FORUM DOCUMENTATION: PLANE FARE

Each year we devote one issue to Forum documentation, a combination of overview and reference, to set the stage for the Forum. We explore a couple of issues we expect to provoke debate, sketch out the territory of groupware (broadly defined), and provide capsules for each company presentation. But we avoid the kind of biographies we're tired of seeing: "Log cabin. Paper route. Five Ivy League degrees. Wife and two children, Juan and Alice. Founded his first company at 14 in the family room. Loves helicopter skiing and can balance a chair on his nose." (This is a composite.) Instead, we offer more depth on people you may not know, and skip the bios of, say, Rod Canion and Steve Jobs. Yes, it's premature: We'd be better prepared to undertake this guide after the three days of discussion. But here goes....

The theme this year is "Into the seismic decade: Standards and earthquakes." The current fascination with standards/openness strikes us as excessive: We constantly hear vendors say "We're open" -- i.e., we support standards -- as if that answered all questions about strategy, product quality, differentiation, competitive advantage. But it doesn't.

Standards are only temporary rigidities or fault lines in the market landscape, and they foster huge upheavals when the forces of change and innovation finally take over. It's the proprietary products good enough to force change that are interesting -- and necessary to understand so that you can predict the earthquakes. The purpose of the Forum is not to discuss current standards nor even emerging ones, but to discern the fault lines between old standards and new, radical improvements so we can be prepared for the earthquakes and the standards they will lead to.

Moreover, earthquakes don't always happen in the same place; they happen where tensions have not been relieved. So rather than worry about OS/2 and UNIX, PM and Motif and Open Look, let's consider cross-OS tools for interfaces and transactions, object protocols, ways of sharing text and image data, interoperability and communications protocols, database standards, distribution and pricing practices. No, there are no putative standards to argue about; just examples to ponder.

IN MEMORIAM -- RUDGE ALLEN

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IF YOU'VE GOT A FAMOUS FOUNDER, FLAUNT IT!

On Monday night, we will honor Ben Rosen, who founded the predecessor company to EDventure Holdings, Rosen Research, before his other efforts -- Lotus Development and Compaq Computer, among others. This is the story of one man who made a difference to an entire marketplace.

Ben asked us to cancel the violins and offered to MC it himself -- probably in self-defense. So we're happy to delegate upwards. After a short appreciation by George Gilder, Ben will reminisce, with correction of faulty memories from people such as those in boldface and others in the audience.

Ben began life as a mild-mannered engineer for Raytheon. In 1965 he became a securities analyst for Coleman and Co. and moved on to Morgan Stanley in 1975. At both places he followed semiconductor companies -- then a fledgling industry, as ably recounted by George Gilder in his book "Microcosm."

In 1977 his friend Mike Markkula, who had just retired from Intel, pressed Ben to pay attention to a long-haired kid who seemed to have some interesting ideas about what to do with microprocessors -- those hot new programmable chips everyone was talking about. He had already met the kid at a Mostek hospitality suite at a Solid-State Circuits Conference in San Francisco, but Markkula's comments led Ben to get in touch again. That kid was Steve Jobs. Ben took a second look, got himself an Apple II, and became one of the most influential and visible fans of the company. In late 1980, Apple Computer went public through Morgan Stanley.

By 1978, a little industry was collecting itself. Ben held the first annual PC Forum at the St. Regis Roof in New York. (Ben recalls an audience of 50, but we counted almost 200 in the program.) Speakers included Markkula; Rich Melmon, representing Unitech and its product Video Brain, an early home computer; Lew Kornfeld, Tandy; Chuck Peddle, Commodore; Marty Lipper, APF Electronics. Bill Gates didn't come until the following year's Forum, after Ben had spent most of 1978 learning BASIC in order to program an Apple to do earnings reports and projections. "As soon as I saw VisiCalc, I realized I had wasted all that time," he says. "I gave it a glowing report in the Morgan Stanley Electronics Letter." Personal Software was on its way.

He met Personal Software founder Dan Fylstra before VisiCalc, at an Atari press conference in 1978, where Atari's Alan Alcorn was telling him about this hot new game, MicroChess, from Personal Software. "I'll make you a copy," said Alcorn enthusiastically. But someone tapped him on the shoulder to protest. It was Dan Fylstra.

About that time he also met Marv Goldschmitt at a security analysts' conference on the use of computers. Goldschmitt told him about a program called Tiny Troll, an Apple II version of an MIT mainframe statistical package. He had written the documentation for the package for $200 and was de facto its chief salesman through his job at an early Computer Store outlet. For a few years -- until Sy Merrin showed up -- Goldschmitt sold Ben computer gear on a regular basis. Goldschmitt introduced Ben to the package's author, his roommate Mitch Kapor, a former disk jockey and transcendental meditation teacher whom he had met on a six-month TM retreat in Switzerland in 1976. Kapor turned Tiny Troll into VisiTrend and VisiPlot for the PC for Personal Software/VisiCorp, and then left to found Lotus. His next product -- and

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Lotus's first -- was Executive Briefing System. Goldschmitt later became vp of business development at Lotus and is now a strategic consultant and a director of Persoft and Saber Software.

In 1980 Ben left Morgan Stanley to strike out on his own. In the act we're celebrating this year at the Forum, he started a newsletter/consulting business called Rosen Research. The newsletter was called The Rosen Electronics Letter (hence "RELease 1.0" -- the name I gave it from 1983 to 1985).

Ben's insight and his generous and eloquent sharing of it helped create the industry we know today. Many of the people now at the Forum have benefited personally from his advice; others now work for companies he one way or another fostered. He led many people on Wall Street to help fund a sector of the economy they didn't understand until it became large enough to produce the profits and productivity benefits they appreciate.

The epilogue to the prologue

In the spring of 1981 Ben decided to put his judgment to work, and start investing serious money where before he had mostly been contributing valuable advice and insight for no return. He co-founded Sevin Rosen Management, a venture capital firm, with Mostek founder L.J. Sevin. They invested in Mitch Kapor at Lotus, and Rod Canion and his team of engineers from Texas Instruments, who came to Ben through Portia Isaacson of Future Computing fame and Finis Conner of Seagate and Conner Peripherals. Had Lotus and Compaq gone the way of one of Ben's other investments, Osborne Computer, he could have kept writing the letter, but they were so successful that it was hard to cover the pc industry without mentioning them -- and a conflict if he did. So he decided he needed someone to take over the writing. Besides, venture capital was more fun and more lucrative.

I joined him on 31 July 1982 -- a Saturday. I had wanted to wait a few months, take some vacation and then start work in November. But as it happened, the Forum transcripts were overdue (another long tradition!), and the job was mine only if I agreed to take on that task. But the shift in writers wasn't enough to dissociate himself. So in the spring of 1983 Ben sold me the newsletter in a leveraged buyout: He took the cash, and I got the business and unfulfilled subscription liabilities.

Around that time, George Gilder called. He was doing some research on the semiconductor business for his book "The Spirit of Enterprise," and wanted me to send him some back issues. I agreed -- on the condition that he come by in person to pick them up. As George recalls it, "I was desperately angling for a free subscription. I had asked Ben [some months earlier], and he said, 'Not unless you write it yourself!' Ask Esther." So when he came into the conference room and I mentioned what a pity it was that the semiconductor business had lost its chief chronicler, he asked, "What about me?"

