

SOFT

Simple Obfuscated File Transfer

Ministry of Agriculture and Lands
Ministry of Environment

Corporate Services Division
Information Management Branch

August 2010

What is SOFT?

- A way to transfer large files using email, by uploading the file to a secure server then emailing its location
- Example uses:
 - Transfer large files to a client or contractor
 - Receive contract deliverables
 - Send information to another government worker
 - Build a site specific to a particular project that allows public or contractors to submit large data files

What SOFT Does

- Provides simple, browser-based file transfer between Government and Public
- Requires no authentication
- Provides a level of assurance and confidentiality similar to email
- Hides file locations (must have the exact file URL to download)
- Compresses files into ZIP archives for faster download
- Supports custom business metadata in plain text and XML
- Allows business areas to build their own web form front ends
- Automatically deletes outdated files

Types of Government ↔ Public Transfer

- SOFT does **not** allow file transfer from public to public.

SOFT can transfer:	To BC Government	To Public
From BC Government	YES	YES
From Public	YES	NEVER

- “BC Government” is determined by network location.

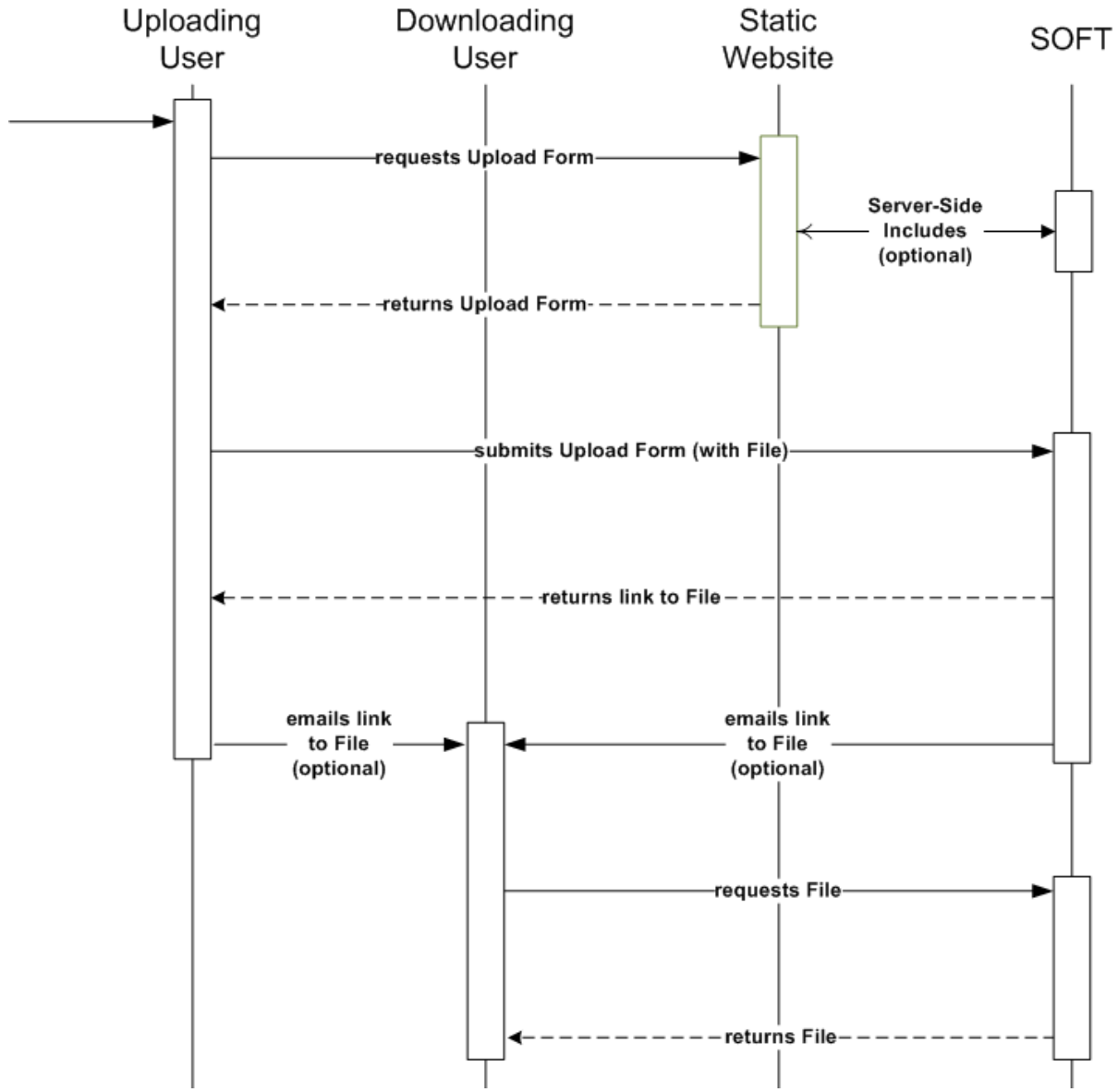
What SOFT Does Not Do

- Transfer multiple files (multiple files must be zipped together before uploading to SOFT server)
- Transfer files larger than 2GB
- Encrypt contents of files in transit or at rest
- Recognize remote IDIR users as Government (unless VPN is used)
- Allow web forms to customize the “succeeded/upload complete” message
- Log who uploads/downloads
- Manage disk quotas
- Scan files for viruses

