



Your Guide to Interoperability & Conformance Test Services

February 2007

DGI Commentary—Large File Exchange Enters New Era

When the Apple II personal computer was introduced in 1977, it came with 4KB of RAM memory with the ability to expand to 48 KB. Today, with the release of Microsoft's new operating system Vista, many PC experts recommend using 1GB of memory to best utilize the features of this new operating system. Thirty years ago, the idea of needing 1GB of memory for your computer was probably inconceivable considering the current software and business needs. Likewise, the modern computer users find it difficult to conceive how you could have a productive computer with less than 100KB of memory. In technology, time brings about challenges and needs that were previously unconsidered, but current designers and implementers must constantly adjust to meet changing needs. Ten years ago, few EDI or other e-business documents were more than 1MB in size. Now, 1MB files are much more common with the upper limit payload size well over 1GB. Vendors of AS2, AS1, AS3, ebMS and other B2B EDI standards must adjust to this new environment. Large files, however, are not only used for EDI. They also are utilized by non-EDI industries, such as PIDX and the financial industry, where EDI is used less and Text, PDF, DOC and Image (JPG, TIFF, etc) files are exchanged as well. These files tend to be larger in size. Not only are EDI files larger in size, but they also are more varied, and larger types of files are being exchanged.

From the beginning, Drummond Group Inc. (DGI) has included a "large file" test in its AS2, AS1, AS3 and ebMS interoperability tests. The exact size of the EDI payload in these tests varied, but they were generally from 2MB to 10MB. Some of the test cases utilized compression algorithms to significantly reduce the payloads during delivery and others allowed the EDI file to be sent uncompressed. There have always been challenges in using EDI files larger than 1MB in the B2B world. The two main challenges are firewalls and applied security. Since a large file takes longer to transmit, some network firewalls can timeout or reject the message. This is corrected by working with the network administrators to [lengthen](#) the timeout period or speed up transmission.

The other challenge is applying digital encryption and signatures to such a large payload. First, it takes time to digitally encrypt and decrypt files of this size. If several large encrypted payloads come in at the same time, the user agent expecting the response may time out the transmission because of the delay. Second, EDI files of this size utilize significant computer resources to apply the high level mathematic functions required in digital security. On this second point, very large file sizes, such



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as those over half a GB, require sophisticated use of the computer memory and hard drive storage. Many B2B software vendors who designed their product to handle payloads in the megabyte range have not redesigned their product to handle EDI files in the gigabyte range. For some, their customer base never encounters file sizes of this magnitude. But others do have customers occasionally dealing with EDI documents of a gigabyte or more.

DGI is assisting vendors in dealing with these new challenges with very large files. We are offering optional, experimental test cases that use files of over 500 MB for vendors whose customers have these needs. Our continued focus, as in all of DGI's testing, is cross-industry. Since many vendors don't have customers who encounter these types of files, test cases for very large files are not mandatory or currently certified. However, if user demand increases, these test cases may become part of certification. It is important that the user community communicates its needs so vendors can develop the functionality to address these challenges and DGI can accurately certify software that accomplishes these tasks. If you have specific needs for large file exchange, please send us an email at info@drummondgroup.com