George wrote for us for about a year before his book took his full energies, and brought us articles such as "Resurrection special: DRAMs, bubbles, National Semi," "Dinner with Andy...Grove," "CMOS triumphant: Score one for the Japanese," and (yes!) "Earthquake in San Diego," about the 1983 Semiconductor Forum, which experienced a tiny shudder of 4.8 on the Richter scale. George is uniquely suitable to speak on Ben's behalf because he espouses the entrepreneurial culture that Ben has both exemplified and fostered.

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The prologue to the next chapter

Now the newsletter is going through another evolution, following its tradition of leading the way to new areas of interest: From semiconductors to microprocessors to pcs to software to Eastern Europe. While I don't intend to abandon coverage of the evolution of software, I can imagine no more fascinating place to watch its development and application than a part of the world changing as rapidly as the technology itself. (And it may even be a profitable place to find products and do business!)

See you in Budapest!
GROUPWARE -- AND PROUD OF IT?

The very organization of this section illustrates one of the primary problems we face in software and in life: organizing rich, inter-related data. Many of the products discussed below and demonstrated at the Forum belong in several overlapping or orthogonal categories: development tools or applications or environments, client-server architecture, text-management systems, graphics support or use, object-oriented databases.

How can we properly represent these complex classifications and relationships? On paper it's tough, because you have to select one sequence and one structure. You could build a table and check each of the categories with which an item is associated (see page 24), but it's hard to visualize how similar or different two items are. A tool such as Neuron Data's Nextra (Release 1.0, 88-3) or Vladimir Pokhilko's Kelly (Release 1.0, 89-11) could help in this regard, creating a perceptual map or a hierarchy.

Electronically, you can build a web of relationships from which selected links can be instantiated as appropriate. The ability to manage such complex structures -- and particularly to maintain data integrity as multiple users manipulate data in a variety of forms -- is key not just to text-management systems, but also to development tools, groupware, text-management systems, and object-oriented databases. (An example of relationship -- not data -- visualization is the chart on the page across.)

Ich bin ein Groupware

If you built a hierarchy of all these kinds of software, you would have to top it with groupware, or what Steve Jobs calls "interpersonal" software, the catch-all category for almost all the products coming onto the market. This is not because they necessarily technically implement or support group computing, but because they are coming to maturity at the time most computers and users are going to be connected, and they will be part of that new world.

Indeed, groupware won't be a useful term very long, since it won't distinguish one product from another. (We'll soon start talking about single-user software just as we talk about one-product companies.) It will be assumed that most software works together and supports individual user identities. Inevitably, just as Personal Software kicked off the Eighties with VisiCalc, so will groupware kick off the Nineties, a decade of interconnected systems and people. In this more self-conscious, hype-weary age, we see no company with the gracelessness to call itself Groupware Inc. In one way or another, most of the companies here could claim the title. However, just as the decade of the individual user is over, so is the decade of the individual company. All these vendors must work with one another, as well as with one another's products.

But there's a temporary period now during which only applications designed to do so will work together. Think back to the days when you had to buy a product such as Symphony or Framework to get various functions to interoperate. Nowadays (or so they tell us), almost any word-processor can import tables from a spreadsheet without losing its formatting, and so the word "integrated" has lost its import, much as groupware will. The widespread availability of dynamic data exchange is helping, but to make this
A framework for groupware

Content-intensive

- SQL Server (86-6, passim)
- generic dbms, o-o dbms (87-8, 88-12, 89-9)
- SQL*Mail (88-5)
- Lotus Notes (88-3, 89-12)
- Answer Apriori (89-7)
- Lysis (89-7)
- Folio Views (89-12)
- Saros FileShare
- generic project managers
- For Comment (86-11)
- NewWave (87-12)
- Concordia (88-4)
- TEAMate (88-4)
- multi-user hypertext (87-11)
- E-mail
- WP
- screen-sharing tools
- Atex
- Staffware (87-12, 88-2)
- Workhorse (88-2)
- Beyond (89-11)
- Liaison (89-11)
- Syzygy (Info. Research)
- Context DME (88-2)
- Nastec LifeCycle Mgr. (86-5)
- Expedition (87-6)
- ViewStar (88-3, 89-12)
- DocuForum (87-6)
- FileNet WorkFlo
- Coordinator (86-10, 88-2)

Passive

Workflow-intensive

happen, we still need a substrate of standard or at least interoperable interprocess communications, messages, cooperative processing tools, background mail servers and mail-enabled applications.

Why isn’t groupware here yet? Some of us are growing bored with it before others even believe it will exist. The architects have done their part, but construction workers need to learn how to work with new materials and tools. Right now, groupware is in blueprints -- or houses with crooked walls.

As illustrated above, groupware can be classified along two axes on the basis of its involvement in work content and workflow. (Other axes might include the ease of use of a tool/environment/application: Is it for users or programmers? Alternatively, is it a tool for programmers, or an environment in which users can communicate and share work and information?)

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The work-content aspect necessarily involves shared information -- either regular data such as in a relational database, or shared text files such as in Lotus Notes or a text server such as Answer's, Xanadu's or Lysis'. Database servers passively let people share information; groupware (technically, it may be a server/database application) takes a more active role in managing the data, helping to classify it, present different views of it to different users, and combining data from different sources into more meaningful shared information. Workflow systems couldn't care less about the content; to them, it's just files -- text, image, data or applications -- but it knows who has them and who should have them, and monitors the assignment and completion of tasks that use them. The cooperative processing transactions created with Cooperative Solutions' tools could concern data, or they could concern tasks. Likewise, you could use Xanadu as a back-end for data, or you could build workflow systems around it. And you can build groupware on top of anything, including object-oriented databases and expert systems to route work on the one hand, and mainframes with COBOL on the other.

Obviously, some groupware systems have components of both, as shown in the chart above. They manage both the flow of work and the content of it, in varying degrees. But that's all theory. While in the future software will manage workflow as a matter of course, helping managers to pass out assignments and work groups to coordinate in a less hierarchical manner, for now most actual users are taking more advantage of the content-oriented, information-sharing functions of groupware.

The diagram above represents a preliminary, fuzzy assessment of a variety of groupware products, many of which are not commercial. A large group of office automation systems that provide mail service and multi-user calendars is smeared all over this chart, depending on how they are used. They include DEC's All-in-One, IBM's OfficeVision, Data Access's Office Works, WordPerfect Office and Conetics' Higgins.

Tools for living

Moreover, tools are hard to place on the chart, because much depends on how they are used. ViewStar, in particular, can be used to manage workflows, but it may also be used primarily as an information storage and retrieval tool, as described in our 32 December issue. Likewise Lotus Notes and HP NewWave. By contrast, Folio Views, Saros FileShare and Coordination Technology's Together don't yet provide programming support for workflow management, although they can be part of or used with a system that does. It's more a question of orientation and support for abstractions than an absolute distinction.

Typically, groupware is sold as a tool which can be used to configure or support a groupware application that solves someone's pressing problem. "We used to talk about coordination," says Roger Moody, ceo of one of many vendors with a product on the way. "Now we just talk about compressing time; that's what they're really after." But he hasn't changed his company's name: It's Coordination Technology.

You can't just buy a groupware application off the shelf because it's hard to find any two groups that need precisely the same application, although
they may need similar functions combined in a variety of ways. In that way, groupware tools are similar to pc databases: They have functions that can be used right out of the box (simple sorts, etc.) and without much setup, but by and large they are tools to build applications. But simple mail, a groupware staple, is like traditional WP: The content and the control are entirely up to the user. Both types of software can have program interfaces, but for now they are mostly used interactively.