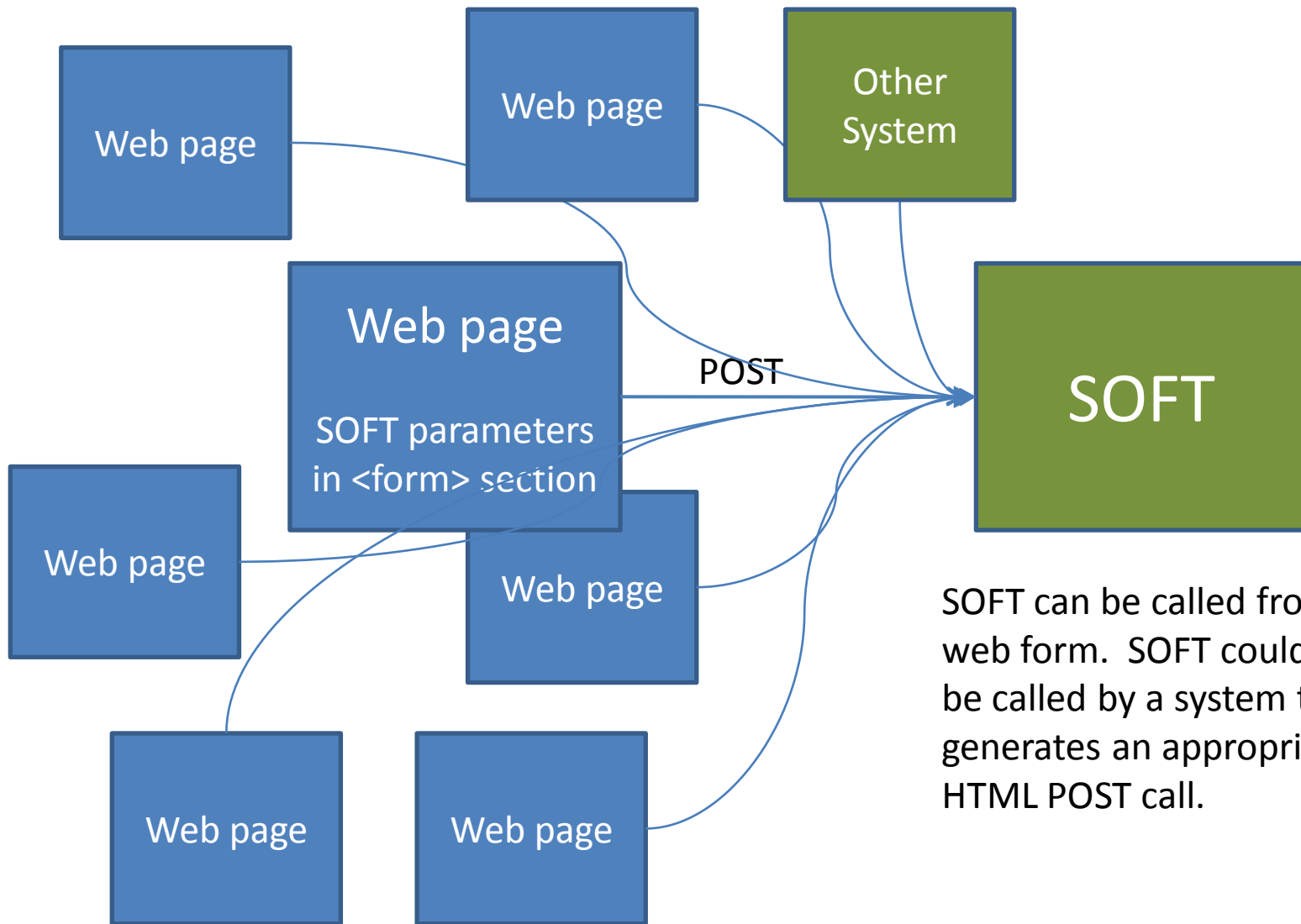
Comparison: SOFT, Email and FTP

	SOFT	Email attachments	FTP (ENV/MAL)
Software required	Browser	Email client or Browser (e.g. Spring)	FTP client or Browser (limited)
Number of files	1 (Many if zipped)	Many	Many
Maximum file size	2 GB	Within Gov 100MB To public ~5MB	Tens of GBs
Username/password required	No	Yes	No
Files accessible to	Recipient only	Recipient only	Anyone
Recipient notified by email	Yes	Yes	No
Use as Gov from outside network	Needs VPN	Yes	Needs VPN
Files encrypted	No	No	No
Files compressed	Yes	No	No
Files virus scanned	No	Yes	No
Collects business metadata	Yes	Limited	No
Storage cost (\$/GB/month)	\$1.50	\$60.00	\$1.50
Old files automatically deleted	Yes	No	Yes

SOFT Sequence Diagram



Calling SOFT from a Web Form



SOFT can be called from any web form. SOFT could also be called by a system that generates an appropriate HTML POST call.

