services, with hardware providing the foundation and allowing the company to charge for its efforts in a land where the notion of private property, let alone intellectual property, is suspect.

Currency issues complicate matters, but JV Dialogue's 1989 revenues are equivalent to $10 to $20 million in the US. As the exclusive (legitimate) distributor of Microsoft software in the USSR, it is developing Russian versions of MS-DOS and Works, with other packages to come. It also distributes SPSS data analysis software, Gateway LAN products and Autodesk software. Starting next year, it hopes to assemble CompuAdd pcs and peripherals and Hewlett-Packard printers in a 100,000-square-foot facility outside Moscow; currently, it imports and resells those vendors' products.

But even more than companies in the United States, JV Dialogue must help its customers realize the value of the products it sells. In this country with about the same population as the US (285 million) and fewer than 1 percent

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3 In fact, on the rainy night we met him, not even Evgeny Velikhov, chief science advisor and a member of the Supreme Soviet, could find a substitute driver anywhere in the Kremlin after his own driver had left, and was delayed almost an hour in addition to the hour he was already late.

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of its pcs (300,000), there's little ambient knowledge of computers outside the scientific academies and institutes.

JVD, so to speak, has to clear its own farmland if it wants a settled existence and customer relationships instead of a hunter-gatherer-trader lifestyle. It's easy enough to mass-produce pcs or software somewhere and sell them in the Soviet Union. But they gain value only in use -- and it's much harder to mass-produce training. That problem is also an opportunity, of course, and JVD's three training centers, with about 60 pcs, are always full. Local government enterprises -- manufacturers and distributors, ministries and departments -- send their people to be trained so that they can use the equipment they are about to buy, generally through JVD. Courses cost about 1200 rubles for two weeks; typical salaries are 100 to 300 rubles a month, so there aren't many private customers.

The courses may be tailored slightly by the instructor for a particular group of students, but they basically boil down to the same things: word-processing and database, database and word-processing, plus DOS and C and BASIC. There is less interest in spreadsheets, since there are fewer things for managers make decisions about. As we pointed out in May, in many ways pcs play the role of minis, managing departmental data.

JVD also wants to sell JVD-developed software overseas, but that will be tough until its people can learn Western ways and product preferences. But visas can be tough to come by, and a couple of JVDers had to drop plans for Comdex because the Commerce Department didn't seem to want them there.

Build your own infrastructure

JVD is also planning to buy a collective farm -- i.e., pay a certain amount of money to all the workers on the farm, give them a share in the profits, and use its production to sell and feed JVD's own workers. At first we thought this smacked of megalomania. But in fact it addresses one of the big drags on productivity at JVD and in the Soviet Union in general: the time it takes to buy food, to say nothing of the toll of a poor diet. Having a family helps, because the task is shared, but the hours and the frustration are a problem nonetheless. JVD already feeds everyone the midday meal in a large lunchroom, but supplies will be tougher and tougher to get as the company grows. One of the first people Byers brought over from the US was CRT chef Ron Ballinger, who spent a week sharing his expertise on food storage and preservation and kitchen sanitation; the JVD cook will take culinary courses in Chicago next year.

Another JVD project is the Moscow City Club, a hotel/club that will serve to earn scarce foreign currency, but it's complicated: First, JVD needs to get hold of the land. The site JVD wants, near Baumansky Park in northwest Moscow, has been abandoned for 12 years and contains a building foundation with trees growing inside it and lots of garbage. The government, of course, controls all the land, so Petr Zrelov's connections will come in handy. JVD needs only two more signatures to start clearing the site -- from the ministry of finance, authorizing the new joint venture with additional partners Club Corporation International of Houston and Mosaero, an arm of Aeroflot, and from the KGB, certifying that it won't be a security risk.