Technically, groupware is likely to be server-based, with the shared information or the information about workflows, task assignments, work status, etc., kept on (distributed) servers. It may include one or more databases, to manage work content or workflow or both. In a system such as Lotus Notes or Lysis's Support Information System, there is a text base, with its own special (and unfortunately nonstandard) way to store text. Answer Computer's Apriori, Incidentally, uses a relational database, as does ViewStar, with the actual text and images stored in other formats.

A distinction with a difference

Groupware has engendered a lot of controversy for something that barely exists. Well-meaning democrats dismiss it as authoritarian; sensible business people consider it soft and fluffy; serious-minded dp folk say they've been doing it for years anyway on mainframes.

What makes groupware different from traditional mainframe applications that support groups? Technically, groupware can run off a mainframe host as well as off pcs and servers. Indeed, probably the earliest groupware applications, with workflow control as well as content-sharing, were the editorial systems installed by Atex, running off mainframes or minis and managing the flow of news stories from creation through editing (maybe several times) and on to layout.

But the mindset is different. Multi-user applications -- where a large number of users can run the same application at the same time, with shared data -- are not really groupware because they don't make any distinction among users. The focus is on the data. Groupware, by contrast, understands that there are different kinds of users, different sources of data, and perhaps even a flow of work from one user to another. That's a fine distinction, but a real one. Different from the mainframe applications they supplement or front-end rather than replace, these applications automate the paper-shuffling done by and among individual professionals, rather than the data-intensive, person-insensitive tasks formerly done by clerks and "operators." In other words, they make sure that people paid by the year rather than the hour spend their time on tasks worthy of those rates.

Secondly, the tools are different. All the systems described below could be built from scratch by a data-processing department. That's not the point. The point is that although they are not generic -- each is tightly tied to its user base -- they can be installed and configured by a much smaller, less technically adept user, and customized by their users. Similarly, any dp department could build a financial model -- but spreadsheets broadened that same capability to users. The parallel is not exact because the systems we're describing here are for groups of users, and they must be configured to reflect group behavior rather than the thought processes of a single user.
Just as pcs snuck in unofficially outside the purview of dp departments, brought in by people trying to get work done, so will groupware. But it will be bought by managers or groups rather than individuals; groupware is applications for networks, just as pc software is applications for pcs. In the end, it will have to be hooked up to the rest of the company, just as pcs have been -- but the problems will be even more complex. The buyer of groupware is usually the de facto manager of a networked pc installation, but he has other work on his mind -- running a department supporting customers or processing loan applications or designing buildings. He has a bunch of users: They're doing things on the pcs, maybe sending E-mail, but they're still drowning in paper and losing track of things. Deadlines get missed, people don't know what's going on, and the pcs seem to churn out more paper than anyone can handle.

OTHER COMPONENTS OF THE NEXT GENERATION

Of course, many development tools and platforms focus on different parts of a system, and have no special relationship to groupness other than their timing into the market. With the profusion of graphical user interfaces, it's necessary to make applications easier to build -- and even to provide some standard components. However, a single look-and-feel above a base level of consistent components makes no sense.

Good design requires that an interface have application-specific components and metaphors and even intelligence (cf. Vellum, Release 1.0, 89-12). In particular, GUIDance's Choreographer, Interactive Images' Easel and V.I. Corporation's DataViews ease the problem of developing graphical user interfaces. The flavor of each is subtly distinct (which is why they're scheduled not to conflict). Easel is more language-oriented, with specific support for cooperative processing, while Choreographer is more mouse- and object-oriented, for building highly interactive interfaces. DataViews is designed to support visual display of changing data. You could probably build the same interface with any of them, but the work and approach involved would be different.

Aion's Application Shells, IntelliCorp's KEE and AICorp's KBMS help build applications that contain some inference or data-determined decision logic. (Note that none of them use the AI word in describing their products.)

Netwise's RPC TOOL is a heavy-duty programmer's tool for building distributed applications that execute over several environments instead of in a single one. Cooperative Solutions' tool also builds cooperative applications, but at a higher level. It is concerned with the logic of a transaction, whereas RPC Tool manages (invisibly) connectivity. (Note that cooperative applications do not necessarily imply cooperating users, although the reverse is usually true.)

Object-oriented databases will be needed to support many of the more interesting applications of the future -- ones where the structure of the data is irregular and is itself an important part of the information that the database must store, manipulate and protect from corruption. The initial market for object-oriented databases, as it was for UNIX workstations (as opposed to UNIX multi-user accounting systems), is technical people who need a way to manage richly structured design data -- engineers, mostly. The object-oriented database provides a way of sharing data both across applications...
and across users while maintaining its integrity. Previously, that meant storing data in multi-megabyte files which could take hours to load, and restricting access to one user or application at a time. With an object-oriented database you can have secure access to selected data and its structure without needing to load it all, while the system maintains integrity and structure on a more fine-grained basis.

Just as happened with UNIX workstations, we believe, object-oriented databases will spread out, to such areas as document production, CASE (e.g., Index Technology's use of Ontologic's Ontos), and general support of office automation. HP, for one, is considering use of its Iris object-oriented database prototype as a foundation for NewWave's Object Management Facility, which now keeps track of system objects in (virtual) memory.

Servio Logic was the first commercial vendor of an object-oriented database, with Gemstone, a Smalltalk-influenced product that preceded the current fascination with standards and is just now adjusting to it with a C++ interface. Object Design, a second-generation company that drew many of its people from first-generation vendors or research efforts, is about to ship alpha versions of ObjectStore, a C++, UNIX-based product.

Text tools and services

Understanding natural language is an impossible goal. In fact, the only thing that can truly understand a person is a clone of himself, with all the same experiences up to the moment of the communication. (Even that, one friend points out, assumes that the person knows what he is saying: He may instead be woolgathering, or lying to himself, or talking nonsense.)

Be that as it may, there are lots of useful things you can do with text, from filtering it to classify news stories, to managing and arranging text/image items according to initial user classification and then adding links according to how they are used, to intelligent response to messages (where an application program interface can parse messages and do the right thing, such as place an appointment in a calendar, search a database for a particular value or route an out-of-range expense report to a senior manager).

The news filter folks include people who do it, such as Desktop Data with NewsEDGE, Individual Inc. with First!, and Pinpoint with Computer Focus. Desktop Data's NewsEDGE is live, received over the FM band in realtime. (The good news is that it doesn't require wires; the bad news is that it does require a small FM receiver, which is supplied with the service.) "You and I turn on our computers the first thing when we get in," says founder Don McLagan, "but most people don't. The reason is that the computer waits for them to do something, and they don't get around to it. But with NewsEDGE, the computer does things without them. They don't need to sit and feed it, and it still does useful things and beeps them when something happens. So they turn it on." (Reach out and beep someone?)

Individual's competitive edge is its smart tool for generating and fine-tuning user profiles. Pinpoint, by contrast, uses hand-indexing and abstracting. The user doesn't have to pay for the news because, at least for now, Pinpoint is abstracting it under fair use statutes. The disadvantage with Pinpoint is that it is computer-industry-specific and doesn't summarize the general press; for example, the day after Jon Shirley resigned it was

On the other hand, that is also its advantage. It has lots of news gleaned and categorized from the trade press that we would otherwise miss. (Does anyone have the time to read InfoWorld, PC Week, Computerworld, CSN, CRN and UNIX Today!, let alone the computer monthlies?) Pinpoint picks out articles we would hate to miss, although it summarizes them so briefly we want to go back to the source. (We guess that's what "fair use" is all about; besides, Pinpoint now has a new full-text service where you pay extra for the whole thing.) Desktop Data uses simple hand-constructed word lists as profiles.