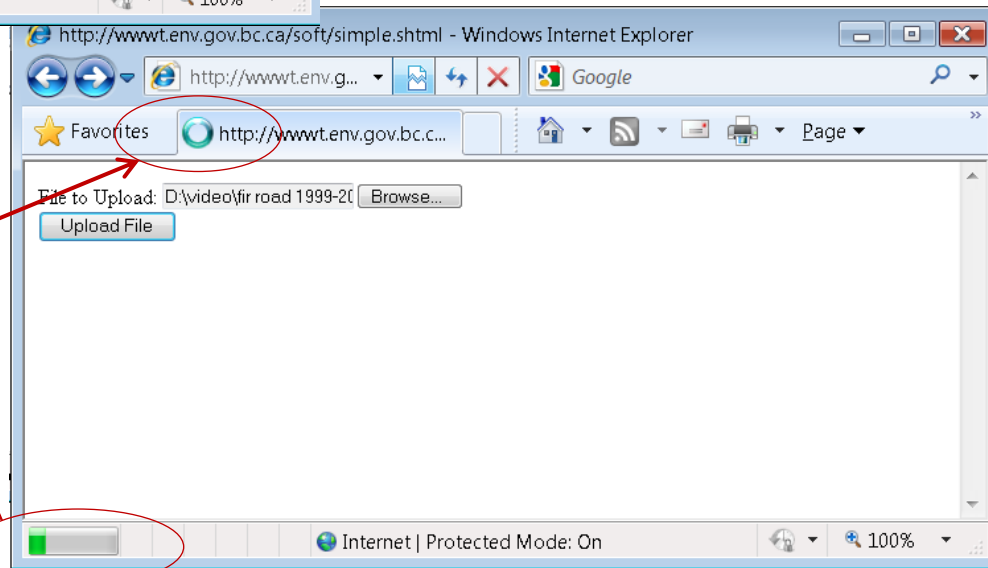
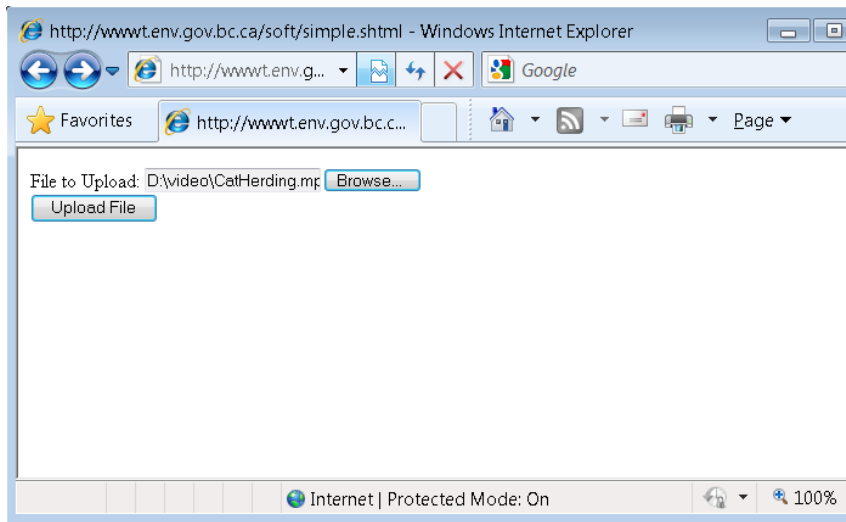
What SOFT expects from the Web Form

SOFT parameters are called using a POST method:

- **_soft_filename** (mandatory): the file to upload.
- **_soft_mail_sendto** (optional): a valid email address
- **_soft_mail_subject** (optional): a custom subject line to use when sending the email
- **_soft_keep_days** (optional): requested number of days to retain the file before deletion; default is 7 days
- **_soft_force_gov** (optional): forces the upload to be accessible only from within BC Gov, even if it was uploaded from inside BC Gov; default is accessible anywhere
- **_soft_form_owner** (recommended): contact information for web form to allow SOFT maintenance notifications
- **Anything else**: copied into metadata files (Text/XML)

Example: A Very Simple Upload Page

```
<html><head></head>
<body>
  <form action="/perl/soft/ul.pl" method="post"
    enctype="multipart/form-data">
    File to Upload:
    <input type="file" name="_soft_filename" /><br>
    <input type="submit" name="_soft_submit"
      value="Upload File">
  </form>
</body>
</html>
```



On a page this simple, these indicators are the only way the user can tell an upload is taking place.

Example: General-purpose upload



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File Transfer Service

This service allows you to upload a file for transfer to another person. When you upload the file, the service creates a unique Internet location (URL) for the file, which you can email to other people. They then use the URL to download the file. After a few days, the uploaded file will be automatically deleted.

File to Upload:

Comments to include with the file (optional):

After the file uploads you can send emails containing a link to the file from your own email account.

You are inside the BC Government network, so you may choose to make uploaded content available anywhere on the Internet, or to restrict its access to BC Government only.

