

Virtualization Manager

- slide 1** This presentation concerns the virtualization and its related tool, the Virtualization Manager.
- slide 2** Virtualization deals with the issue of abstraction of information; it depends on the object under examination and is a process related not only to the ability of the tool, but also to the person who uses it. In fact, a central role is supplied by the user who ticks and tags various useful concepts as Representation Information (ReplInfo).
This application allows the user to understand a file, to inspect the contents and the contents of the nested components, and to tag the whole file or some specific part of it.
- slide 3** Concerning its logical structure, the main part of the Virtualization Manager is the Recogniser which tries to discover the nature of the file as a stream of bits and represents this stream of bits as a mental object, i.e. a document written by Word, PDF or likewise.
Then, the Virtualization Manager maps the content of the file onto an object that is representative of this string of bits.
- slide 4** The Virtualization Manager deals with files, many of which are containers for other digital objects. Any file is an entity and for each one, the Virtualization Manager tries to inspect its contents. If a file is a not structured entity, the Virtualization Manager tries to inspect the inner structure of this file, representing it as a composition of inner objects.
For instance, a ZIP file can be considered as a collection of other files and even whole directory systems; a Word file also can contain other objects, for example images, indexes or tables, and the Virtualization Manager tries to represent these objects in separate ways. This tool allows the user to provide specific ReplInfo for each of these objects within these container files.
- slide 5-6** Utilising the main window of the program, it is possible to choose a file and inspect it.
The Virtualization Manager treats each file as a virtual file system, exposes its contents, lets the user retrieve ReplInfo about the content and allows him to view the content by using an appropriate plug-in which is purposely-built for the Virtualization Manager, or by using several other programs chosen by the user himself, in addition to being able to tag the contents of the object that he is exploring.

- slide 7** If a user has, for example, a ZIP object that is composed of six elements, e.g. a Doc document, some JPEGs images and GOME ozone files, he can descend into the object, explore it and select one of its elements; once a file has been chosen, for instance, the GOME data ZIP, the Virtualization Manager allows him to inspect the contents of the file.
- slide 8** The user can also inspect the contents of the sub-elements.
In this case, the Virtualization Manager informs the user that the selected file is composed of different components and the user has the possibility to see them (e.g. to see the images contained in a selected Word document).
- slide 9** The user can extract information about the content of a document using the Virtualization Manager; in other words, he can see, for instance, that inside the document there is an image. At this point, the user should use another type of software to see that image.
- slide 10** After its exploration, each object can be labelled and semantic information that is effective to the meaning of the object, namely the RepInfo, can be added.
The user may add this semantic information by asking the collaboration of the Registries, the Knowledge Manager and the Gap Manager, that are other CASPAR components.
- slide 11** Having finished the tagging operation, all the contents can be saved in a new exportable file.
- slide 12** Specific plug-ins have been developed to deal with many different kinds of files: JPEG, TIFF or other types of images; Word documents; PDF documents; a large quantity of archives like ZIP, RAR, TGzip, etc.; and also XML files.
The user also has the ability to inspect a connection remotely (HTTP or FTP) by means of a channel-inspection.
- slide 13** It is possible to extract hyper links and images from an http connection and reduce all these remote contents of information as local virtual files.
- slide 14** The Virtualization Manager allows the user to analyse a new file, create a personal view of the information needed to perform the preservation, to manage different type of files and add other information with full file tagging, structured tagging and/or semantical tagging.

The speech is followed by a running demonstration of the Virtualization Manager.