All three of these companies offer services, with customized user profiles. Verity has a tool, Topic, for doing profiles in-house, but is expanding its focus to being a reseller of data as well, possibly in conjunction with Dow Jones as an "alliance partner" (among others). Built on a text-search engine (with indexing), Topic is a tool for building concept hierarchies and queries to classify text items.

Once you've got the news items, you could store or publish them in Folio Views, a hypertext system that also does indexed search and provides a neat interface for examining and navigating through text. Initially positioned as an author's tool, Views has found a niche as a publishing medium, as described in our December issue. It can also work in auxiliary fashion as a help system (both Novell NetWare or SPI's Open Access III offer this), although to date it's not context-sensitive: You have to switch (but not reload) from the state you're in to the help system, and then use the help system's Views searching and cross-references to get the help you need.

Servers for text

Finally, what do you do with all this text when you're done? All the products we've discussed so far are applications, with their own formats for the text and no way to share it. You need, of course, a text server! Two options are the Notes server, which has its own proprietary data structures but maintains data integrity across users and acts as back-end to a variety of applications that can be written with the Notes tools. Like an object-oriented database, Notes is hard to criticize for being non-standard before a standard exists. But just as most object-oriented databases now promise some sort of link to SQL (including Servio's GemStone and Object Design's ObjectStore, and of course AICorp's KBMS, which uses a relational database for data storage), so can you start with SGML for text formatting and defining text objects, and standard database formats for tabular data, as Lotus has done in part.

Finally, there's the Xanadu text server, which is so much of a back-end that it imposes almost no structure but provides facilities for an application to create them. Basically, it's a system that can store data chunks and links between them with great efficiency; the front-ends define the structure of the links and other data structures.

Environments

While the other groupware-specific products are tools, Hewlett-Packard's NewWave, Saros FileShare, Coordination Technology's Together and even IBM's

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OfficeVision are groupware environments. They hide file systems and applications with abstractions and offer E-mail and calendars. The systems take care of managing resources, maintaining a certain level of security and managing and routing files for users. H-P's NewWave is the richest system, and requires the most work for applications to get its benefits. It has hooks for intelligent agents, scripts and other ways to integrate applications and automate cross-application and cross-user tasks, but for now it's mostly a friendly integrating environment for a number of applications. Saros FileShare, built on top of Sybase's SQL Server, is a database application that works as system software to manage access to files for users, either directly or through an application that uses FileShare's forthcoming API. Coordination Technology's Together provides the most in the way of abstractions that can be built but are not automatic with the other systems mentioned here: Rather than think about files, applications and directories, users can think about "workspaces," "desks," "projects" and "responsibilities" and other concepts.

Multi-media

Apple has a clear lead in "multi-media" -- which is neither an application nor a market, but a platform. As the ad says, "That's not fair. People like using the Mac." It's easy to integrate sound, image, even motion, as amply demonstrated both by Apple's own multi-media demos and by MacroMind with Director. Meanwhile, IBM and AT&T Data Systems, as you will hear from Mike Quinlan and Bob Kavner, are trying to end-run Apple, working on the persuasive premise that multi-media should apply to input as well as output -- which means a big role for speech and handwriting recognition.

MacroMind's Marc Canter proclaims that multi-media is so broad that it doesn't need a single killer app such as VisiCalc, 1-2-3 or PageMaker. We disagree. In fact, all three of those were also tools for creating content, and we believe multi-media too needs its own killer tool (as does groupware) -- one that will allow end-users to create their own multi-media content. Will it be Director? Or a more friendly version of NextStep? Or next year's MysteryTool?

Hardware platforms

From mainframes, minis and terminals, we have moved to a world of servers (or multicomputers); pcs and workstations (or monocomputers), increasingly indistinguishable as companies such as Sun and Silicon Graphics eye larger, lower markets; and peripheral computers, or the handheld, laptop, pocket-size micromicros which rely on a desktop system for docking and storing data. The Poqet and the Wallaby, both stunning machines, don't quite fit our vision of the ultimate future of portable machines with travel-tailored software platforms, but they should sell well in the present. For better or worse, they run the same software you use on your desktop, but, as Wallaby's Doug Swartz points out, they need only a subset of the data and applications.

Servers are the other hot hardware area as the software to handle cooperative processing, networking and groupware comes into its own. Two examples are a forthcoming unnamed system from Parallan, a specialist in multiprocessing, and Tricord's PowerFrame, a 486-based server akin to SystemPro, but focused on I/O and transaction processing.
"'Control of software'," we said in 1983, "is really a polite way of saying pricing and distribution, but no one wants to be on a pricing panel because of the FTC." Likewise, intellectual property is not just about look-and-feel lawsuits and patents, although that's what's getting all the press. Intellectual property is also the basis of most of the products and services the industry sells, and defining it carefully will be key to success. Decisions such as charging for support revolve around the definition of intellectual property and the practical question of how it can be tied to a tangible, quantifiable unit of commerce.

What should you give away for free so that you can charge for something else that you have a competitive edge in supplying? Take the recent example of the newly liberated TOPS, which is prepared to give away 600,000 nodes of its InBox mail system to upgrading TOPS network customers. It will barely make money on the upgrade (at $125 per site), but it will have a huge installed base of mail-users that will buy upgrades later and lure in users of other networks who will pay for InBox. ("We hope it will be addictive," says TOPS head Rich Shapero. Is E-mail the killer app for groupware?)

So who WILL pay for it?

This also raises the interesting question of who will pay for training customers to want and to use all this stuff. In the old days, this was considered part of sales. But now those who don't do it are getting a free ride from those who do -- a situation Bill Tauscher of ComputerLand is trying to correct. Yes, it's time to start accounting for service and support.

A more interesting question is, how susceptible are they to productivity enhancements or even automation with the very same products we're trying to sell our customers for the same purpose. Remember when Steve Jobs talked about the need for a mother in every box?

The goal is to make networked platforms self-installing, self-tuning, self-configuring and self-maintaining, like what the Mac did for pcs. Then, we can work on making the applications similarly easy to set up, probably using object-oriented, interactive tools to enable end-users to model the applications they want, with embedded knowledge to help them along.

Success will come to people who can transform high-cost services and expertise into reproducible intellectual property -- such as support systems (Answer, Lysis, Folio Views help systems), templates for business procedures from vendors such as Lotus, Aion or IntelliCorp, news filters such as those generated automatically by Individual Inc. or less automatically by Desktop Data, Pinpoint, Verity and others. (Both Aion and IntelliCorp have already developed task-specific templates.) In the long run, customers will start selling their expertise -- intellectual property -- if they know that they can exploit it rather than give it away.

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Likewise, clone-makers (as opposed to high-class compatibles with pioneering architectures such as Compaq) don't need to propound the benefits of DOS-OS/2, support third-party developers, or spend a lot on R&D.

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EASTERN EARTHQUAKES

What has happened in Eastern Europe in the last few months is far more momentous than any earthquakes in the pc business, but in both cases the progress that attends the overthrow of the past is exciting. Earthquakes give you a chance to do it over and do it right.

Certainly there's a scary side too. It's like asking people who have always worked in COBOL to construct a new world in object-oriented C -- and with a graphical user interface. All that freedom and power isn't necessarily comfortable -- nor is it as easy to handle as the software marketers and politicians promise. There's no one to help and too many choices.

Just as Poland is an experimental lab for free-market economics (and the issue of how to make the switch), so will much of Eastern Europe be a lab for all we've learned over the past decade and more about system design. The programmers we know there are DOS and assembler experts, but their systems are far more friendly than what our pioneers were building 10 years ago. (In part, the availability of cheap processing and memory makes this possible.) Besides, most East European end-users are using what we're using, albeit with a couple of years of delay for translation, etc.