Download from anywhere BC Government only

Related Links

- » [Developers Guide for this service](#)
- » [Overview of this service \(SOFT\)](#)

Upload is underway



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Related Links

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- » [Overview of this service \(SOFT\)](#)

Government

Quick access to information based on government's structure

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File Transfer Service

This service allows you to upload a file for transfer to another person. When you upload the file, the service creates a unique Internet location (URL) for the file, which you can email to other people. They then use the URL to download the file. After a few days, the uploaded file will be automatically deleted.

Please wait while your file uploads...



Do not close your browser or interrupt the upload until it has finished. Upload may take a long time, depending on the size of the upload and your network speed.

This page uses JavaScript to show a custom message and animation while the upload is underway.

Upload is complete

The screenshot shows a Windows Internet Explorer browser window with the address bar displaying <http://www.env.gov.bc.ca/perl/soft/ul.pl>. The page content includes the British Columbia logo and the text "BRITISH COLUMBIA The Best Place on Earth". A search bar is visible with the text "Search" and a "Go" button. The main content area features a banner for "Corporate Services Division" and a message stating "Your file has been uploaded". Below this, it says "Upload complete." and provides information about the file "2010-01-31.pdf", including its availability for download and a link to send an email with the file's location. The footer contains links for "COPYRIGHT", "DISCLAIMER", "PRIVACY", and "ACCESSIBILITY".

File uploaded - Windows Internet Explorer

http://www.env.gov.bc.ca/perl/soft/ul.pl

Windows Live Bing

What's New Profile Mail Photos Calendar MSN Share Sign in

★ Favorites File uploaded

BRITISH COLUMBIA
The Best Place on Earth

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Corporate Services Division

Your file has been uploaded

Upload complete.

Your file "2010-01-31.pdf" is available for download **anywhere in the Internet** for 7 days after which it will be automatically deleted.

You can [click here to send an email](#) containing the URL of your file's location, or you can copy and paste the following URL directly into an email:

<http://www.env.gov.bc.ca/perl/soft/dl.pl/20100721102613-07-gp-bf5122b0-bb27-4e3a-9d5b-625d7974.zip>

Related Links about SOFT

- » [SOFT Developers Guide](#)
- » [SOFT Overview](#)

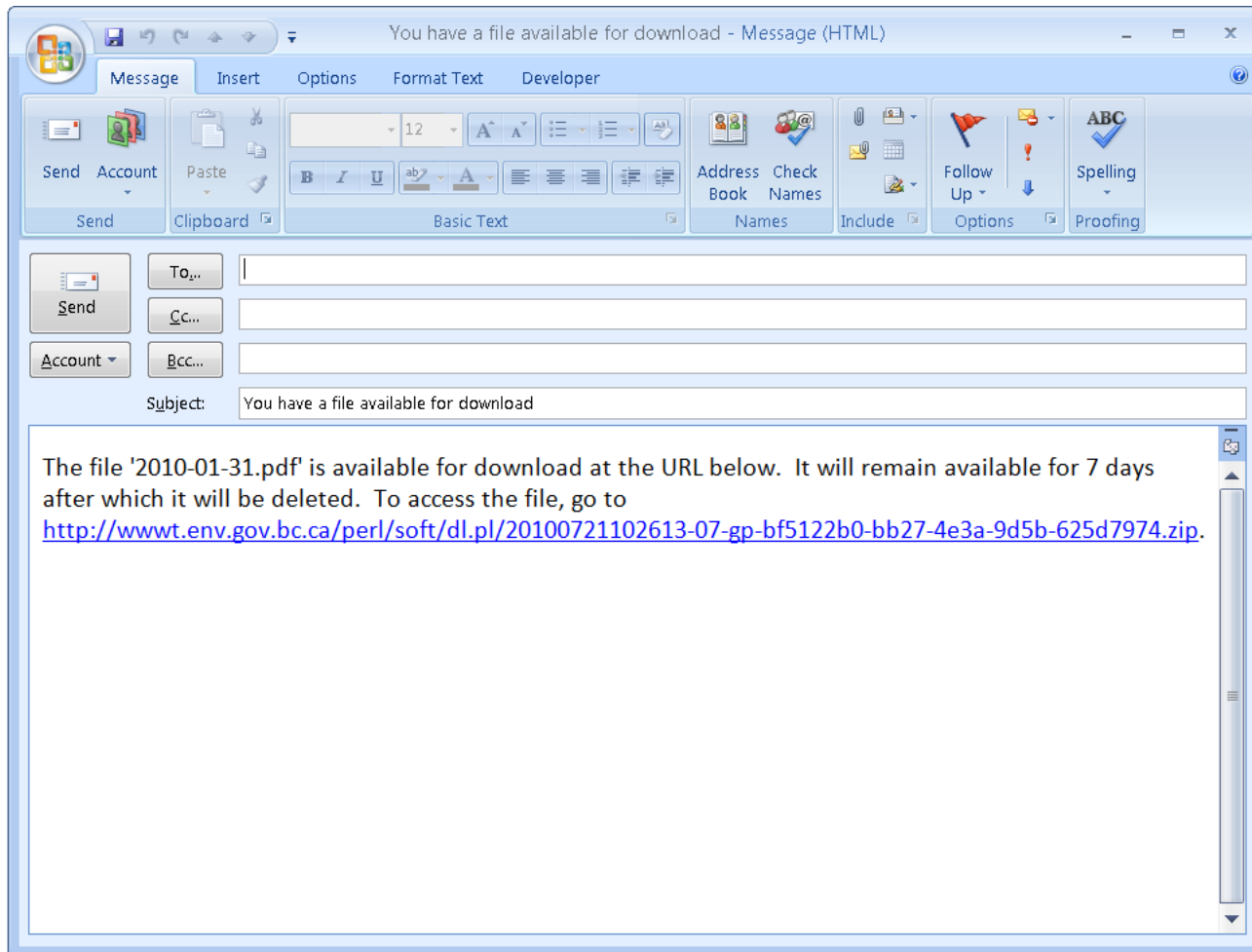
SOFT/DS - CONTACT [B.C. Web Page](#) FOR SUPPORT