In theory, the government should want to help. It too is eager to bring in foreign currency, there's a shortage of hotel space that is deterring for-
eign businesspeople, and JVD itself is willing to put up funds, people --
and organized effort. But that's only theory: The government is abstract
(it's certainly not Mikhail Gorbachev alone), but the bureaucrats who could
allow things to happen are real, tangible people who see their power and
comforts threatened by this new class of entrepreneurs. How much more fun
to drink vodka with a fellow functionary than to haggle for scarce supplies
and inspire and manage a bunch of recalcitrant workers as entrepreneurs do.
The bureaucrats want none of these new business schemes!

Then there will be the problem of equipment and building supplies -- the
same problem. Guess who controls those?

JVD also has its own infrastructure for the kinds of services most American
firms would buy on the outside: Like other Soviet firms it has its own
cadre of "drivers" -- active, eager young men who know how to fix cars, find
gas stations, wait on line (or figure out how to jump the queue), collect
visas and otherwise negotiate the deadening bureaucracy. No one takes taxis
anymore (because they don't stop for strangers), and hired drivers are un-
reliable, willing to forgo a commitment without notice for a higher offer.
Right now, many freed sectors of the Soviet economy betray all the worst ex-
cesses of unrivaled greed, without the mediating influence of vigorous com-
petition. Drivers, food, resources, computers -- everything's in short
supply, and prices reflect it.

Grow your own people

The fundamental challenge faced by JV Dialogue is people. It must find its
own good ones and motivate and train them. That's true around the world, of
course, but it's probably harder to find good people because, like every-
thing else in the Soviet Union, money is not the issue. They just are rare.
And the things that will attract them (the right ones, anyway) aren't more
worthless rubles, but time (as in the sponsored cafeteria), the chance to
travel abroad (not all Soviets want to emigrate but almost all want to tra-
vel), and the chance to do something meaningful. Byers' goal is to combine
his work ethic with the flexible approach Zrelov so loved in the Japanese
cartoon. JV Dialogue is a chaotic enterprise, with grand ambitions and
driven people. Things get mixed up at times, and JVD drives its suppliers
crazy by its inability to forecast demand accurately -- not a traditional
Soviet forte.

JV Dialogue's second people problem is the people who don't work for JVD --
and wouldn't want to. It must help and train its own people to negotiate
the morass of restrictions that surround them and the don't-get-ahead cul-
ture that stifles them.

Clear your own farmland

The JVD spirit is akin to that of the pioneer settlers, trying to establish
a stronghold of civilization in a desolate frontier. Sure, they were out to
make a killing, but they knew they faced hardships and uncertainty, and they
liked the lifestyle. (The promises weren't sure enough to lure any but the
foolhardy.) Obviously the hope is that this will pay off eventually, but
the tangible reward in the meantime is self-respect and the dignity of con-
trolling one's own life. It's this kind of pioneer spirit that prevailed in
our country in its early existence, and that still prevails in Silicon Val-
ley (in some quarters).
The JV Dialogue pitch may sound a little hokey: People, pleasure, products, peace and profits. (Profits take care of themselves, says the company, if you can find and train the right people.) The JVD people aren't puritans or selfless; as noted, you can't get anywhere without being willing to bend the rules. But it's exciting to bend the rules for something you believe in, and merely humiliating to bend them on your own behalf. Zrelov and Byers are in all the way, as are Laura Byers and Tanya Zrelov, who help run things internally but don't get all the glory they're due.

We (us folks in the US) live in a world where the problems tend to be intangible and internal: Anomie, alienation, apathy, arrogance. In the USSR, JVD is struggling with real problems, trying to serve customers who really want and need its products. They are delivering products that will make a difference, not products whose equivalents you could find by walking down the street or sending in a credit-card number. Delivery and support count, not salesmanship. (You need salesmanship to get things, not to sell them.)

As we said in May, the Soviet Union is unfarmed territory, for all its industrial infrastructure. Resources are available, but they're locked up -- in this case, by government rather than by nature. For now, there's little need for clever ideas or technical differentiation or product uniqueness; smarts, cooperation and persistence will win.

Other measures

It's not the sort of business venture that can be justified by the standards prevailing on Wall Street today. The risks are high, the payoffs distant, the currency unconvertible, and there's little control over circumstances. Soviet joint ventures are no undertaking for a small company; the requirements are too great. And they're also generally unappealing to large companies run by MBAs; the risks are too great.

