

# **Programmers Guide to the Features & Use of "Web/application" to Fax**

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Web to Fax, by definition, involves a Web front-end that a client uses to ultimately send a fax to a particular destination. One of the easiest implementations is an HTML form using a CGI interface to a back-end application to do the necessary processing. The CGI interface to programs or scripts is available in virtually all Web server products. The service actually is not limited to running in a web server environment but can run in a wide range of application environments.

The actual information processing that is done is completely in the control of your programming staff or consultant. Our Web2Fax system does not limit the choice of programming language or operating system. It only adds the capability to deliver text, HTML formatted pages, PostScript, Pdf, Word and TIFF-F as a fax. The main requirement is the ability to send SMTP email under program control.

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# *Application Scenarios*

This section will describe some environments where Web2Fax has been used effectively.

## **Scenario 1: Potential Customer Alert**

An Auto club has a web site with information about buying new and used cars. There is a page where the car shopper could fill in his name, phone number and attributes of the car he is looking for. He is informed that a car dealer will contact him if he is interested. The application would fax a formatted HTML file to the dealers with the kind of cars the shopper is looking for.

## **Scenario 2: Employee Search Service**

A Company is providing a service to registered employers to allow them to send job descriptions to many different employment agencies with a single request. A previously registered employer logs into a web site and creates a description of the skills that are needed for a particular job. When the form is submitted, an HTML document describing the job is faxed to many different employment agencies. The fax has the address and contact info of the Employer. This information was stored in a database maintained on the computer of the Search Service. The receiving employment agencies then send the people looking for work directly to the employer.

## **Scenario 3: Remote printing**

A warehouse of a company currently receives pick lists for shipping via fax from the head office. The current system requires someone to print the pick list at the head office and put the list into a fax machine to send it to the warehouse. The new system would use **Web2Fax**. Instead of formatting the document as text and printing to a printer the application prepares HTML document and directly faxes it to the warehouse.

## **Scenario 4: Credit Card Transactions**

A global hotel reservation service is booking rooms for clients. After receiving the customer information and associated credit card information through their secure site, they must forward it to any hotel worldwide to guarantee confirmation. Many hotels rely on fax and the telephone in order to process an immediate request for a reservation. Web2Fax allows the reservation service to securely send this information to the destination hotel fax machine. The information is sent as an encrypted document to the Visionlab network where it is unencrypted and delivered to the hotel as a standard fax over the PSTN. The hotel reservation system also uses Web2Fax to send a reservation confirmation and itinerary to the customer by fax when it is required.

# *Email message requirements*

The e-mail message must be in MIME format with encoding of Base64 or Quote Printable. These formats are the most common encoding that emailed clients use to attach documents to an email message.

The attached document format can be any of the following:

[1\) Postscript files](#)

[2\) HTML files](#)

[3\) Plain text files](#)

[4\) TIFF Group 3 files](#)

[5\) PDF files](#)

[6\) Microsoft Word files](#)

## **1) Postscript files**

Postscript Level 3 is supported. DSC (Document Structuring Conventions) comments are recommended. Encapsulated Postscript uses DSC and is supported. This file type can only be in an attachment.

## **2) HTML files**

Note: For an attachment to be detected as html, it needs to contain the opening ("`<HTML`") and closing ("`</HTML>`") HTML tags.

### **HTML 3.2**

Full support of W3C's recommendations for HTML 3.2 except for the following:

1. The IMG attributes ALIGN=LEFT and ALIGN=RIGHT are not recognised.
2. The TYPE attribute in unordered list UL is not supported
3. For tables, it's not possible to set the border width. The WIDTH and HEIGHT attribute of TH and TD elements does not work correctly. The CELLSPACING attribute is not done as described in the specification; instead the value of the CELLPADDING attribute is increased by half the value of CELLSPACING.
4. CSS1 - Cascading Style Sheets level 1 - are not currently supported

### **HTML 4.0**

Many of the new features in HTML 4.0 draft (<http://www.w3c.org/TR/WD-html40/>) are supported. Following a brief description of some of these:

#### **1. OBJECT**

The OBJECT element is recognised; the supported object types are images, PostScript documents (eps), and HTML documents.