COPYRIGHT | DISCLAIMER | PRIVACY | ACCESSIBILITY

Internet | Protected Mode: On

100%

User emails the URL & is done



Example: Project submission form

External party
enters data on
Submission page



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Detail from HTML file

```
<p>Project Name: <input name=projname></p>
<p>Project Number: <input name=projnum></p>
<p>Primary Contractor:
  <input name=contractor></p>
<p>Date Completed: <input name=date></p>
<input type="hidden" name="Project_Type"
  value="Mesic Snurf Detection Project" />
<input type="hidden" name="_soft_keep_days"
  value="4" />
<input type="hidden" name=_soft_mail_sendto
  value="todd.glover@gov.bc.ca" />
<input type="hidden" name=_soft_mail_subject
  value="Mesic Project Submitted"/>
<input type="hidden" name=_soft_force_gov
  value="1" />
```

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Mesic Project Submission

Use this page to upload completed projects related to general capability descriptions in mesic habitats.

Before you upload, please make sure that:

- you have followed the standards outlined at [some link](#)
- all subcontractors have been pre-approved and have completed consent forms
- all photographs submitted are in the [correct format](#)

Please address any questions to [Jonathan Richmond](#). Once you have uploaded your project, Jonathan Richmond will be automatically notified by email. (Actually in this example page they go to Todd Glover but it can be set to any email address.)

Project Name:

Project Number:

Primary Contractor:

Date Completed:

Completed project (zipfile):

Related Links

- » [Mesic Habitat Standards stuff](#)
- » [Photo of a misc habitat](#)

External party completes upload



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Your file has been uploaded

Upload complete.

Your file "**ewp.zip**" is available for download **only inside BC Government** for 4 days after which it will be automatically deleted.

An email notice was sent to todd.glover@gov.bc.ca. It will appear to be from file-transfer-no-reply@gov.bc.ca.

You can also [click here to send an email](#) containing the URL of your file's location, or you can copy and paste the following URL directly into an email:

<http://www.env.gov.bc.ca/perl/soft/dl.pl/20100721104127-04-gg-1b22a44a-a935-41ce-8dd5-9baa2a50.zip>

Additional information with the uploaded file:

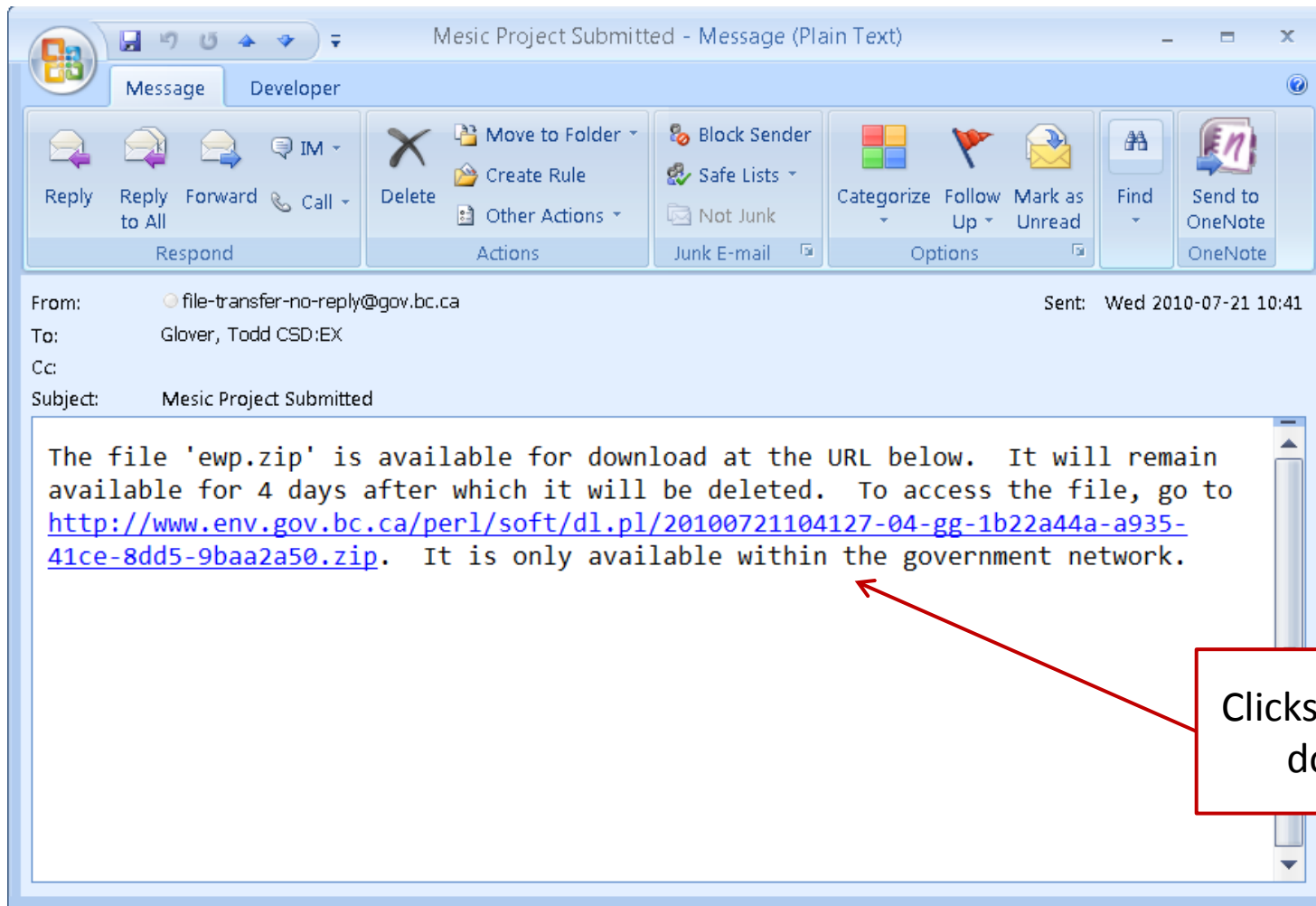
Project Type: Mesic Smurf Detection Project
contractor: GlumCorp
date: 2010-07-30
projname: Coast Hatchery
projnum: K2128776

