Poor Man's Attachments

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The Background

One of the nice features with commercial email is the ability to attach one or more files to the message to be recovered at the receiving end. While this is now second nature for email users, doing this with packet, at 1200 baud no less, is something to be approached carefully.

A future release of Outpost may include native support for attachments and comply with the B2F forwarding protocol now used by Winlink, F6FBB, and other BBSs. Until then, here's an approach for passing binary files with only some additional key-clicks using WinZip.

Definitions

File compression: the process of squeezing a file down to its smallest form. Most files have redundant patterns of ones and zeros. As stated in the reference below, "File-compression programs simply get rid of the redundancy. Instead of listing a piece of information over and over again, a file-compression algorithm lists that information once and then refers back to it whenever it appears in the original file." Ref: www.howstuffworks.com/file-compression.htm

Uuencode/uudecode: the process of converting a binary file to a text file (uuencode) and a converted text file back into its binary file (uudecode). This file format is needed for Outpost because of its reliance on an ASCII data stream when passing an AX.25 packet message. However, this process comes with a size penalty: 3 bytes of any data (ASCII or binary) is converted into 4 bytes of ASCII. With a very efficient compression algorithm, this cost becomes manageable.

Restrictions

Outpost currently has a 10,000 character (10Kb) message limit. While this limitation will be lifted to align with the Winlink limitation, it must be taken into account when using this process. So, while the source file may be larger than 10Kb, the compressed and encoded file must be less than this limit.

Creating Binary Attachments

Here's the process for using WinZip to pass binary files with Outpost.

Identify the file to send

I used a spreadsheet that could be part of a shelter request for supplies.

With Excel, as soon as you start a new spreadsheet, it automatically costs you 13.5 Kb before you type a thing.

🔀 Microsoft Excel - Shelter Requirements.xls								
8	<u>File E</u> dit <u>V</u> iev	w <u>I</u> nsert F <u>o</u> rmat <u>T</u>	ools <u>D</u> ata	<u>W</u> indov	v <u>H</u> elp Ado <u>b</u>	e PDF		
	🚔 🔚 🔒 🐔	i 😂 🖪 💖 🕹 🗄	на 🗈 💼 •	12	M ю + с	α 🚽 🍓 Σ	- Al Zl	10
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<u> </u>	117 -	fx		- ш				10101
	Δ	B	C	D	F	F	G	Н
1	Shelter:	Quinlan Center						
2	City:	Cupertino CA						
3	Request:	Material replenishme	nt					
4	Date	3/24/2007						
5	Duto.	0/24/2001						
6	ltem#	Desc	On-Hand	Units	Otv Needed	leed Date	leed Time	
7	1	cots	30	ea	25	18-Mar	18:00	750
8	2	blankets	45	ea	15	18-Mar	18:00	675
9	3	water, 12 oz bottles	200	bottles	100	19-Mar	12:00	20000
10	4	First Aid kits	3	kits	12	ASAP		36
11	5	Toilet paper	50	rolls	250	19-Mar	12:00	12500
12	6	tooth brushes	10	ea	50	ASAP		500
13	7	tooth paste	5	ea	55	ASAP		275
14	8	note pads	0	ea	25	19-Mar	18:00	0
15	9	pencils	0	ea	25	19-Mar	18:00	0
16	10	MRE	10	cases	300	18-Mar	18:00	3000
The spreadsheet								

For this file as you see it here, the file size came in at 15 Kb.	File Edit View Favorites Tools Help Image: Solid state Folders Image: Solid state Solid state Solid state Image:					
Zip the file						
1. Run WinZip						
2. Create a new archive File > New Archive	New Archive Ctrl+N Open Archive Ctrl+O Favorite Zip Folders Shift+F Clean Archive Ctrl+Q Wiew CheckOut Wizard					
Or, right-click on the file to be compressed and select the " Add to <filename.zip></filename.zip> option. Open the newly created .zip file, then continue at Sep 4	Close Archive Shift HL Ratio Packed Path Properties Create Shortcut Move Archive E7					
3. Add the file to the Archive. Note the compression. The file size went from 14,868 bytes to 2,227 bytes, an 85% size reduction.	Prove Archive Fr Const Archive Fr WinZip - Material-Requirements.zip Image: Construction of the second s					
4. Finally, UUencode the fileActions > UUencode	WinZip - Material-Requirements.zip File Actions Options Help Add Shift+A Delete Shift+A Ni Extract Shift+H View CheckOut Wizard Ni Select All Ctrl+A Size Ratio Packed Path					
You will get a message stating that the file was encoded as Material-Requirements.uue 5. Exit when done.	Invert Selection 19 PM 14,848 85% 2,227 Virus Scan Shift+S Make .Exe File Shift+K UUencode Shift+T Comment Shift+G CheckOut Shift+F Install Shift+F					
Note the size of the .uue file in the directory holding the file.	File Edit View Favorites Tools Help Source Search Folders Folders Folder × Name Size Type Date Modified Material-Requirements.uue 4 KB WinZip File 10/21/2009 9:30 PM Material-Requirements.zip 3 KB WinZip File 10/21/2009 9:25 PM Shelter Requirements.xls 15 KB Microsoft Excel Wor 10/21/2009 9:19 PM					