So there's opportunity for investors and entrepreneurs such as Byers and Ritchie, and possibly leadership in new markets for vendors who sell through them and their competitors. There's room for vendors to achieve market leadership they don't enjoy at home by coming in early, but it seems that the usual people are showing up first: Microsoft, Borland, Ashton-Tate, Nantucket, Autodesk. The Byerses liken it to the Gold Rush in the Klondike (with profiteers as well as settlers). "I wish I could take [the Americans] to see the Mezh [Moscow's tony International Hotel, which also sports an office tower]," says Jack Byers. "The Japanese are taking over whole floors -- not just suites, floors!"

Certainly the Soviet government, to the extent that it controls things (the less the better) will foster spending on software sooner than on consumer goods, despite the need for consumer goods as incentives. But, based on our conversations with Velikhov and others, there's still insufficient understanding of the market as the life force that makes things grow. Technology doesn't "transfer" by itself; human incentives play the role that "goals" play in making objects active and building self-organizing systems.
As part of our trip, we were invited along on a Young Leaders tour JVD was sponsoring to introduce Russians and Americans to each other, following up on a meeting held a year earlier in Philadelphia. We spent three nights on overnight trains, not a bad way to go if you get your own compartment (two out of three nights!). These Americans quickly took note of all the standard problems, the most intractable of which is the lack of currency convertibility. People with the trader mentality have learned to barter. The small guys live hand to mouth. Giants such as PepsiCo trade Pepsi for vodka, or paper for rights to trees, but these are mostly giant-corporation-to-government (what's the difference?) deals. Where's a small outfit like JVD to get resources worth trading? With full-time employees and commitments, it can't afford to rely on chance deals and erratic markets.

The first night we went to Tallinn, shown above as it looked some years ago, a stronghold of European culture and energy and the capital of Estonia (population 1.5 million). Sort of an overgrown medieval village, it has winding streets, a castle of sorts on a hillside, and lots of churches and cobblestones. JVD's local representative was out of town (we met him later in Moscow), and so we made do with a collection of colleagues and other people. The most interesting were Pille Ungerson, a dentist who moonlights as a guide for Intourist, and Monica Sehver of Uniconsult, a lawyer who specializes in joint ventures -- an interesting area since most of the law is new and untested. People keep calling her up and saying, "We want to do a joint venture. Can you help?" They have no particular product or partner in mind, but they know that joint ventures are a route to hard currency.

We prevailed upon Ungerson to take us to her polyclinic, one of the largest in Estonia with 150 dentists, almost all of them women (660 of the 700 dentists in Estonia are women). The director of the clinic, however, is a man, Tenno Jannes. Newly appointed, Jannes is eager to make a difference, as is Ungerson. Here too, hard currency is an issue. Ungerson and Jannes had just returned from a visit to a Moscow dental equipment show, full of modern equipment the clinic can't afford. But Jannes has a plan: to offer the clinic's services to Finns just across the Baltic Sea, who pay high prices for medical services in Finland. Their payments in hard currency will enable the clinic to buy equipment and expand. In addition, extra funds might enable the clinic to train and hire nurses and hygienists to perform tasks the dentists do now. The polyclinic supervises about 50 other dentists, who check children's teeth and teach prophylactic care in each local school.
But they and the clinics face insuperable odds: There’s a shortage of toothpaste and so little dental floss that no one even misses it.4

Estonia has its own language, close to Finnish and Hungarian rather than Russian. The attitudes in Estonia were openly hostile to the Soviets. We could see clearly how much more psychologically bearable it is to be oppressed by a foreign government than by one’s own: There is a general feeling that things are getting better and that one should stay and work to make them so. In Russia, by contrast, people seemed more ready to give up and leave -- or give up and stay. The dentist was clearly having a hard time of it, but her life is better than her parents’, and she hopes her two sons’ will be better yet.