## 2. TABLE

## 3. INS and DEL

The new elements INS and DEL, for marking text as inserted and deleted respectively, are recognised. Inserted and deleted text is indicated with a vertical bar in the left margin. Deleted text is rendered as struck-through.

## 4. Named character entities

All character entities in HTML 4.0 (<http://www.w3.org/TR/WD-html40/sgml/entities.html>), except &zwnj;, &zwj;, &lrn; and &rlm; are supported.

Note: GIF/JPEG can be embedded to the HTML file by using a complete URL path. The URL must be accessible at the time that the fax will be processed.

This file type can be in the body of the message or in an attachment.

## 3) Plain text files

Text can be in the body or in the attachment. Please note that the ASCII (7 bit), a subset of ISO-8859-1, will be handled correctly.

Formfeed characters can be embedded anywhere into text files to produce a page break.

## 4) TIFF Group 3 files

The formal name for this format is TIFF-F. The 1 dimensional encoding is supported. Please see IETF RFC2306 for the detail of this file format. This format can only be in an attachment.

Note: We can provide multiple resources to assist you with the creation of these TIFF-F files directly on your NT Web Server or NT application Server. These resources include HTML to TIF-F and PDF to TIF-F conversion utilities as well as ASP server applications.

## 5) PDF files

Adobe PDF documents up to version 1.2 are supported as attachments only.

## 6) Microsoft Word files

Microsoft Word documents up to version XP are supported as attachments only.

# *Procedure to use Web2Fax*

## **1) Gathering of the message content**

The first step is to gather the content of the message. This step is very similar to the preparation to print a report. All the information must be available at the time the report is to be prepared.

## **2) Formatting of the Documents**

In this step the raw information is transformed into one of the file formats supported by the Web2Fax system. This could be as simple as printing the information to a text file or as complex as creating an elaborate Postscript file.

## **3) Transforming the destination fax number into Visionlab's e-mail address form**

The application must build an email address out of the name of the receiver, the destination fax number and the Visionlab mail server name. The format is as follows:

*<Receivers\_Name>@<country\_code\_area\_code\_faxnumber>.tofax.biz*

e.g. Support@15143343201.tofax.biz

or *<country\_code\_area\_code\_faxnumber>@tofax.biz*

## **4) Sending the message**

The method of sending the message is dependent on the email services that are available with the operating system you are running. The email message must be in SMTP format. Unix's sendmail and Windows NT's BLAT are common SMTP email clients. All email clients have a mechanism to choose the destination email address, to attach files and to set the text of the subject line.

There are some automated actions that will happen depending on the type of file and the position the file is placed in the email message. The body of the message can only contain plain text or HTML. Plain text will be displayed on the cover page with header information extracted from the email. HTML will be printed without the cover page. All other File formats must be sent as attachments.

We have several control switches that are placed at the end of the subject line that allow for greater customisation of the message delivery. They include assigning tracing number to messages, controlling the number of dial attempts and page numbering. Please see the section on control switches.

## **5) Notifications, Reports & Responding to them**

Once the message has been processed and the fax has been sent, an individual notification message can be sent to the "email address".

The notification can be sent for undelivered faxes or for both delivered and undelivered faxes. This message can be reviewed by someone or processed automatically by an application. The action you take with failed faxes depends on your needs. Resends of the fax could be done manually or could be automated. The notification has

a standardised format so the information it contains can be extracted easily.

**Here is a full sample of a Positive Notification message:**

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Subject: Notification for Donna\_King@+15141234567 - OK [Re: Price\_List] from Visionlab  
Date: Tue, 11 Jan 2000 09:41:52 -0500  
From: Visionlab  
Reply-To: techsup@visionlab.ca  
To: you@yourdomain.com

Visionlab Transmission Report

E-Mail to Fax

Fax # : Donna\_Kinga+15141234567  
Subject : Price\_List  
Tracing Number : 54  
Submitted on : 2000-1-11 at 09:22 EST  
Last Attempted : 2000-1-11 at 09:24 EST  
Pages(s) : 2  
Duration : 3:00  
Status : OK  
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**Here is the subject header of a Negative Notification:**

Subject: Notification for Fax@+15141234567 - Failed after 5 attempts [Re: Fax] from Visionlab  
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Positive and Negative notifications are primarily differentiated by the information that is provided in the Subject header of the notification message. This information can be used to filter incoming notifications in an automated fashion, especially if a course of action is required.