Will all this friendliness and power make the absorption of computers into their enterprises faster and easier than it has been for us (although slowed by other cultural and economic factors)? How much of the delay in adopting technology is due to insufficient technology, and how much to people's slowness to adopt new things? This is a question that perplexes us as we see Lotus Notes' arrival on the market years after its conception, Agenda's slow adoption, reflexive rejection of the very notion of object-oriented databases, and indifference to the premises of groupware. Perhaps Eastern European organizations, already swamped in more (and more meaningless) paper than we are, will be quicker to welcome automated paper-shuffling.

This raises a broader argument -- should we help them handle the paper? Or should we try to show them how to do without it (as if we knew)? Small organizations, without paper, have the potential to grow faster than state enterprises shifting to free-market practices by fiat. Entrepreneurs grow; they do not get created by fiat or even by earthquakes (although they are certainly liberated by them).

On a broader scale, should we try to save the regimes in power because they are now liberalizing? Or should we let the earthquakes take place that could lead to a new society from the ground up, but that could equally well lead to devastation, repression and further anguish? Communism may be dead, but the repression that has gone with is not ideology; it's human nature without the checks and balances that democracy grows rather than imposes.

Do it over and do it right?

What makes Eastern Europe especially exciting for us -- and for an astonishing number of people we've talked to -- is the combination of bright minds, eager users and the ability to make a serious contribution. We'll always remember the line Steve Jobs used on John Sculley to lure him to Apple: "Do you want to spend the rest of your life selling sugared water or do you want a chance to change the world?" And Sculley's own remark to us: "We were killing each other over tenths of a point of market share."

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We see some of the same spirit that Ben Rosen felt thirteen years ago and John Sculley seven years ago, in the small if wide-ranging community of individuals in Eastern Europe creating a new world with technology. The market was small but customers didn’t have to be sold; they wanted everything they could get their hands on and they were part of the industry itself. Now it’s them and us -- users and vendors -- for all of the talk about systems integration and customer-aided system design. That’s appropriate, but somehow we wonder why at user conferences we always see vendors talking with other vendors, not with the customers they profess to revere. We admit it; the Forum panders to your baser instincts....

MEET THE SOVIETS

LEVON AMDILYAN, 33, an Armenian, is principal deputy director general of the International Computer Club (ICC), an "Independent" organization with ties to ubiquitous economist Abel Aganbegyan and chief science advisor Evgeniy Velikhov. Amdilyan has a doctorate in economics from Moscow University. In his former job he produced propaganda materials (the connotations are different here) for the Knowledge Society (Znanie). Znanie is an organization of Soviet intellectuals which produces books and sponsors lectures on the role of information and knowledge and new technologies; writing and lecturing under its auspices was one of the few ways intellectuals could earn money before perestroika. Its best-known publication is "Arguments and facts," with 30 million readers, the periodical whose editor recently provoked official displeasure by publishing a poll unfavorable to Gorbachev.

Znanie is one of 15 co-founders of the ICC, which also include the far more powerful USSR Academy of Sciences. Founded in December 1988, ICC has a start-up budget of 5 million rubles but is expected to become self-funding. The International Computer Club was the outfit that first invited us to the Soviet Union last April. Its charter is "Informatique in the service of international dialogue...uniting the interests of Soviet and foreign users and producers of modern information technologies to assist in the computerization of the Soviet Union." Its activities include establishment of a software and hardware testing lab, a newsletter for members and the sponsorship of visiting dignitaries. ICC is sponsoring its inaugural conference-cum-mini-tradeshow in Moscow this June, and Amdilyan will be scouting the Forum for prospective attendees and speakers.

ICC has a strong user orientation; in the Soviet Union, that means mostly government ministries, research institutes and factories. Industries represented include banking, agriculture, railways and manufacturing. (The minimum membership fee is 10,000 rubles annually.) However, one of its 105 members, a science institute located in Zelenograd, is about to begin production of floppy disks. There are also seven or eight co-ops and a couple of joint ventures. Although the staff is authorized at 35 people, Amdilyan would rather have control than size, and has kept it to six, plus eight part-timers and consultants.

ALEXANDR BARILOV, 35, is a scientist at the Leningrad Institute of Informatics and Automation, part of the Soviet Academy of Sciences and responsible for workstation strategy for the Soviet Union. Barilov, a crack programmer and designer, was assigned to analyze and use the first known IBM pc
and Epson printer in the Soviet Union in 1983. He has supported Central Committee and Leningrad telephone company installations, and worked the operating system for Soviet number-crunchers in space program -- as well as the system supporting the Soviet Olympic cycling team. He headed development of a tool to make English software bilingual, and specifically of Informontage, built with that tool, which allows Framework II to operate bilingually in Russian and English. Barilov is sponsored in the United States by Ashton-Tate Europe, which is in the final stages (it hopes) of negotiating a joint venture with the Institute.

ARKADY BORKOVSKY, 35, has just resigned his post at the Computer Center of the Soviet Academy of Sciences -- mostly a formality since he hasn't been to work since October. Instead, he has been working as a programmer in the United States, trying to soak up as much knowledge and experience with Western software technology -- especially in tools for text manipulation -- to sustain him when he eventually returns to the Soviet Union. He is the author of Polytext, the first commercial-grade Soviet word-processor for the PC, which lets users intermingle Roman and Cyrillic text. A newer version contains a cross-language dictionary and a Russian spelling checker.2

Borkovsky's interests revolve around text-processing, hypertext, language and the sort of semi-semantic work being shown at the Forum by Verity and Individual Inc. (If you think you've caught him in an error in English, take care; he may just be playing with words -- and with you.) But he is also one of the more civic-minded programmers, with a wide circle of friends in the programming community with whom he trades ideas and contracts. Most of the Soviet software co-ops have tried to sign him on full-time, but until now he has preferred to retain his freedom. This month he joined Moscow-based ParaGraf in absentia. ParaGraf is a US-Soviet joint venture, but it's more truly cooperative than most Soviet co-ops, which are trying to be like serious US businesses.

ParaGraf was founded by Stepan Pachikov, formerly with the Central Economics and Mathematics Institute of the Academy of Sciences, where he met Borkovsky and several other programmers at the Academy's Computer Center who have since joined ParaGraf. Where Borkovsky is a social activist -- connecting friends with jobs, people with people -- Pachikov takes a more structured approach, although ParaGraf feels more like a political/user group than a business -- a free-form collection of programmers doing their own thing and selling their wares through ParaGraf. Its roster includes Anton Chizhov, author of Alpha, a shareware Cyrillic font driver, and Beta, a more polished, commercial set of font drivers and a font-editor; Evgeni Veselov, author of Lexicon, a word-processor, and Master, a Framework-like multi-function development tool; and Pachikov's brother Zhora, who writes games.

2 Russian spell-checking is an interesting proposition: There are fewer root words in Russian than in English, but most words take on many forms, regular and irregular, determined by parameters including case (nominative, accusative, genitive, dative, etc.), gender, tense and number. In addition, the roots change internal form (and meaning) depending on the suffixes and prefixes, of which there are many. In short, you need more rules and fewer strings.

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including Perestroika, a navigate-the-bureaucracy game full of inside jokes that should do well in this era of East-consciousness, and the Wall (no, just a generic wall, not the Berlin one), a more-straightforward tactics game which requires you to break down a wall with carefully aimed balls.

ParaGraf’s board includes Abel Aganbegyan and chess-master Gary Kasparov.