The hunt for hard currency

Even the Estonian national (as opposed to Soviet) government is in on the hunt for hard currency. It has started a program whereby only Estonian citizens with appropriate ID are allowed to buy certain kinds of goods, in an attempt to keep out marauding Russians and other foreigners who were depleting the republic’s relatively well-stocked stores. Now the republic wants to create its own scrip, a sort of informal hard currency, that could be used to buy certain kinds of goods and traded for hard currency with its own exchange rate, backed by the Estonian government. It’s an intriguing idea, but would be complex to administer and would just create more friction in a marketplace that’s already almost inert.

Meanwhile, the Soviet government has begun an interesting experiment (effective November 1, after we left) with hard currency, de facto devaluing the ruble to a truer value around one-tenth the former official price. This move, however, seems to be more an attempt to forestall the black market than a real devaluation, since it applies primarily to transactions made by tourists, not to commercial transactions. Even then its effect is more on Soviets who will have to pay ten times as much for dollars, than on US tourists who are probably already changing dollars at street prices. This just gives the government a better chance of competing with the black market -- but it’s significant as recognition that the market can’t be ignored.

The main impact of the move may be to mop up spare rubles, but the government will have to lift the 300-ruble limit on departing travelers (now worth about $20) to have anything make sense anyway. For our part, we saw nothing to make us want to spend rubles in the first place.

The hunt for housing

In Leningrad, part of the Russian republic, there’s not much they can do about hard currency, and the government is their own people. The big prob-

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4 We tested this in Moscow at the Red Square GUM (the government’s version of Macy’s). Each unit has its own staff, usually two or three people, and its own selection, payment and delivery lines. At the appropriate place (we thought), full of razors and toiletries and not too much of a line, we asked for toothpaste. A clerk directed us to another unit, but a shopper standing nearby told us that the line there was very long. Were they standing in line for toothpaste, or for some other rarity? We let it go.
lem is housing, as it is in Moscow. We spent an evening with Sergei Vyazalov, the Leningrad deputy mayor in charge of the central city and a friend of the local JVD chief, Vitaly Saveliev. He spends much of his time chasing down bureaucrats who aren't doing their job -- helping people with heating problems, evictions and other such things. But the establishment isn't interested in new construction -- even when he arranged to get hard currency to fund it, notes Saveliev. To paraphrase: "The mayor told me to follow his plan, even though I already had other projects underway. So I said yes, and did what I wanted. The mayor wanted me to say yes, but he didn't care what actually happened."

Just driving through either city, you can see lots of what look like empty buildings. It turns out that that's what they are, abandoned because they are unlivable and known to the local authorities but not registered in any kind of central data bank. We heard figures as high as 60 percent, which struck us as unlikely, but 25 percent is plausible. Our apartment -- JVD Dialogue's that is -- was quite a catch, and had been considerably fixed up by Eyers and crew before we arrived. The furniture and fittings were all new, but most of the doors didn't close properly and the entryway was unlighted. At night you wanted a flashlight to find the keyhole. Other buildings had elevators we preferred to avoid, but inside most of the people we visited keep cozy, well-stocked homes -- if cramped. When the state is your landlord, there's no one to complain to about the common areas, and you can't withhold your rent. All you can do is move out if things get too bad -- leading to the vacancy rates just noted.

Saveliev was part of that establishment. He still has a little red book dated July 1987 to prove it -- a phone book of some 175 pages, 15 or 20 names to a page, listing the nomenklatura (Communist elite) of Leningrad. It has no title, just a copy number (his was 1525), and names, addresses and phone numbers. He had risen through the construction "business," rising from a foreman through seven levels of bureaucracy to a cushy post in Leningrad, and then decided he wanted out. In the tight little world of the red book, he was expected to give favors as well as receive them, and he was at their beck and call. Now at JVD Dialogue, he is freer, but he must still operate in the world controlled by his powerful friends.

A small world

In addition to the people actually on its staff, JVD has relationships with lots of free-lance programmers and is interested in selling their products in the Soviet Union or abroad. Indeed, although we made these appointments independently, it seemed that all the software developers we visited had computers with the little JVD Dialogue logo.