Negative notifications can be returned with the original file attached. This original file can be returned as a TIF-F attachment or as the original text file, which was submitted.

Notifications can also be accumulated, consolidated and sent as a summary report one or more times a day. The scheduled delivery time can be set up according to your requirements if you use this option. Note: These reporting features and functions are set up by Visionlab directly. Please advise your customer service representative of your requirements if they have not been specified in the registration documents (csr@visionlab.ca)

# Control Switches

There are several control switches available that allow you to fine tune or control aspects of the way the fax is delivered and displayed. Some of these options are available only for certain file types. If there is a limit then file type accepted will be listed.

[Customer Supplied Tracing Reference \(TR\)](#)

[Dial Attempts \(Dial\)](#)

[Document Title \(DT\)](#)

[Font Style \(Font\)](#)

[High Resolution Images \(HiRes\)](#)

[New Page Text \(NPT\)](#)

[No Cover Page \(NCP\) / No Header \(NoHeader\)](#)

[Page Break For Text \(PBT\)](#)

[Page Numbering \(PN\)](#)

[Preview \(PV\)](#)

[Private CC: List \(Priv\)](#)

[Send Date \(senddate\)](#)

[Send Time \(sendtime\)](#)

[Send Delay \(delay\)](#)

[Transmission Attempts \(Try\)](#)

[Word-Wrap & Characters per line \(Wrap\)](#)

[Multiple options](#)

## **Customer Supplied Tracing Reference (TR)**

Customer Supplied Tracing Number allows you to send several different Web2Fax messages all under one tracing number. This would allow you to trace a batch of messages where x (up to 9 digits) is the reference number: **##tr=x**

Note: Currently we can do transaction tracking, which would aid us in tracking down any problems that you have. In the near future we will be able to provide summary reports based on the tracing number. Currently the number can be up to nine digits long.

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## Dial Attempts (Dial)

Visionlab's system will attempt to dial the destination number up to 5 times by default. This is useful if the receiver's fax machine is busy or temporarily unavailable. If you would like Visionlab's system to make more (or fewer) than 5 dial attempts, for x **attempts** type the following code after your Subject header: **##dial=x**

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## Document Title (DT) (HTML file type only)

Document Title will place the first 25 characters of the subject on the lower left of each page: **##dt**

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## Font Style (Font) (Only for plain text in the body or attachment)

Whenever plain "text" e-mail is submitted, it is converted to the default font type (Helvetica) before it is sent out as a fax document. The same font is applied to all text content both in the body or attachment for the individual e-mail message. To use an alternate font, select from the current types that are available, replace x with the number that corresponds to the desired font type: **##font=x**

The font numbers correspond to the following fonts:

1 - Helvetica

2 - Courier

3 - Times

4 - AvantGard-Book

5 - Bookman-Demi

6 - NewCentury

7 - Palatino

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## High Resolution Images (HiRes)

If you are sending an attachment with detailed graphics, fine print or small fonts, you may wish to add more definition than the standard fax resolution of 100x200 lines per inch. If you want to send a document using higher or "FINE" fax resolution (200x200 lpi) type the following code after your subject header: **##hires**

Note: High resolution will increase the amount of time it takes to transmit your Web2Fax message.

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## New Page Text (NPT) (Plain text files only)

Similar to a page break but for text attachments only. Will print each attachment on a new page: **##npt**

Note: lines from the message header (which can be removed with **noheader**) are not taken into account by this switch

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## **No Cover Page (NCP) / No Header (NoHeader)**

By default the service generates a cover page with the information from:

- the email header (from; to, ...fields),
- any text in the body of the email message
- all text attachments.

