



eComPress® - a new publishing paradigm

Technical Description



“PDF is great for one thing
and one thing only: printing documents.”

Dr. Jakob Nielsen - Leading GUI Design Analyst

Eurofield Information Solutions

Level 3, 8 Help Street
Chatswood NSW 2067 Australia

T: +61-2-9411-3711

F: +61-2-9411-3777

E: euroinfo@eis.com.au

W: www.eis.com.au





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eComPress® - rapid information delivery

eComPress is a secure publishing system that delivers highly compressed documents with a lightning-fast search and retrieval mechanism and context sensitive navigation. It provides end users with almost instant access to the information they need, and the ability to integrate that information into their existing applications.

These unique features make it the publishing solution of choice for mission-critical applications in industry, defence, and aerospace.

Unique features of eComPress Publisher

eComPress differentiates itself in the marketplace through advantages in:

- ◆ Data Compression – permanent, lossless bit compression - saving delivery time
- ◆ Performance – fast delivery with minimal bandwidth, instant access on receipt
- ◆ Searching –powerful exhaustive searching, with logical (Boolean) and wildcard support
- ◆ Easy-to-use – able to be navigated and searched with no training
- ◆ Security and data integrity – uniquely encrypted content, built-in 32-bit CRC, 128-bit RSA code signed executable, password access control
- ◆ Annotation – powerful user and global annotation facility with automatic transcription in context to new and revised material
- ◆ Compatibility – integrated viewer always compatible with the content, and the content

is compatible with Microsoft Office with all formatting preserved

- ◆ Scalability – create large multi-volume libraries and archives which can be updated in an ad hoc manner and searched contiguously

Typical applications of eComPress Publisher

Publications developed using eComPress include standards, dictionaries, legislation, procedures, operational manuals, maintenance manuals etc. The product is particularly well suited for digital vaults where controlled access and editing is required, and large mission-critical reference works used in the defense and aerospace industries where the data needs to be securely and efficiently delivered and updated on-line, and able to be searched and annotated off-line. eComPress excels in its bandwidth multiplying capacity and fast, easy-to-use exhaustive searching, with all the content readily able to be used in conjunction with all the Microsoft Windows tools you have on your desktop with no training requirement.

References

eComPress electronic publishing technology has been adopted by many prominent international organizations, governments and publishers including the International Federation of Accountants (IFAC) in New York, the International Accounting Standards Board (IASB) in London, the World Health Organization (WHO), the Organization for Economic Co-operation and Development (OECD), Australian Government, Random House and John Wiley.

Key features of

eComPress®

This document outlines the unique features of the eComPress solution considering the implications for the end-user, as well as the content and information technology manager.

Ready-to-use

eComPress publications come *complete* with their small powerful built-in viewer, are instantly ready-to-use on receipt and require no other software to view, search and annotate the content. They are also intuitive and very easy-to-use, and require very little or no user training.

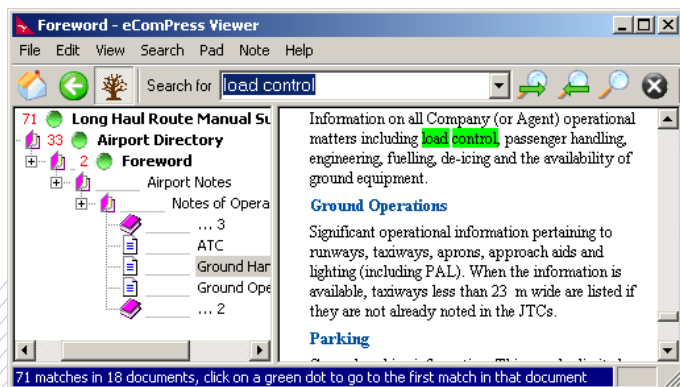
The integration of viewer and content eliminates incompatibility problems between document & reader, simplifies version control and secure management of documents.

Easy-to-use

eComPress publications are compatible with all 32-bit versions of Microsoft Windows, and the content can readily be printed with original pagination, and saved (copied or drag-and-dropped) into Microsoft Word/email etc. with all the formatting, including tables and spreadsheets preserved. eComPress also synchronises the content in the right hand display window with the Table-of-Contents, so the user is always aware of where they are within the publication, and using the novel eComPress Drag-on, the content is instantly searchable from any Windows application on your desktop.

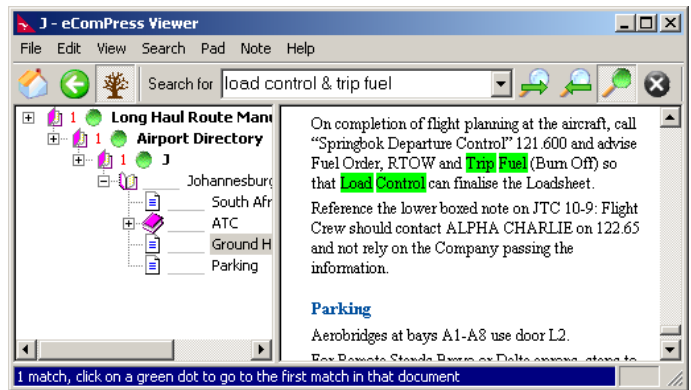
Powerful search capabilities

The end user can find exactly what they want using standard text searching with the addition of powerful wild card features. This uniquely powerful search facility also supports logical searching with any number of single or multiple character wild-cards anywhere within the search.



