

# General Magic Outlines Alliances, Product Plans

## “Magic Cap” to Enable 68300-Based Personal Communicators

By Michael Slater

With all the action in personal digital assistants and communicators, Motorola processors have been conspicuously absent from the announced platform standards. Now that General Magic, the highly secretive Apple spin-off, has begun revealing its plans, Motorola's processor opportunity has become apparent: a 68300-family processor will be at the heart of the first personal communicators that will run General Magic's forthcoming operating system and user interface, called Magic Cap (Communications Application Platform).

General Magic was spun out of Apple Computer in 1990, allegedly because an independent company would be better able to make the broad alliances needed to establish a new platform. The company's president, Marc Porat, joined Apple's Advanced Technology Group in 1988 to develop products beyond personal computers. The two other cofounders, Andy Hertzfeld and Bill Atkinson, are well known as the creators of much of the Macintosh's key software. Jim White, who authored the X.400 mail standard, joined General Magic to lead the definition of the Telescript communications language. The company has been closely watched because of the reputations of its founders, and its partners also make an impressive list: Apple, AT&T, Matsushita, Motorola, Philips, and Sony. Apple and AT&T are backing alternate PDA or personal communicator designs but will use General Magic's Telescript language.

Motorola, Sony, Philips, and possibly Matsushita will build communicators based on Magic Cap. The initial products will be based on a reference design developed by General Magic in collaboration with Motorola. Motorola has developed a new integrated processor, code-named Dragon and officially designated the 68349, for Magic Cap devices. Motorola has not yet announced this device, and details of its feature set have not been released.

The use of a slower 68020-class core processor could put Magic Cap devices at a performance disadvantage as compared to Apple's ARM-based Newton and EO's Hobbit-based communicators, and it remains to be seen whether this will be a significant handicap. Motorola's interest in General Magic goes far beyond being a processor supplier, however; Motorola hopes to build a personal communicator business along the lines of its highly successful cellular telephone venture. Sony is rumored to be pushing a MIPS-based processor for next-generation Magic Cap devices, and Motorola may plan to use a

PowerPC chip for future communicators. For the moment, however, General Magic has its hands full getting the 68000 version done.

In addition to its role as a complete software solution for a personal communicator, Magic Cap can also be used as an application within a host operating system. It is most likely to appear in this form for the Macintosh, which is a natural fit both because of the company's close relationship with Apple and because the Macintosh and Magic Cap are both based on the 68000 architecture.

### Smart Networks

Magic Cap, which was originally the core of General Magic's plans, is now only one aspect of its offerings. The Telescript communications language is potentially of much greater significance. Telescript is an interpreted, object-oriented language designed for electronic mail. In one sense, Telescript is analogous to Postscript—you can think of it as a mail-description language. The goal is to provide a platform-independent format for rich e-mail, which may include sound, animation, and other components as well as text. Because Telescript is object-oriented, messages contain not only data but also the instructions that tell the system what to do with the data.

Telescript is more than just a message-description language, however; a Telescript message can also contain instructions to the communications network as part of the message's “envelope.” An integral part of General Magic's plan is that the communications network itself is Telescript based, and messages can be interpreted by the network. A sender of a message, for example, might specify that because a message is large and of low priority, the network should wait until the recipient makes a wired connection. On the other hand, the sender could specify that a high-priority message should be sent via a wireless service. Should the network be unable to contact the wireless receiver within a given time period, the sender could specify that the network should interpret the body of the message, rendering it into a bit-map, and send it via fax.

Unlike today's primitive e-mail networks, a Telescript network has the ability to interpret complex conditional routing information in the message itself, and also to render the message into another form (such as for fax instead of e-mail delivery). A user could also send a Telescript message to the network to specify routing for any incoming messages. For example, a user could tell the network to send a wireless message only if a message arrives from a particular sender.

## Telescript Support

AT&T is building a Telescript-based, public-access communications network that will support a range of information services as well as communications functions. AT&T will provide some services, such as a directory capability, but most will be provided by other vendors. The Telescript-based network could be much more profitable than a basic e-mail service because of its added value. AT&T's revenue could come from information brokering as well as from more basic communication services.

Apple will implement Telescript in both Macintosh and Newton, and EO will implement it in its personal communicators. General Magic expects that Telescript also will be supported within the OS/2, Windows, and UNIX environments, as well as LAN operating systems such as NetWare, but the initial targets are Macintosh, Newton, and PenPoint. The curious lack of initial support for PCs is an artifact of the company's Apple heritage. Most dis-

turbing is the lack of any statement of support from Microsoft or IBM.

Details of General Magic's products are frustratingly vague, and the February announcement was positioned as an alliance disclosure, not as a product preview; more details are promised for this summer. Much confusion has resulted from General Magic's refusal to provide more concrete descriptions. While it is unclear when products will emerge, most observers do not expect any significant shipments until 1994.

The lack of detail makes any real analysis of the products impossible, but it is clear that General Magic's offerings are potentially very important. Telescript could become part of a wide range of computers, as well as serving disparate personal communicator designs and acting as a communications network control language. Magic Cap is less significant in the grand scheme of things, but it may be crucial for giving Motorola's 68000 family a role in what may be the most important emerging microprocessor application for the 1990s. ♦