Related Links about SOFT

- » [SOFT Developers Guide](#)
- » [SOFT Overview](#)

SOFT has
already sent a
notification
email

Ministry staff receives notification email



Staff now has the submitted project

The screenshot displays a Windows desktop environment with three overlapping windows:

- File Explorer:** Shows a zip file named '20100721104127-04-gg-1b22a44a-a935-41ce-8dd5-9baa2a50[1].zip'. The contents of the zip file are listed in a table below.
- Notepad:** Displays the contents of the 'README.TXT' file, which includes upload information and project metadata.
- Web Browser:** Shows an XML document in a browser window, which is the metadata extracted from the zip file.

Name	Type	Compressed
ewp.zip	Compressed (zipped) Fold...	
metadata.xml	XML Document	
README.TXT	Text Document	

README.TXT - Notepad

File Edit Format View Help

File 'ewp.zip' uploaded on wed Jul 21 10:41:
File is called 'ewp.zip' in this archive.
This can only be downloaded from inside gove

Additional metadata (also in file metadata.x
Project_Type: Mesic Snurf Detection Project
contractor: GlumCorp
date: 2010-07-30
projname: Coast Hatchery
projnum: KZ128776
who:

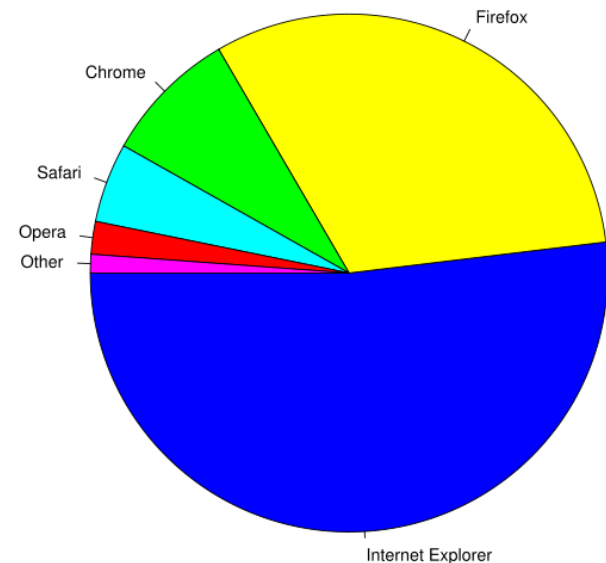
```
<?xml version="1.0" standalone="yes" ?>
- <opt>
  <Project_Type>Mesic Snurf Detection Project</Project_Type>
  <contractor>GlumCorp</contractor>
  <date>2010-07-30</date>
  <projname>Coast Hatchery</projname>
  <projnum>KZ128776</projnum>
  <who />
</opt>
```