Half the people we visited last spring are now in the US on visits. (You may run into them at Comdex, at our booth.) But Aleksei Pazhitnov was still around, and he introduced us to a friend, Vladimir Pokhilko (page 8). And then there was Evgeniy Veselov, author of Lexicon, a top-selling Russian word-processor. He has a program called Master that works a lot like Framework but has (he says) a more powerful programming language. That encounter was the prelude to a startling coincidence. The next day we noticed the woman next to us on the metro reading another copy of the same book about Master that Veselov had given us. We told her we had met the author the day before. She smiled and said she knew him too. (For more on Soviet software, see pages 8 to 11.)

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Hunting and gathering on our own

The first three days of our trip were different from our visit in April. Although things kept going wrong -- the JVD people who picked us up at the airport got lost on the way to Byers' apartment, our host in Tallinn was out of town, and everything except trains was always late -- we were continuously well-fed, and using drivers is a far cry from riding the metro and continuously searching for accommodating taxi drivers, as we did in April.

But once we left the sheltering arms of JV Dialogue, it was back to the old Russia that strengthens the soul and tests the disposition. Lunch was too "complicated," our lunch partner told us one day, and so we settled for ice cream. (We also ended up paying with a credit card, and he reimbursed us with Canadian dollars which the ice cream shop wouldn't take. Hard is not a binary feature for currency, evidently.)

Our dinner companion didn't show because a secretary failed to deliver our message (and we didn't call to confirm because we had such a hard time -- no answer -- getting through the first time). On the way home we passed first a bakery with only two loaves that looked unappetizingly dry, and next a promising chicky-grill (to translate it idiomatically) with a couple of tables occupied. That was a bad sign; any place without lines probably has nothing to sell. And so it was: The chicky-grill had no more chicken. Round the corner from Byers' apartment another bakery was still open, so we bought a roll (20 cents at the old rate, 2 cents at the new) and took it home to eat with some cheese. And so forth...

You have to go through this to understand what it's like to live in the Soviet Union. As a foreigner, we feel it would be 'honorable to live like this all the time, but it's not cost-effective.

GLAV-PC: LONG-DISTANCE INFRASTRUCTURE

As noted, JV Dialogue is not alone in trying to build the Soviet computer infrastructure. Another effort is the Kropotkin "mirrored computer," a joint project of Glav-PC, a start-up owned by Lee Felsenstein and emigre-entrepreneur Peter Alexander, and of Inforcom, a Soviet cooperative linked to the USA-Canada Institute and headed by Mikhail Krasnov. Kropotkin was a nineteenth-century aristocrat-turned-anarchist known for his gentler, kinder version of Darwinism -- survival of those who help each other. Felsenstein, developer of the Osborne and a founder of Berkeley's Community Memory project, is currently looking for sponsors to provide a 386 with all the trimmings, an X.25 PAD (packet assembler-disassembler) and about $10,000 to cover the first few months of communication costs.

Kropotkin will consist of a heavy-duty communications link between two UNIX machines for use by programmers so that they can learn from each other and work together on joint projects. The system will be available only to teams with at least one member on the other side. One complaint we hear frequently from Soviet programmers is that they know little of US software development techniques and management practices; Kropotkin should help narrow this gulf. There's no substitute for face-to-face communication, true, but with luck Kropotkin will start collaborations that will eventually result in travel by one side or the other. In the meantime, it may encourage US com-

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panies to hire Soviet programmers whose work they could monitor over the bridge -- with hard currency flowing the other way. And on the other side, says Felsenstein, the agreement is structured to foster working communication between programmers on both sides, "not a perk, a hard-currency cash cow, or the property of a single academic institution, restricted to a small set of well-connected people." To be sure, there are logistical and legal obstacles, but you've got to start somewhere.