JACK BYERS, 46, the American chief of Joint Venture Dialog, is an honorary Russian for the purposes of this listing. He will be running a couple of sessions for people interested in learning about JVD in particular and the pleasures and problems of doing business in the Soviet Union in general. Like the pig in the breakfast story, he is committed rather than just involved: His wife Laura and their new baby will be joining him to live in Moscow this April, just in time for Jacob Jr.’s christening.

MIKHAIL KRASNOV, 37, head of the computer lab at the USA-Canada Institute, is also a member of a co-op called Inforcom, which consults to Western firms interested in doing business in the USSR. Inforcom is a partner in a planned joint venture called CAT (for Computer Advanced Technology), which Krasnov will run after resigning from the Institute. Working with a US-based distributor that doesn’t want to be identified until everything is signed and approved, CAT will import pcs and provide the infrastructure and technology transfer that will make them useful to their customers.

The Inforcom activities are mostly focused on management consulting and business education, with partners at California State University and the Menlo Group, as well as the USSR’s All-Union Economic Society.

The USA-Canada Institute has extremely good connections both in the USSR and in the West, and is a hotbed of modern management and economic thinking in the USSR. Krasnov, although he runs the technical end of things at the Institute and has a masters degree in computer science from the Moscow Institute of Aviation, also has a degree in economics from Moscow University as well as a PhD in economic geography from the USA-Canada Institute. He has access to a large band of programmers who now do or used to work at the Institute, as well as others he has encountered over the years. He is one of the best-informed sources on the current status of joint ventures in the USSR, and will lead a discussion on the subject at a "company" presentation.

IGOR MIZIN and VIKTOR FRACHENKO are the director and the head of a technical department respectively of the Moscow-based Institute of Problems in Informatics (IPIAN). With 400 people, IPIAN is the arm of the Soviet Academy of Sciences charged with the computerization of Soviet society -- both a cause and effect of perestroika. As director of IPIAN, Mizin is successor to Boris Naumov, a leader in the Soviet computerization movement who died of a heart attack in 1988. The Institute is known for its work in database technology, including object-oriented databases and knowledge representation, and for strong political connections.

IPIAN recently formed a joint venture, Intersoft, with Software Products International, vendor of Open Access, a suite of office automation tools including database, word-processing, spreadsheet and the like. SPI gets 90
percent of its sales outside the US and is the leading pc package in Spain and third in West Germany, the company says. (President John Bowne is also at the Forum.)

Prachenko, a specialist in office automation, runs the unit of IPIAN concerned with office automation and pcs, and with Intersoft. He is leading a team of programmers who are building a Russian version of Open Access for sale inside and outside the USSR. The deal also envisions joint development of new products in both Russian and English.

VALERII MIRANTSEV, 43, is head of the software and hardware department for external contacts at JV Dialogue. Educated in mathematical statistics at the University of Moscow, he still teaches there part-time; it's a good source of young programmers for JV Dialogue. At JVD since August, he leads a group of about 12 project managers who identify software and hardware in the Soviet Union which can be finished and marketed by JVD. These include software for games, statistics, translation, education and physics, as well as electronic products and materials.

ALEXEI (LYOSHA) PAJITNOV, 34, is the author of Tetris and Welltris. He is the Soviet programmer best-known outside the country, and is getting a glimpse of what that means on his first trip to the United States. In the Soviet Union he still has his day job as a mathematician at the Academy of Sciences' Computer Center (where Borkovsky also worked). Like perestroika in the large, the personal perestroika of Pajitnov's fame hasn't changed his life much, but it has irrevocably altered his outlook and his sense of possibilities.

For background information, see Release 1.0, 89-5, 89-11 and 89-12.
THE PEOPLE: SOME NEW FACES (mostly in order of appearance)

BILL TAUSCHER, 39, is chairman and ceo of ComputerLand. Fresh out of Yale in 1972, he spent three years in marketing at IBM, where he took training classes with some of the people now running the Personal Systems division. But he has spent most of his career building a variety of distribution, retailing and sales organizations, including a small drug wholesaler that he grew and sold for $3 billion, FoxMeyer; Coast-to-Coast, a hardware store franchise chain; and Von's, a supermarket chain. He contends that computer resellers have to be "multi-vendor dealers" rather than retailers.

He bought into and joined ComputerLand as chairman in the summer of 1987, and became ceo in 1987. Perhaps influenced by the progress he has made there (including a 30 percent year-to-year sales gain in 1989 and a less tangible but even more significant reversal in franchisee disgruntlement), he's more sanguine about the computer reselling business than most folks we encounter. He believes he has started to solve the industry's fundamental problem: margins so low that it's hard to fund the necessary infrastructure. That success -- which he hopes to share with the industry -- is based on persuading vendors such as IBM and Apple to provide marketing and support dollars on a fully accounted-for basis, so that they can't be given away as discounts by more aggressive competitors.

"It's being solved as we speak," he says, "by changing the relationship between vendor and reseller. You put the support in before you start the discounting. It's specifically paid for. All of them are getting rigorous, asking for the payroll stub, the customer's name and address. The soft dollars the industry used to have were just sales incentives." IBM and Apple are farthest along, he says. "IBM has come 180 degrees. We began the theory last year, and we're doing the details this year." The franchise relationship makes the allocation of the funding a little complex.

"The proof will be if it works this year," he continues. "Can dealers rise to sell high-end products? Gross margins will stay the same, but customers will get more service because vendor dollars are expense offsets, not margin you can give away. But net margins will go up!" (415) 734-4000

MICHAEL SLATER, 34, is the long-sought replacement for Ben Rosen in the semiconductor industry. His newsletter Microprocessor Report, founded in 1987 (despite our friendly warnings about the amount of work involved), has become a significant voice in an industry that lacked a clear-headed, well-connected observer unafraid to state opinions and with the facts to back them up. Slater is probably one of the few people who truly understand the RISC-vs.-CISC arguments without a vested interest one way or the other. He does, however, have an opinion. (Both RISC and CISC will persist, and RISC will lead in performance while CISC will lead in numbers, but there's more to his talk than that.) (415) 494-2677

MIKE QUINLAN, 49, is a corporate vp and assistant general manager of business development for the Personal Systems line of business at IBM. He joined IBM as an engineer in 1962 after getting his MBA from Wharton and has worked there ever since except for a three-year stint in the Navy. Formerly president of the national accounts division (1984-86) and assistant group executive, plans and controls, for IBM World Trade Asia/Pacific, working in Tokyo (1987-88), he brings an unusually broad background to his current job.
as technology scout for the PC and workstation areas. He is trying to end-run the competition by broadening multi-media to include not just sound and (moving) image, but such input technologies as speech and hand-writing recognition -- which at least some people in the audience will be glad to hear. (914) 766-3103

JERRY KAPLAN, 37, is founder and president of GO Corporation, a company we can't talk about. His role here is as an all-round thinker about applications who isn't scared of exotic technology, a start-up entrepreneur, and the developer of Lotus Agenda (in conjunction with Mitchell Kapor and Ed Belove). He was the chief marketing(-minded) person and one of many co-founders of Teknowledge, 1981 to 1984, and worked for Lotus (mostly on Agenda) from 1985 to 1987. (415) 345-7400

JOHN LANDRY, 42, is chairman and CEO of Agility Systems, a recent start-up formed to commercialize the technology in MIT's Information Lens system. Tom Malone, a Sloan School professor who directs the Information Lens/Object Lens research project, is a director, co-founder and consultant (a practice encouraged by MIT). In 1974 Landry became employee number four (a "late founder") at McCormack & Dodge, where he designed Millennium, its leading-edge (and still-standing) development and execution environment. When M&D was acquired by Dun & Bradstreet, Landry left to revive software vendor Distribution Management Systems by injecting its products with expert system technology. Eighteen months later, in 1987, he sold DMS to Cullinet for four times revenues (a feat which endears him to the venture capital community). Unfortunately, he couldn't do as well for Cullinet...

