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## **Viewers and Electronic Delivery**

We were surprised by the number of SGML viewing packages. But, at second glance, even more surprising was the fact that most of them are built from technology provided by Synex, the Swedish company that is quietly challenging EBT as the leading tool vendor in the SGML viewer market. It seems that Synex's OEM strategy is beginning to pay dividends as integrators discover its utility in configuring custom applications. We got a chance to find out what new features the company is working on, and we also saw (at the Sörman Information AB booth) the first viewer to use the HyTime standard for hypertext links.

#### Synex ViewPort covers the floor

Synex Information AB, makers of the ViewPort SGML-HyTime browser engine best known as the basis for SoftQuad's Panorama, announced upgrades supporting multibyte Japanese and new graphics formats including CGM. Even more impressive than these announcements was the news that of the approximately 32 other vendors exhibiting at SGML Europe '96, seven were showing or developing browser applications based on ViewPort. These seven, which amounted to almost one out of four exhibitors, were Open Text, Sörman, Information Dimensions, Enator Information Management (which is the representative of Grif), STEP, OCLC and, of course, SoftQuad.

Synex, based in Stockholm, is a small, privately held company founded in 1993 to develop technology based on years of research and development performed at the Swedish Royal Institute of Technology. ViewPort itself is a browser engine with extensive support for customization. It is actually a C API to a C++ kernel. As such, it is available from all current languages and programming tools. More than 250 API functions and 50 callbacks give developers ample hooks and platforms to create a broad range of user-interface options and user functionality. (Callbacks are integrator-supplied functions that ViewPort can call during processing.) The API is portable across platforms so developers can design applications using the GUI tool with which they are most comfortable.

Commercial products built around ViewPort can take advantage of its availability on multiple platforms to suit a wide-ranging audience. Those integrating custom systems can optimize it for a known environment.

**Integrated systems.** Synex demonstrated integration relying on simplified graphic interfaces and others using complex, text-based interfaces. A system built by ENEA Data AB for Volvo Construction Equipment uses large, graphic icons representing different types of heavy equipment. This application uses little text and few on-screen choices. You pick your truck and either a parts catalog or a service bulletin.

Custom applications built by Information Dimensions Scandinavia AB and Sörman Information AB rely more heavily on text and structure. These applications give the user access to detailed, multilevel tables of contents as well as graphics and

© 1996 by Seybold Publications, PO Box 644, Media, PA 19063, phone (610) 565-2480. Reproduction in whole or in part without written permission is prohibited. views into the underlying SGML database. The ability to import any valid SGML document, declaration and document type, and its support for HyTime linking, set the ViewPort engine apart from other current SGML browsing software. (The next release of DynaText from EBT will also support import of any valid SGML, without precompilation.)

**General features.** ViewPort supports SGML processing and viewing, access and retrieval. The engine takes included fragments, whether off of a network or a CD-ROM, and dynamically assembles them as if the user were viewing one document. ViewPort supports search and navigation based on structural context and attribute values, or a combination of these. The occurrence density display, table of contents navigator and custom navigators, multiple style sheets, and linked annotations used in Panorama are all features of the basic ViewPort engine. It can launch external applications and support printing by any attached style sheet.

**Linking.** ViewPort uses a HyTime subset for linking, but it doesn't stop there. It supports the basic ID/IDREF mechanism of SGML and the TEI (Text Encoding Initiative) extended pointers. What this means for application and document designers is that once the HyTime entity catalog has been established, any element can be a link anchor or endpoint by virtue of its generic identifier (tag). The endpoint for the link can be resolved on the fly or can be hard coded and links can be bi-directional and one-to-many. This contrasts sharply with Web linking mechanisms that require hard coding of all endpoints on a one-to-one basis.

**Entity management.** ViewPort provides dynamic SGML entity resolution. This means that a browsed document can consist of multiple files and pieces of files residing on diverse media but linked through SGML entity management. For the user, the document appears as one seamless unit, but in practice, graphics, character sets and whole chunks of text may originate in multiple locations, local and remote, as long as the location is properly identified and is accessible. ViewPort uses the SGML Open Public Reference Catalog and its own internal entity manager to resolve and retrieve entities. The location of an entity is determined using SGML's public and system identifiers, which permit on-the-fly modification based on information supplied during use.

**Graphics and "widget" support.** New graphics formats supported include CGM (computer graphics metafile, an ISO standard vector format), and raster formats such as TIFF, CCITT Group 3/4, JPEG, BMP and EPS preview. Synex claims it has the best CGM support in an SGML browser, including all three types of CGM encoding. It licenses the CGM technology from Henderson Software, Inc., which has NIST certification for compliance. (We would note that EBT also has CGM support in DynaText, and also developed a CGM viewer for Netscape.) All graphics support hot spots and are viewable inline or in sizable popup windows that support zooming and panning across objects.

Synex "widgets" are part of a plug-in architecture that supports presentation of any rectangular object. The new View-Port will be able to insert any widget inline, including video, forms and dialogs.

**Availability.** The new features will be available in ViewPort 1.3, which is expected to be available for all Windows, Macintosh 68K, Power Mac and Unix Motif platforms at the end of June.

**Open Text using it, too.** In a separate development, Open Text, which for a long time had its own SGML viewer for its text-retrieval software, is developing a more robust SGML viewer for the U.S. Government Printing Office. It is based on the Synex ViewPort.