Action items:

If you are interested in meeting with Jack Byers, Lee Felsenstein, Peter Alexander, Arkadi Borkowsky, Sergei Ulin of ICC (below) or possibly Mikhail Krasnov during Comdex, we invite you to use our booth (157) as a message center and meeting place. On Tuesday night, Glav-PC will hold an informal gathering for people interested in the Soviet Union (including those interested because they live there!). You are invited, especially if you can "sponsor" some drinks. Please check at our booth for specifics.

We will be returning to Moscow in April to follow up with Velikhov and the Academy of Sciences among others, and to help with the organization of a conference sponsored by the USSR's International Computer Club in Moscow in June. If you are interested in attending, please call or write to us, and tell us your specific interests. (Also, IDG is planning a conference in July; details to come.) We are assembling a mailing list and will keep you posted, and will attempt to connect you with appropriate people. (We are purposely not including bingo cards or otherwise making it easy for you to respond; this is not a marketing effort.)

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The theme this year is "Into the seismic decade: Standards and earthquakes." We will explore the delicate interplay between standards -- temporary rigidities or fault lines in the market landscape -- and the huge upheavals that occur when the forces of change and innovation take over. Are standards a fool’s paradise, or an appropriate compromise between practicality and disruptive progress? Can large companies innovate? Can small companies succeed (without big backers)? Do the standard-setters have too much power? Is the traditional pc community losing power to a new world of networked systems, MIS departments and corporate standards? Should it care, or should it embrace the new world and change it from within?

More important: Are we addressing the right set of standards? The problem of multiple operating systems will eventually be ameliorated not by the actions of a single company but by cross-OS tools, clearer market segmentation and a gradual shift to new standards. But the standards wars won't be over; we'll be able to fight about interoperability and communications protocols, database standards, distribution and pricing practices.

Addressing these issues will be the speakers and panelists listed across, and a few more to be added. We're limiting the number of speakers and panelists in order to leave extra time for "virtual panels" with you and your peers in the audience -- customers, resellers, competitors, suppliers, investors. Speakers and panelists will discuss how standards are set and superseded in a variety of contexts, including: "Why the operating system is obsolete" (Epstein), dynamic data exchange, RPCs, E-mail and messages as approaches to interoperability (Gates, Metcalfe, Reinstein and Zisman), end-user application tools (Tesler and Landry), "The care and feeding of intellectual property" (Warnock), "The evolving box" (Canion), "The software design manifesto" (Kapor), "Microsoft isn't the enemy" (Eubanks), application servers (Torresi), "Behind the pretty (inter)face" (Liddle), "Evolution and revolution in microprocessor technology" (Slater), the laptop market as the last bastion of truly personal computing, and other topics. We will also have a panel of real users with actual examples of "exotic software" accomplishing useful tasks.

Thinking Machines founder Danny Hillis will give our "token user talk" this year. He will discuss "Simulating evolution," showing how he uses Connection Machines to model evolving populations...and evolving standards. There are some intriguing parallels.

But that's not all. An opening reception, Monday night's dinner honoring Ben Rosen, and other meals and events will also give you ample opportunity for a key part of the Forum, the chance to mingle with your peers away from office pressures and among the cactuses. In keeping with the conference's seismic theme, Colleen Barton of Stanford will lead a geology field trip for spouses and others (adults only) in the Tucson countryside. The Forum hotel, the Westin La Paloma, sits on a desert mountainside. It's thirty minutes from the airport, which has good service through Phoenix from the West and Dallas from the East. There's shopping, swimming, tennis, golf...and day-through-evening childcare, so bring your family.

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Speakers and panelists

Rod Canion  Compaq
Jim Cannavino  IBM
Bob Epstein  Sybase
Gordon Eubanks  Symantec
Bill Gates  Microsoft
Danny Hillis  Thinking Machines
Steve Jobs  NeXT
Bill Joy  Sun Microsystems
Jerry Kaplan  GO Corporation
Mitchell Kapor  ON Technology
Bob Kavner  AT&T Data Systems
John Landry  Agility Systems
Dave Liddle  Metaphor
Jim Manzi  Lotus Development
Dennis McEvoy  Cooperative Solutions
Bob Metcalfe  3Com
Harry Reinstein  Aion
Ben Rosen  Sevin Rosen
Michael Slater  Microprocessor Report
Larry Tesler  Apple Computer
Enzo Torresi  NetFRAME
David Tory  Open Software Foundation
John Warnock  Adobe Systems
Ann Winblad  Hummer-Winblad
Mike Zisman  Soft-Switch