He and Harry Reinstein are two of the few COBOL experts we know who have successfully made the transition to newer technologies. Now Landry's challenge is to sell groupware and cooperative processing under the rubric of "mail-enabled applications," of which Agility's Liaison will be one example. (508) 358-1100

DENNIS MCEVOY, 42, president, co-founded Cooperative Solutions last year with Kim Worsencroft, EVP R&D. Worsencroft, 38, who is his wife, led a research project at Tandem on a technology similar to what will be in their new product; McEvoy was VP of software development overall at Tandem (and employee number 6). They have drawn together a team of experts in mainframe OLTP, user interfaces, programming languages, dbms and networking. Their goal is to enable application developers (people between programmers and end-users) to build client-server applications.

"Who benefits from downsizing?" asks McEvoy rhetorically. "The people on pcs now don't know enough about security, data integrity, robustness, heavy volume..." They think data entry means editing a file or filling in a pretty form, but there's a lot of plumbing to make it all reliable. Meanwhile, the mainframe community's tools aren't intelligible to your typical dBASE or 1-2-3 user, let alone a manager.

Cooperative Solutions intends to bridge the two worlds with a tool that will allow user/builders to focus on the logic of a transaction while it handles the underpinnings. The mechanics of all this are still under wraps, but the product will make its first appearance on OS/2. (408) 377-0300
HARRY REINSTEIN, 49, is co-founder and ceo of Aion Corporation, a vendor of tools for developing inference-based applications. At IBM, he helped develop a predecessor to IBM's Expert System Environment, and is one of the world's few bilateral experts on COBOL and expert systems. Aion is delicately shifting its position away from the AI word and towards application development; one part of this shift is its new Application Shells, which contain intelligent, interactive agents to help users build their own applications. "Programming is too elitist and constrained," he says. "We want to bring the power of inference-based technology to users." (415) 328-9595

ANN WINBLAD, 39, has just co-founded Hummer Winblad Venture Partners, with funding of $30 million from investors including IBM, 3M and Hughes. Her new firm invests in start-up software companies. Winblad follows the honorable tradition of VCs who can give advice from experience. She co-founded accounting software vendor Open Systems in 1976 with $500, and sold it to Uccel in 1984 for $15.5 million. She subsequently worked as a consultant for Price Waterhouse, Microsoft, Apple, IBM and other firms, and wrote a book, "Object-Oriented Software," coming out this spring from Addison-Wesley. (415) 931-5579

DANNY HILLIS, 33, is founding scientist of Thinking Machines, the largest vendor of large-scale SIMD (for single-instruction, multiple-data) parallel processing systems. The company's goal is "to build a machine that can be proud of us." While "traditional AI" is explicit rules and data, it's becoming increasingly clear that massively parallel processing with fairly simple rules is also an important component of intelligence, as illustrated with neural nets and a variety of pattern-recognition applications. Thinking Machines' Connection Machine is ideally suited for such tasks, as well as for text search -- an application for which Dow Jones is now using two Connection Machines for its DowQuest service.

Hillis spends most of his time as chief wizard of Thinking Machines, but in his off hours he uses his Connection Machine to model self-organizing processes such as evolution. His talk on "simulating evolution" concerns this area, and provides some interesting parallels between the evolution of standards and the evolution of species, and between the dynamics of populations and the dynamics of markets. (617) 876-1111

MIKE ZISMAN, 41, is chairman and ceo of Soft-Switch, a company which provides mediating boxes and services among incompatible mail systems. Before founding Soft-Switch in 1979, Zisman taught computer systems courses at the Sloan School. His Wharton PhD thesis (Decision Sciences, 1977), "Representation, specification and automation of office procedures," is probably one of the first published works on groupware. As the leading independent implementor of mail-distribution systems for large corporations, Soft-Switch sits at the center of a market that is coming into its own. (215) 640-9600

ESTHER DYSON, 38, reads airline schedules the way some people read restaurant guides. You can find her on board by the window, preferably the bulkhead, reading and discarding huge volumes of papers and magazines. (She still receives enough mail each day to leave her office in a state subject to citation by the Occupational Safety and Health Administration. Please don't send her any more!) (212) 758-3434

-- Daphne Kis

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COMPANY PRESENTATIONS IN BRIEF (in order of presentation times)

This section is a where-are-they-now? for some companies and products that have particularly impressed us over the past year or two. (Others are missing for a variety of reasons, including circumstances and overexposure elsewhere. With some exceptions, we try here to highlight people and concepts you might otherwise miss.

2 pm

Verity -- text retrieval. Topic, for creation of taxonomies and classification of text, working with Dow Jones. Verity is looking into mail systems, because "managers don't want to hook in, but they'll read their mail." (Check with John Landry and Chuck Digate.) Cliff Reid, developer & founder; Bob Williams, vp marketing; "partner" Charles Brady, Dow Jones. (415) 960-7600

Netwise -- programmer tool for distributed computing. Netwise RPC, a tool for building distributed applications, submitted to the Open Software Foundation as part of the distributed computing environment Request for Technology. Hatch will discuss client-server architecture and RPC alternatives such as database servers and named pipes. Dave Andrus, ceo; Mark Hatch, vp marketing. (303) 442-8280

GUIDance -- GUI development tool. Choreographer, an object-oriented tool for building graphical user interfaces. Cto & founder Jeff Bonar; Ken Harkness, president & ceo. (412) 231-1300

Servio Logic -- object-oriented database. GemStone, from the Smalltalk world, moving into standards with support for C++ and the like. Unlike its competitors, oriented more to office automation than to CAD. Donal O'Shea, new president (ex-Unisoft, OSF); Jacob Stein, senior software engineer. (503) 629-8383

Apple -- multi-media. Not just fun and games, but demos of third-party business applications. Tyler Peppel, media integration; Larry Tesler, vp advanced technology; Pam McQuesten, solutions marketing; David Szetela, developer services. (408) 996-1010

Aion Corporation -- development tools. Aion Development System, formerly an expert system tool, now evolved into a full-fledged tool for building cooperative processing applications. Also, Application Shells, for help desk and procedure checklists, with others to follow. Harry Reinstein, president; Jan Aikins, director of advanced technology; Lori Stipp, advanced technology. (415) 328-9595

Answer Computer -- groupware and text management. Apriori, a Sun-based tool and server for creating and updating dynamic text bases that automatically reconfigure themselves according to patterns of use. Louise Kirkbride, founder & evp. (408) 739-6130

Poqet Computer -- one-pound pocket computer. DOS-compatible, with a XyWrite card (among others) coming. Shipping now. Sorry, no free samples! Stay Prodromou, president & ceo; Gerry Purdy, director of marketing. (408) 522-8207

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### Who Has What?

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The chart above shows the categories associated with each presentation. However, categories are fuzzy and it's hard to distinguish between what a product is and what it can be used for. So take these as guidelines on what to look for rather than rigorous classifications.