To control what is displayed on the cover page of the fax two options are available:

- The No Cover Page option will completely remove this page (including text attachments): **##ncp**
- The No Header option will create a cover page with any text in the body of the email message and text attachments: **##noheader**

Notes:

### **1) The No Cover Page option (ncp) is automatically turned on if:**

- a) The content of the body of the message is recognized as HTML.
- b) No other attachment is found

### **2) The No Cover Page option (ncp) is NOT automatically turned on if:**

- a) The content of the body of the message is recognized as HTML
- b) A supported attachment(s) is found (HTML, PDF, Tiff, or PS, doc not text)

### **3) The No Cover Page option (ncp) is ignored if:**

- a) Only text is present
- b) No attachment found

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## **Page Break For Text (PBT)**

You can define the amount of lines per page for both the body of the mail and the attachments. The default is set to 70: **##pbt=xx** (xx stands for lines per page)

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## **Page Numbering (PN) (HTML file type only)**

Page Numbering will place the page number on the bottom center of each page: **##pn**

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## Preview (PV)

The Preview option is a developer tool for testing the result of a Web to Fax message (WYSIWYG). It will send an email directly back to the senders email address with TIFF-F file (fax image format) attachments. Each TIFF-F file attached to the return email is one page of the fax that would normally be delivered. As this option is used exclusively for testing, any delivery to a fax number using a preview test email will be blocked: **##pv**  
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## Private CC: List (Priv)

If you want to send an E-mail to Fax to several people without anyone seeing your CC: list, just type the following code after your subject header: **##priv**

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## Send Date (senddate)

Enables you to send a fax on a precise date. Format must be in the following: YYYY/MM/DD. You can use / or – as separator. A maximum of 7 days is permitted (from the sending day): ##senddate=YYYY/MM/DD

Notes:

- 1) If send time is not specified, the fax will be sent at midnight that day.
- 2) If the date format is not valid and/or exceeds the limit and no sendtime is specified, the switch will be discarded and the fax sent right away.
- 3) If the date format is not valid and/or exceeds the limit and sendtime is specified, the switch will be discarded and the fax sent at the time specified according to the sendtime.

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## Send Time (sendtime)

Enables you to send the fax at a specified time. The format used for this switch is HH:MM (in 24 hour format only no AM or PM allowed). HH is from 00 to 23 (00 being midnight and 23 being 11pm). MM is from 00 to 59: **##sendtime=HH:MM**

Notes:

- 1) Time must be in E.S.T. or E.D.T. only (Eastern Time).
- 2) If a wrong format is used and senddate is not specified, the switch will be discarded and fax will be sent right away.
- 3) If a wrong format is used and senddate is specified, the switch will be discarded and fax will be sent at the specified date at midnight.
- 4) If sendtime is used alone (without the senddate switch), the fax will be sent at the time specified in the next 24 hours of the time the email is received by Visionlab. (E.g: Visionlab receives the email at 10:15 and the sendtime switch is 10:00, fax will be sent at 10:00 the next day).

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## **Send Delay (delay)**

Allows you to delay the fax transmission for the duration in minutes from the reception time of the email by Visionlab. The format is in minutes, from 0 (now) to a maximum of 10,080 minutes (10,080 minutes equals 7 days starting at the time Visionlab receives the email). For example, if you want to send your document in 55 minutes, just do as the following: **##delay=55**.

Notes:

- 1) If the format is incorrect or exceeds the limit, the fax will be sent right away.
- 2) This switch will be ignored if used in conjunction with senddate and/or sendtime.

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## **Transmission Attempts (Try)**

If the system makes a successful fax connection but sustains a transmission error of any sort, it will make another transmission attempt. The system makes up to 3 transmission attempts by default. This is useful if the receiving fax machine suffers from noisy lines or has problems sustaining a fax connection. If you would like Visionlab's system to make more (or fewer) than 3 transmission attempts, for x **attempts** type the following code after your Subject header: **##try=x**

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## **Word-Wrap & Characters per line (Wrap) (Only for plain text in the body or attachment)**

Wrap the body (text only) of the email at the given number of characters per line. The wrapping function will not split the last word of the line if it's too long, it will move the last word to the next line. Please note that if a "carriage return" & "line-feed" are already present in the original text file, then it will be conserved, therefore please verify your output if you are using formatted text with embedded new lines. To set the wrap at x characters, the format is: **##wrap=x**

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## **Multiple options**

You can use multiple options on one message. Here is an example of the contents of a subject line:

Meeting announcement##pn,dt,tr=1501234

This would cause a page number to be printed as well as the subject and these messages would be associated with the tracing number 1501234.