Company presentations will include Agility Systems (Liaison), Aion Corporation (Application Shells), Answer Computer (Apriori), Apple (multi-media), Clear Software, Desktop Data (NewsEDGE), Interactive Images (Easel), JV Dialogue (see page 12), Lotus (Notes), Lysis (Support Information System), MacroMind (Director), Netwise (RPC TOOL), Pinpoint (Computer Focus), Poget Computer, Saros Corporation (FileSync), Silicon Graphics, Tome Associates, Ultrasonic Technologies, Verity (Topic and other topics), V.I. Corporation (DataViews), Xanadu (the Xanadu server) and others to be announced.

There is a small number of scholarships available to Soviet citizens; please call us for information. (Selection is arbitrary; there is no application form.) Conversely, if you would like to share a room with a Soviet (you pay; he or she stays), please let us know.

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RESOURCES & PHONE NUMBERS

Aleksei Pazhitnov, Moscow, 291-35-62
Vladimir Pokhilko, Moscow, 234-30-34
Vladimir Tikhomirov, Moscow, 319-48-03
Evgeniy Veselov, Moscow, 234-30-34 (home), 203-66-28 (work)
Mike Swavely, Rod Canion, Compaq, (713) 370-0670
Lee Felsenstein, Glav-PC, (415) 548-0738
Jeff Bork, Phil White, Informix, (415) 926-6300
Levon Amdilyan, International Computer Club, Moscow, 921-09-02
Petr Zrelov, JV Dialogue, Moscow, 329-51-33 or 329-47-00
Jack & Laura Byers, MPI, (312) 431-2535
Steve Jobs, NeXT, (415) 366-0900 or (800) 848-6398
Dave Tory, Open Software Foundation, (617) 621-8700
Patrick Courtin, Proteon, (617) 898-2800
Phillip Adam, Spectrum HoloByte (Sphere Inc.), (415) 522-3584
Bill Joy, Sun Microsystems, (415) 960-1300
Larry Allen, Sygenex, (206) 881-5500
Phil Lehman, Transarc, (412) 338-4406
Monica Sehver, Uniconsult, Tallinn, 606-707
David Saykally, Karan Erikkson, Unify Corporation, (916) 920-9092
Peter Cunningham, UNIX International, (201) 263-8400 or (800) 848-6495
Larry Dooling, UNIX Software Operation, (201) 829-7300
Geoff Morris, X/Open Company, UK, (44 734) 508311; US, (415) 773-5383

COMING SOON

• Europe 1992.

• CompuServe, Prodigy, MCI Mail, USENET, Internet, et al. The only way we know to get around to getting online is to commit ourselves to writing about them...

• Network navigation.

• Application servers.

• And much more... (If you know of any good examples of the categories listed above, please let us know.)

Release 1.1: R* was not the predecessor to DB2, as we said in 89-9; System R was. R* was a separate, noncommercial follow-on (also at IBM) to System R to research the issues associated with distributing System R. (Thank you, Robert Good!)
November 28-29  Forrester technology management forum - Cambridge, MA. "Client/server computing: The vision becomes reality." With the usual suspects: John Sculley, George Conrades, Ken Olsen, Bill Gates, Enzo Torresi, Ray Noorda, Bob Epstein, John Young, Frank King, Ed Esber, rising star Wayne Carpenter of Saros, others. (Try putting these egos in order!) Call George Colony or John McCarthy, (617) 497-7090.


November 29-30  Emerging software technologies conference - Innisbrook (near Tampa), FL. Sponsored by ADAPSO's Software Industry Section. For developers, commercial or in-house. With interactive sessions on object-oriented databases, mail-enabled applications, IBM's repository manager, viruses, and other current topics. Discount for ADAPSO members; call John Gracza, (703) 522-5055.