Creating a Message in Outpost	New Packet Message				
1. Go to Outpost, and press New to open a	File Edit Actions Window Help				
message form.	Print Send Save Delete Close Urg Pvt Bul NTS				
2. From the message form, File > Open a	Private Message				
file.	Bbs: K6FB-2				
3. Navigate to the directory holding	From: KN6PE				
the file. Press OK	Subject: SSE252: Material-Requirements une				
4. The .uue file will load and the message will look like this	<pre></pre>				
5. Fill in the rest of the message as usual.6. Press Send then Send/Ressive					
o. Press Send, then Send/Receive.	MGW6L//_#GC>A#7L0!-?K<8BVZ!2,0:Z0`[37ZW3JICI8ZP'^IQ#7\\$9&(["T				
NOTE: The file name is added to the subject line. DO NOT CHANGE THIS! This will be important on the receiving end.	snip snip snip M!+7!7V^I]]_AKOTBC<`16((\$#\$5N^P1>A>/L\$VD<,/\$\LDX]VY&?GB\$Z?MXO M/W^1(_^C\$0\$]R\$!B'PR^`5?F5^T?H/W\;;?\C\B_`\$!+`0(4`!0```(`'JJ M53MLYXI/LP0``Z``8````('"V00```!3:&5L=&5R(\$)E<75I A <f5m96yt<ryx;'-02p4&````\$`0!&``z00````< td=""></f5m96yt<ryx;'-02p4&````\$`0!&``z00````<>				
NOTE: DO NOT ADD OR DELETE ANYTHING between the top of the 6 header lines to the "end" statement at the bottom.	end				
Pageiving this Massage in Outpast	SSE251: Material, Dequirements une - Backet Message				
1 At the receiving station press	File Edit View Actions Windows Help				
Send/Receive to retrieve your messages.	Print Reply Reply to All Forward Delete Close				
2. Find this message in the In Tray and	Private Message				
open it.	Bbs: KN6PE-1 Sent: 10/21/2009 21:58				
	From: KN6PE				
	Subject: SSF252: Material-Requirements.uue				
3. Click on File > Save As	_ = Part 001 of 001 of file Material-Requirements.zip				
Outpost defaults the name of the file to the					
name of the Subject exactly what we want (.uue included). Put the file where ever you want it. Press OK	begin 666 Material-Requirements.zip M4&L#!!0```(`'JJ53MLYXI/LP@```Z``&``'4VAE;'1E <b!297&u:7)e M;65N=',N>&QS[5M];!Q'&7^[][7W?7:<x-b.v=ji\g6ug&k0xjkq.4zbfc8d M=5(:A)&[/F_JK<^W[NU:21#0@S9*_TBE?M#R3R12A`2H4@&AI?\DR)'R1XM4 M/E40I1)N0!7B'SY4I&8T.=Y[,WMW>UZ;IDA4E/V-9F??>S/S>[,[.[,SM_?S</x-b.v=ji\g6ug&k0xjkq.4zbfc8d </b!297&u:7)e 				

4. Navigate to that directory, and you will see a zip file with the name of the message Subject. Note the WinZip icon.

5. Double-click on the file name. WinZip will ask: "Should WinZip decompress it to a temporary file and open it?

Click Yes.

The file will open and display the spreadsheet.

From Excel, save the spreadsheet file to your PC, or cut and paste the contents wherever you need them.



Considerations

- 1. Obviously, this is a very manual process for passing a binary message. You need to watch the size of the message once it is uuencoded to ensure you are within the 10,000 Outpost limit.
- 2. Passing any large file at 1200 baud will suck the bandwidth from the environment. You should pick your large file transfer opportunities carefully.
- 3. Not all binary files compress as nicely as the example above. With no special formatting, spreadsheets typically compress down 85%. Word docs much less. Gifs and other picture files even less.
- 4. You need to check the size after the uuencode step to see if Outpost can support the file size. If it is larger than 10,000, Outpost will complain and truncate the file, thereby making it corrupt at the receiving end.
- 5. I suppose if you were really desperate to send a file, you could manually cut up the uuencoded file outside of Outpost into something less than 10K blocks, send them all individually, and reassemble them at the receiving end. But this is not for the uninitiated and subject to manual error.
- 6. If sending single page unformatted spreadsheets, you may be better off saving the spreadsheet as a .csv file (comma-delimited file, also ASCII), and sending that. See <u>Appnote-0401-Spreadsheet-Data.pdf</u>, Method 2 for details.