The user is GUARANTEED to find everything in an eComPress publication - there are no keywords – all

words, numbers and alpha-numeric are automatically indexed by the Toolkit and searchable – saving both the publisher and user substantial time and avoiding potential errors in the indexing and searching process. The eComPress exhaustive searching does not carry the overhead of a large index size: the index is extremely small and integrated with the data.



Fast retrieval

The speed of eComPress searching is significantly faster than searching in other electronic publications. The 315,000 definitions in the Random House® Webster's Unabridged Dictionary running on a PC with Microsoft Windows® XP can be searched in much less than a second. Obviously, search performance is highly dependent on the PC, the size of the content and search being conducted, but the unique indexing ability of eComPress Publisher is a standout feature of this application.

Because eComPress publications are compressed to as little as 10% of their original size, they can be downloaded and installed very quickly.

Navigation capabilities

eComPress uses a single screen display split into two adjacent Windows, with the Tree Table of Contents on the left always synchronised with the content on the right. In an effort to always keep the user informed of where they are in highly structured content with many levels, eComPress incorporates a novel Table-of-Contents Tree Pruning facility that removes superfluous levels from view and replaces them with an ellipsis along with a number representing the number of hidden headings.

Integration of search results and navigation tools

All hits are displayed in context, and eComPress publications also incorporate a HitMap, using a green dot "●" to clearly indicate where the search hits are in the Tree Table-of-Contents, and adjacent to each green dot a red number is displayed "27", of the exact count (HitCount) of the number of hits contained in that section. This facility provides an instant view of the most relevant sections of the content likely to provide the information required by the user.

Secure

eComPress publications are designed to be extremely secure and protect the publisher, content and the user in a manner not provided by other technologies.

eComPress publications are uniquely encrypted at a bit level to guarantee their integrity in perpetuity. The encryption algorithm is generated using bit strings up to 64Kbits long and derived from the bit patterns in the content.

Every eComPress publication has a 32-bit CRC embedded at mastering. This CRC is recalculated at installation and compared with the embedded one to ensure that the publication the user has installed is complete and not corrupted, truncated or contaminated.

All eComPress publications use 128-bit VeriSign RSA encryption code signing Certificates.

eComPress publications can also be password protected. This enables an administrator to restrict access to publications, and is also ideal for their secure on-line delivery and update. eComPress also has an in built Authorisation Key facility which is ideal for eCommerce (secure on-line sale and delivery of publications) and can also be used to control user access within the enterprise.

Compression

eComPress publications are permanently bit compressed to as little as 10% of the original data size including the viewer. This means they can be quickly delivered on-line with limited bandwidth. The compression is lossless and also extends to graphics where JPEG pictures can be significantly further compressed. The small size not only saves valuable download time, but also increases the capacity of servers and communication channels to deliver the publications by as much as ten fold.

The small size and full windows wrapping make eComPress ideal for PDA's and other mobile devices.

Binary object management

eComPress converts all data to bit strings and compresses the data in common bit patterns so it processes text, spreadsheets, photographs, diagrams, flowcharts,

schematics etc. All data is made up of bits, so eComPress can cater for all data formats if required. This also makes eComPress ideal for double byte characters used in ideographic languages like Chinese and Japanese.

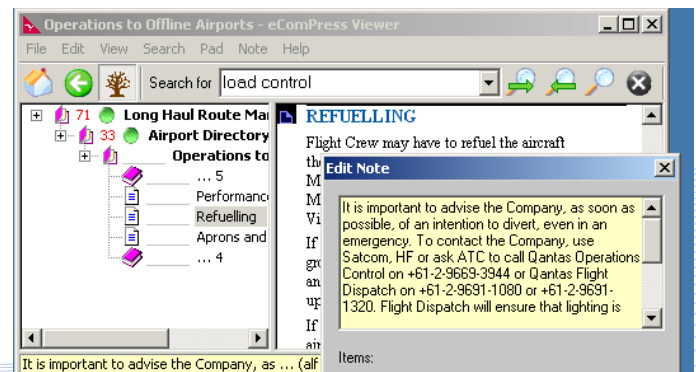
Annotation

eComPress also incorporates an annotation system for personal and global eComPress Notes, with a powerful facility for users to interact in context on the content.

eComPress Notes is a powerful three-tier annotation system where all users can create their own personal annotations (Yellow Notes) in the form of keyed-in text, files, graphics, and web and email addresses. There is also a Global Notes facility for Notes to be incorporated in a Notepad and shared in a collaborative manner (Green Notes), and for notes to be published on a server and protected with a password (Blue Notes).