December 4-6  First international conference on object-oriented and deductive databases - Kyoto. Sponsored by IEEE, MCC, many others. Contact: Professor Kiyoshi Agusa, 011 81 (75) 256-1677, or Won Kim at MCC, (512) 338-3439.


January 15  Massachusetts Computer Software Council annual meeting - Newton, MA. Contact: Joyce Plotkin, (617) 437-0600.


January 18-19  Second annual conference on software support - San Francisco. How to turn a problem into a competitive advantage. Sponsored by the Institute for International Research. With Barbara Brizdle, Software Strategies; Deborah Fain, Lysis Corp.; Tom Evans, Answer Computing (see Release 1.0, 89-7). Contact: Georgette Asherman, (212) 883-1770 or (800) 345-8016.

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February 5-9  Communication Networks '90 - Washington, DC. Keynote by Ken Olsen. Sponsored by IDG Conference Management. Call Dorothy Ferriter, (800) 225-4698; Robin Poulin (exhibits), (800) 343-6474; or Bonnie MacKeil, (508) 879-6700.

February 5-9  *Artificial life conference - Santa Fe, NM. With Christopher Langton, others. Sponsored by Santa Fe Institute. Call Susan Wider, (505) 984-8800.

February 6-8  Goldman Sachs technology investment symposium - New York City. Analysts' outlooks and companies' promises. Call Andrew Krawitt, (212) 902-7771.

February 6-9  *Software development '90 - Oakland, CA. Solid information from practitioners and luminaries, including Larry Constantine, Ed Yourdon, Ken Orr, Bill Gates and Philippe Kahn. Sponsored by Miller-Freeman, publisher of Computer Language, AI Expert, UNIX Review and other magazines. Call Cheryl How, (415) 995-2471.


March 5-9  *Seybold Seminars '90 - Boston. ...moves east. Call Kevin Howard, (213) 457-5850.


April 1-4  *SIGCHI - Seattle. "Empowering people" with better, more intelligent interfaces to functional systems. With a panel on computer-aided (mediated?) conflict with Tom Malone and
Esther Dyson, among others. Sponsored by ACM SIGCHI. Call Toni MacHaffie, (503) 591-1981.

April 10-13

*Macworld - San Francisco. Later this year. Call Peggy Kilburn, (617) 326-9955.

April 23-26

First international conference on systems integration - Morristown, NJ. Sponsored by ACM and IEEE groups. Call Peter Ng, (201) 596-3387.

April 23-28


April 25-27

Conference on office automation systems - Cambridge, MA. Sponsored by ACM and IEEE groups. Call Joan Staunton, (212) 869-7440, or Robert Allen, (201) 829-4315.

April 27

Computer Bowl - Boston. Sponsored by the Computer Museum. Call Kate Jose, (617) 426-2800.

May 1-3

Second annual conference on innovative applications of artificial intelligence - Washington, DC. Sponsored by the American Association for Artificial Intelligence. Contact: Claudia Mazzetti, (415) 328-3123.

May 7-9


June 3-6

Spring Comdex - (back in) Atlanta. Sponsored by the Interface Group. Call Elizabeth Moody at (617) 449-6600.

June 3-6

*ADAPSO Conference - Washington, DC. Call Frank Ianacone at (703) 522-5055.

June 11-13

*Software Publishers Association First International Conference - Cannes, France. Call Ken Wasch, (202) 452-1600.

June 14-16

*International Computer Club Inaugural Conference - Moscow. Scheduled to lure people east from the SPA event in Cannes. See page 21. For information, call Esther Dyson at (212) 758-3434 or Levon Amdilyan in Moscow at 921-09-02.

June 20-29

Design Automation Conference - Orlando, FL. Sponsored by IEEE and ACM groups. Call P.O. Pistilli, (303) 530-4333.

Please let us know about any other events we should include.

-- Denise DuBois

*The asterisks indicate events we plan to attend. Lack of an asterisk is no indication of lack of merit.
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Daphne Kis
Associate Publisher

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