Computer | Protected Mode: Off 100%

Caution: Maximum Upload File Size

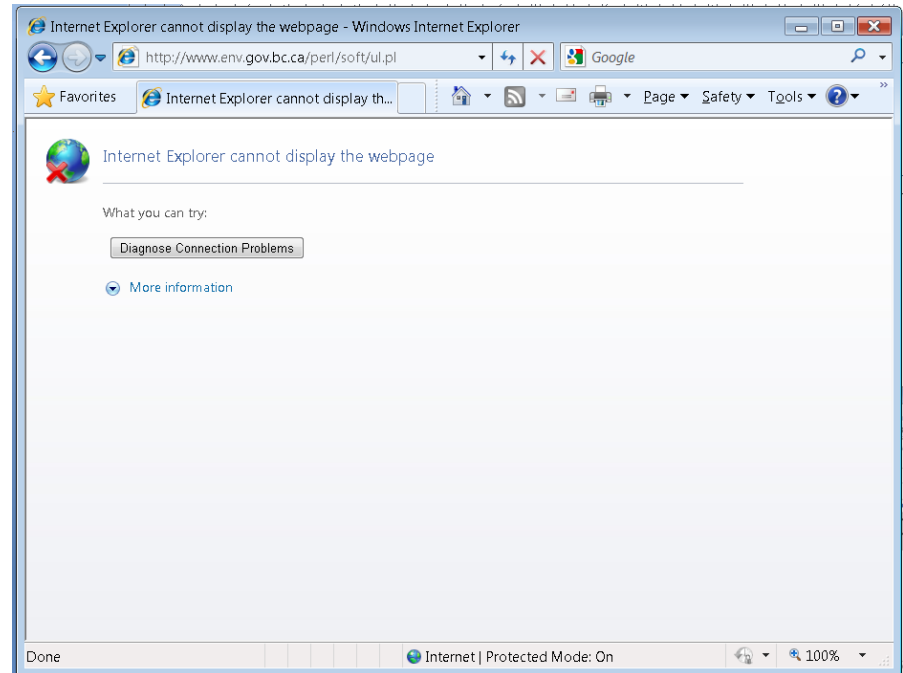
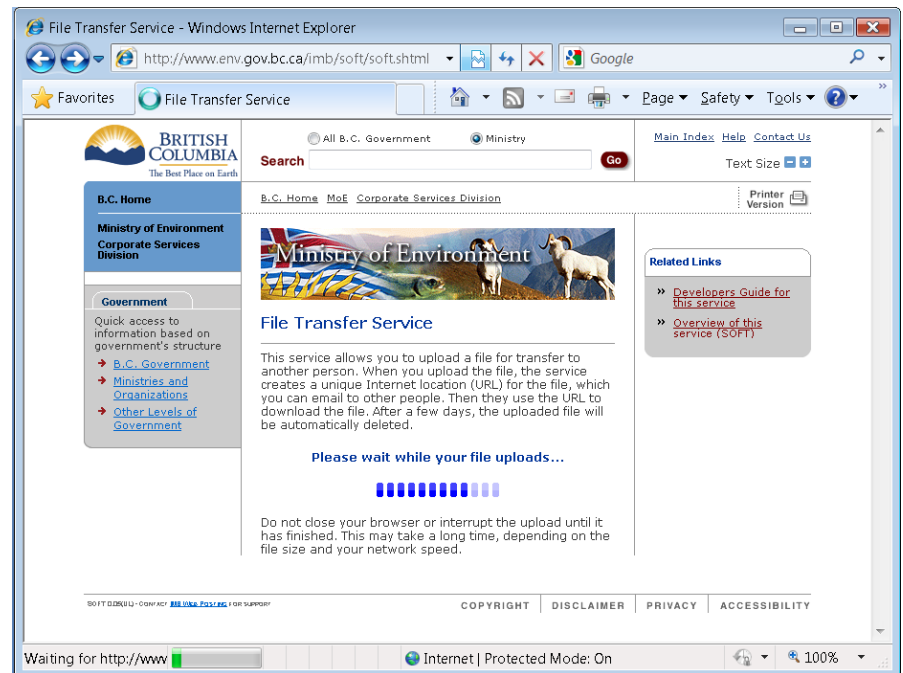
- There is a maximum 2GB total for all information transferred from browser to system (including fields, headers and the file)
- A technology limitation (browsers & web server), not SOFT
- Different browsers handle it differently
- In most cases, SOFT never gets control
→ not pretty

- Looked at IE8, FF3, Chrome
- Browser market share (June 2010):