Users can also interact in context with Notes where a user can send selected Notes to another user of the same publication, these Notes are sent as an attachment and can be dragged onto their publication where they are automatically distributed in the original context. All eComPress Notes are automatically transcribed in context to new and revised publications, and they do not compromise the content in any way.

The collaborative (Green Notes) features simplify the process of compiling amendments from the field as part of the updating and authoring maintenance process, and (Blue Notes) make it possible to share authoritative intellectual property from different sources on top of publications within the enterprise.



Portfolio

Every eComPress publication is complete in its own right. The Portfolio feature assembles these publications in a library that can be updated in an ad hoc manner and searched contiguously. eComPress Portfolio suites are extensible and can be incremented, and are ideal for content or large libraries of publications associated with archives, or particular equipment platforms like an aircraft, ships or oil rigs.

The performance of eComPress Portfolio suites will reflect the size and number of publications in the suite, but with the extremely fast searching, large groups of publications can be searched very quickly.

eComPress Publisher

eComPress publications are readily processed from RTF (Microsoft Word), FrameMaker, XML etc. and are delivered complete with a built-in viewer and are instantly usable on receipt. Document conversion plug-in's can be designed to address specific formats as required. It can also be designed for purpose built archives where fast full data searching of numbers and alpha-numerics is critical. By tailoring eComPress Publisher to specific data structures it is ideal for archiving transaction data which can be processed on an incremental daily basis and searched contiguously, without being reindexed.

Processing publications will depend on the PC and the size and type of data content, but typically, processing all the data for a QANTAS Route Manual Supplement Long Haul Flight Technical Manual of 600 pages takes some 1.25 hours, or the Random House® Webster's Unabridged Dictionary using a purpose built processing tool can be completed in minutes once the data is formatted appropriately, running on a PC with a 3GHz clock and 2GB of RAM with Microsoft Windows® XP.

The level of compression is difficult to predict but the Random House® Webster's Unabridged Dictionary data would normally be of the order of 150MB including an index and viewer, whereas the eComPress version is less than 15MB. eComPress also compresses JPEG files without any degradation in the quality of output. With the substantially reduced size of the publications in eComPress format, capacity of servers and communication channels are increased by as much as 900%.

Platform compatibility

The eComPress viewer software runs on Microsoft® Windows 98, 2000, XP, Vista, Windows Mobile and Windows Server applications including Terminal Server. The eComPress Publisher Toolkit software runs on Microsoft® Windows XP and Vista.

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eComPress® and PDF publications compared

The major difference is that PDF is designed as an electronic means of delivering printed documents, whereas eComPress is designed to be used electronically with powerful navigation, searching, security, compression, annotation, scalability and ease-of-use with its ability to interface with all the other Windows applications on the desktop. A brief list of the advantages of eComPress over PDF are:

- ◆ the information is uniquely encrypted and can never be changed
- ◆ fast and exhaustive searching of all words, numbers and alpha-numerics
- ◆ highlights search hits with the HitMap in Tree Table of Contents, and provides an exact HitCount to indicate the most relevant sections
- ◆ fast, easy-to-use and navigate - single window-view, instant search and access with the Drag-on - no training required
- ◆ comes *complete* with its own browser and index – NO additional software or updating required for the life of the publication
- ◆ scalable – many eComPress publications can be put into a portfolio suite and updated in an ad hoc manner and searched contiguously
- ◆ dynamic tree table of contents – always synchronised with the data
- ◆ multiple views of the publication can be accessed in up to four separate Window panes, so separate sections of the publication can be searched and viewed concurrently
- ◆ very secure – with 32-bit CRC to ensure all publications are complete and not corrupted, truncated or contaminated in transit
- ◆ can readily be printed with all formatting and pagination preserved
- ◆ fully Windows compliant with window re-sizing and text wrapping
- ◆ fully Microsoft Windows 98, 2000, XP and Vista compatible
- ◆ faithful formatting when extracting tables and spreadsheets to other applications
- ◆ supports multiple wild-card (?) and (*), and logical (Boolean) searching
- ◆ powerful annotation feature, all notes automatically transcribe in context to the next update
- ◆ ability to have in-context dialogue with users through Notes and email facility
- ◆ very small file size – fast and easy to disseminate electronically
- ◆ key locking – ideal for eCommerce with secure on-line sale and delivery
- ◆ instantly searchable from other Windows applications via desktop 'drag-on' icon
- ◆ environmentally friendly – PDF is designed to be printed, whilst eComPress is designed to be used electronically on-screen

Why don't you give your users the eComPress advantage and call EIS today on +61-2-9411-3711 or email euinfo@eis.com.au