

Internet Technology

Adobe PDF Byteserving

Adobe has created PDF format, which is already successfully used for CD-ROM Publications. This should enable the display of any layout without the limitations of HTML.

The problem, however, is the fact that sometimes you have long waiting periods, if e.g. a multilateral PDF document is to be viewed. First all pages must be transferred, and then the page is displayed.

The remedy is Byteserving. Byteserving is a method for transfer larger quantities of data in smaller packages. With the help of the Byteserving programs the PDF file, converts the page that is transferred into the Byteservingformat. This means, if you want to view a 15-page long PDF document, the first page is first transferred. You can look at the first page, while in the background the next pages are loaded.

To install Byteserving for Adobe PDF files you need to proceed as follow:

- Load the script byteserver.pl under <http://www-service.de/tools/byteserver.pl> (the script is displayed at your browsers as text, you only have to store it.)
- In the directory <http://www service.de/tools> you can also view a Byteserving test data file.
- Afterwards you copy the script on to your own account under the cgi-local directory. Copy your PDF files on the server, e.g. into the directory pdfdata. Next you must create a link from your web site to the PDF document. This happens as follows:

- Let's assume the file has the name datei.pdf The link to this file should look this way:

```
<A HREF="/cgi-local/byteserver.pl/pdfdata/datei.pdf">PDF Datei</A>
```

- First the path is indicated to the Byteserving script:

```
/cgi-local/byteserver.pl/pdfdata/datei.pdf
```

- At the path we finally attache it to the actual PDF document:

```
/cgi-local/byteserver.pl/pdfdata/datei.pdf
```

- This is all that has to be done.

Note: You must store those PDF files for the Byteserving with Adobe 3,0 (or higher) technology format, only then the Byteserving can be supported

To read PDF files you need the Acrobat reader Plug-In. You can download it from:
www.adobe.com/prodindex/acrobat/download.html .

Active-X Support

ActiveX is Microsofts new technology in dynamic and intelligent World Wide Web pages. ActiveX is directly only supported by Microsofts Internet Explorer version 3.0. In addition, ActiveX controls can be used with the Mosaic browser or with a Plug-In with the Netscape Navigator - however only with the Windows versions. You should consider this substantial point, if you plan to use Active-X.

What is ActiveX-Control?

Active-X control is a program that makes frequently needed effects on to a document available, similar like the Java-Applet. The difference between Java-Applets and Active-X controls is that Active-X is in the position to work with JavaScript elements of the HTML document or to exchange information with Windows programs with an "OLE" similar technology.

Some ActiveX controls are available as a standard in MS Explorer. There are meanwhile, according to Microsoft, more than 1000 Active-X controls by Microsoft or third party providers, which were developed for example in C, C++, Visual Basic (new version) or Visual J++ (advancement of Visual C++). Active-X controls can be used, in order to simplify the web page design by prefabricated items similarly to a library function in a programming language. You need no knowledge of the structure of Active-X control, except the interface to the outside (i.e. the parameter). Depending upon access a control can be used for the development of new Active-X items.

Most Active-X controls do not need any programmer knowledge. ActiveX controls are simply placed and are operational. For some controls, which co-operate with other side items, however JavaScript knowledge is necessary. If a web page is loaded with ActiveX controls, the Browser for each control checks first whether the appropriate code is already available in the system. In addition the local " System Registry " of the user is searched.

If the component is found in the system, the Browser uses automatically the code for the display the Active-X control. In the other case the Active-X component must be loaded first over the network. The Browser takes the appropriate address from the web page (CODEBASE-Attribut). After the loading the Browser announces the control automatically to the system, so that it is available in the future.

Before the loading of an Active-X control a dialog window appears in which the user is asked to acknowledge the download. Only if you acknowledge it with "Yes" the code is loaded and installed over the network. The developer of an Active-X control can perform this with " digital certificate ". This information is then displayed automatically before a Download. The loaded controls are stored in the directory (default) " \windows\occache \ " and registered in the users registry. Since controls can be provided with a version number, the Browser detects automatically, if a newer version is necessary for a Active-X component and then loads automatically the new control.

VBScript

Visual basic Script (VBScript) is Microsofts response to JavaScript. Here too you can write the program directly into the HTML code. Natural VBScripts have access to the Active-X controls. This way there are interesting programs realizable, particularly since many programmers have experience with the Visual Basic and Visual Basic for applications syntax. The disadvantage here is to that only Microsoft Internet Explorer supports VBScripts at this time in point.

```
<HTML>
<HEAD>
<TITLE>jscrдем/vbscr01.htm: Mein erstes VBScript-Programm</TITLE>
<SCRIPT LANGUAGE="VBScript">
<!-- Anfangs des Scripts ...
```

```
Alert "Hallo Welt"
Sub ZurHome
MsgBox "Nun geht's zurueck zur Homepage"
End Sub
-->
</SCRIPT>
</HEAD>
<BODY> Hier ist der HTML-BODY <P>
<A HREF=" ../index.htm" OnClick="ZurHome"> Zurück </A>
</BODY>
</HTML>
```

The LANGUAGE-Attribute indicates to the SCRIPT tag that the code is Visual Basic and not Java.

Macromedia Shockwave

Director of Macromedia belongs to the most common author systems for interactive Multimedia applications. " Macromedia Shockwave 4.0 " now permits with Director 4.0 to distribute created films over Internet. Shockwave is a Plug-In for Netscape Browser version 2.0. The Player can be downloaded from Macromedia's web page, which is located at <http://www.macromedia.com/> for free. Besides from numerous examples of " Shocked Sites ", you will find documentation and the software " Afterburner ". The program " Afterburner " is needed to compress Director 4.0 movies.

This step is important, so that films will transfer even over low bandwidth lines. As soon as all data is received by the host-computer, the Shockwave Player begins playing within the Netscape window. Only with few exceptions the entire Director functionality is available. Lingo was extended by some important network instruction. This way it is possible for example to reload direct web pages.

The waiting period, until the Director-Movie is loaded, is the largest disadvantage. Even with compression you load about 100 and 300Kbytes for a film. You should consider this. Pictures or animations with small resolution and depth of shade or image- duplicate-frequency cannot be avoided. The Player plays even on a 100 MHZ Pentium active diagrams very shaky. However, the Shockwave technology convinces particularly for interactive presentations.

VRML

VRML ("Virtual Reality Modeling Language ") is a standard description for the description of 3D scenarios on the Internet. Already on the first WWW-conference in 1994 the idea of three-dimensional, virtual spaces on the Internet was presented. Target is the transition of the two-dimensional HTML Web pages to divided 3D-Scene, in which the viewer can move freely.

With hyperlinks the viewer can move from room to room. The current VRML 1.0 standard allows also the description of complicated bodies, which provide surfaces with textures. However only simple animations are possible. The new standard VRML 2.0, which will probably exist to large sections of SGI's " Moving Worlds ", will then allow complex movements and simulations. VRML 2.0 is supposed to support Java and JavaScript.

The 3D scenes are sent mostly packed, over the network, and then they are unpacked on the host server and displayed by a VRML Browser. There is a set of free software solutions for the different WWW Browser.

Meanwhile there are many VRML Player, which are either a Plug-In for Netscape or a additional product. VRML already worked out the initial difficulties. SGI engages itself strongly. The SGI standard " Moving Worlds " is going to be the new VRML Standard 2.0.

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