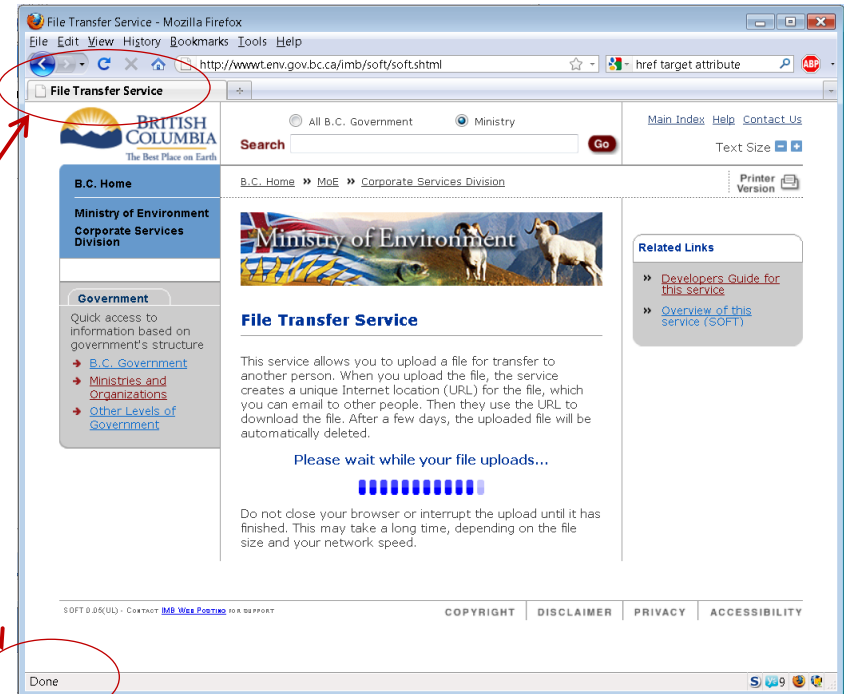
Internet Explorer 8 with >2GB Upload

- Upload looks normal
- Stops after approx 2 minutes
- Shows IE error
“Internet Explorer cannot display the webpage”



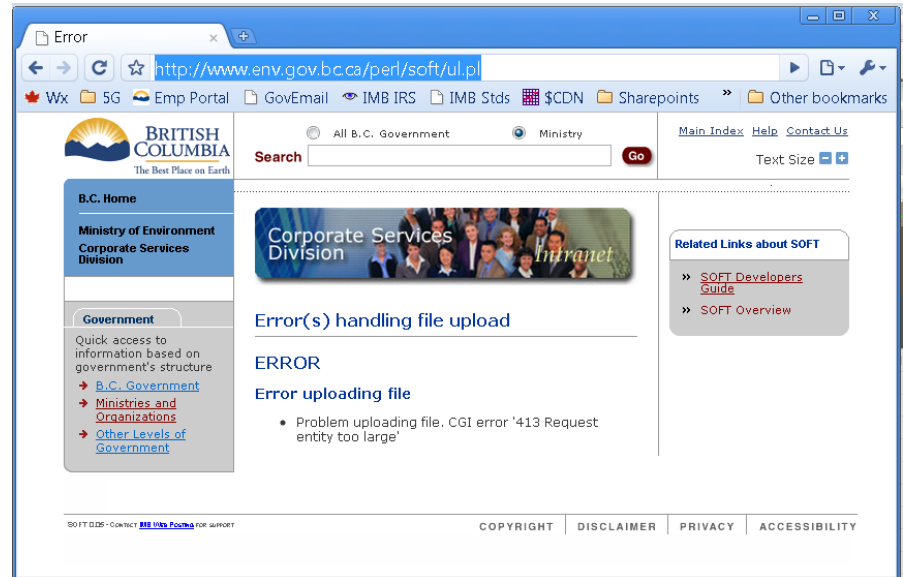
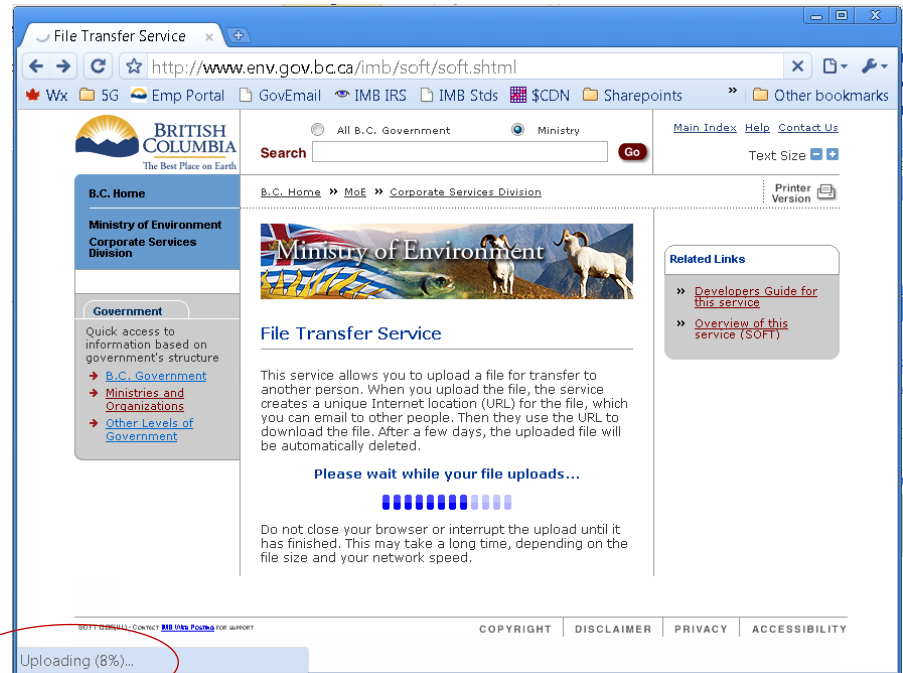
Firefox 3 with >2GB upload

- Upload looks normal
- Clues that nothing is happening:
 - No “Loading...” on tab
 - “Done” on status bar
- No error condition is ever detected
- Animation (if present) continues forever



Google Chrome with >2GB upload

- Upload looks normal
- Shows %progress in lower left corner
- Reaches 100% in approx 10 minutes
- Ends with SOFT error page “CGI request entity too large”



Questions?

Please direct questions and comments to

Dave.Donovan@gov.bc.ca