*Release 1.0*  
28 January 1990
2.50 pm

Pinpoint -- text publishing. Computer Focus, a fax newsletter. If you catch Golomb and fill in a profile form before the presentation, he'll have your personalized fax letter waiting for you. The original service costs about $1800 per year; Computer Express is a shorter version that costs $195 and encourages customers to buy full-text for $10 or so per article. Pinpoint then pays the publisher the cover price of the periodical from which each article is taken for each copy made (except where it has set up other arrangements). The intellectual property issues are as intriguing as the commercial ones. Harvey Golomb, publisher (and former computer retailer). (703) 263-0407

Parallax -- server technology. The product isn't announced yet, so the presentation will focus on why Fortune 1000 users are moving to OS/2 and servers and what they're looking for -- based on extensive interviews and site visits the company did before designing its product. From one of a very few companies to get OS/2 LAN Manager 2.0 source code from Microsoft, with expertise in multi-processor technology and an exclusive design (not just marketing) commitment to OS/2 LAN Manager. Gianluca Rattazzi, founder & president. (415) 691-0550

AICorp -- object-oriented expert-system development tool. KBMS, the knowledge base management system, for building inference-based applications. This tool not only has a graphical interface, but builds applications with GUIs, using active objects. Bob Goldman, president; Fred Lizza, vp marketing. (617) 890-8400

MacroMind -- multi-media and animation. Director, a Mac-based tool for building multi-media content. The leader in its category -- which is neither a market nor an application, but a platform. Enthusiast, founder & chairman Marc Canter. (415) 442-0200

Silicon Graphics -- graphics workstations, sliding down the pc cost curve below $10,000. Perspective on the evolution of micro platforms and the new graphics-oriented applications it will foster. Jim Clark, founder & ceo; John Metcalfe, vp & general manager, Entry Systems; Mike Ramsay, director of marketing, Entry Systems. (415) 335-1152

Lysis -- text management and groupware. Support Information System, a pc-based tool and server for building and holding support databases with a wide range of possible applications. Pc-based, this system can run on a laptop and travel with a support rep or salesperson. Twelve installations, hundreds of users. Fain, a veteran of Lanier, Samna and her own support firm, Micro Support Resources, will discuss the role of service as a differentiator, with some examples. Deborah Fain, founder & president. (404) 373-3359

Saros -- development tool and foundation for groupware. FileShare, a file management system that lets users find and share files across a network. Applications that use its forthcoming API can de facto become groupware. Wayne Carpenter, president & founder; Robert Zack, vp marketing. (206) 646-1066

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3.40 pm

JV Dialogue -- US-Soviet joint venture. Exclusive distributor of Microsoft and several other software lines in the USSR; software development and support. The Corporate Software of the Soviet Union? Jack Byers, US co-chief; Valerii Mirantsev, head of software and hardware department; Alexei Pajitnov, associate & author of Tetris. (312) 939-4400

Hewlett-Packard Information Systems -- object-oriented development/operating environment. NewWave, integrating third-party software such as Samna Ami Professional and VideoLogic's video objects, and improved agents and network facilities. Bill Crow, architect; Webb McKinney, general manager; Ruann Ernst, director of marketing; Jim McDonnell, marketing manager; Joyce Wrenn, American Airlines, customer. (408) 773-6345

Desktop Data -- news filter. NewsEDGE, news items selected from feed delivered over FM waves. The presentation will include live news; hope something happens during the session! (The system will be kept live somewhere convenient during the rest of the Forum.) Don McLagan, founder & president. (617) 890-0042, ext. 24

Xanadu -- document/image server. Xanadu/Server, the potential back-end for many of the wonderful text front-ends displayed here, and the reality behind Ted Nelson's vision. Marketing has moved back to parent AutoDesk, with Xanadu as a development arm. Systems with C and C++ tools will be in beta this summer; an easier-to-use API follows. Meanwhile, AutoDesk is working on an application (in addition to the obvious AutoCAD link). Joel Voelz, director of marketing. (415) 332-2344

Interactive Images -- development tool. Easel, an interactive menu-driven tool and language for developing OS/2-PM (or DOS) applications, optionally with cooperative processing (terminal protocols and soon APPC). Targeted to application developers who don't want to learn C or the PM API, but who can think like programmers. Doug Kahn, founder & president; Steve Sayre, vp marketing; John Canestraro, vp product strategy. (617) 938-1176

Coordination Technology -- groupware environment. Together, OS/2-based environment with facilities for coordinating use of applications and data at an abstract level, but little involvement in content of work. Announcing this summer; shipping this fall. Roger Moody, president & chairman; Ron Quinn, vp sales & marketing. (203) 268-4045

Lotus -- groupware development tool and environment. Notes, a tool and environment for groupware, with OS/2 servers. How it's being used, at Price Waterhouse, Manufacturers Hanover and Lotus itself. Ray Ozzie, president, Iris Associates; Larry Moore, general manager, communications products; Irene Greif, manager, group spreadsheets; Frank King, senior vp; Sheldon Laube, PW, customer. (617) 577-8500

IntelliCorp -- object-oriented, rule-based development tools. The company is repositioning towards the mainstream with a forthcoming line of exotic-technology tools for general-purpose developers building real-world applications. With "booster modules" (templates) for production scheduling, product configuration and database analysis. Tom Kehler, chairman & ceo; K.C. Branscomb, president & coo. (415) 965-5713

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Wallaby -- Mac portable. A dockable computer: The user wants only one system, and needs to take only a subset on the road. But he must be able to take all the data he needs, and get at the data he left behind. Wallaby uses Mac ROMs from existing customer Macs, and raises intriguing intellectual property issues (or certainly Apple thinks so!). Shipping in February at $2995, plus the cost of your Mac Plus or SE. Doug Swartz, president; Gordon Eubanks, director. (303) 786-9200

Barton -- earthquake overview. Stanford geologist Colleen Barton will discuss the etiology of earthquakes and preview Tuesday's field trip. (415) 851-3562

Tricord -- 486-based server, supporting UNIX and OS/2. PowerFrame, with twice the I/O performance (the company says) of a comparable SystemPro, because of its disk subsystems. Shipping in April. Jim Edwards, president; Paul Patterson, senior vp strategic ventures. (612) 557-9005

Folio -- interactive text publishing. Folio Views, a tool for building and viewing searchable hypertext bases. Positioned more as a medium than as a tool. The presentation will feature a brief intro and a demo by an actual customer. President & ceo Henry Hellesen; founder & cto Curt Allen; customer John Graves, AICPA. (801) 375-3700

Object Design -- object-oriented database. ObjectStore, written in C++; going into beta shortly. Atwood will discuss the market, the competitors, customer needs, etc. -- with a couple of competitors in attendance to keep him honest! Tom Atwood, founder; Ken Marshall, newly hired president & ceo. (617) 270-9797

V.I. Corporation -- development tool for visual display of data. DataViews, for interactive display and input of changing data. Carl Kowalski, vp marketing; Dave Mandelkern, founder & vp international markets. (413) 253-3482

Individual Inc. -- news filter. First!, online news service, with tools to automate creation and refinement of user profiles for filtering text items. Yosi Amram, founder. (617) 734-4471

ON Technology -- personal file manipulator. On Location, Mac-based tool for finding and searching through indexed files, with speed so fast it gives file-navigation the feel of direct manipulation. As Herr Doktor Gruppenzusammen observes, "It takes a smart technology to support a simple interface." Shipping next month; get an IOU at the demo. Mitchell Kapor, co-founder & chairman; Conall Ryan, vp marketing; John Doerr, director. (617) 225-2545

ViewStar -- development tool and environment for image-based groupware. Server-based system for management and sharing of images, workflow tools. Kamran Kheirolomoom, founder & president. (415) 841-8565

Soviet roundtable -- moderated discussion. Mikhail Krasnov will provide statistics on joint ventures in the Soviet Union, and others will contribute their observations. Vodka will be served.

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Daphne Kis
Associate Publisher