

Automate Email from Visual FoxPro

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POP? IMAP? MAPI? VIM? MHS? Ted sorts through the slew of acronyms and answers the question: "How hard is it to send an email?" The answer is... well, you'll have to come to the session to find out. A brief introduction to the acronyms, how e-mail works, whether there is a hyphen in email will be covered. The main focus will be using Visual FoxPro to send and receive e-mail, using wwIPStuff, custom controls, or Outlook. Pros and cons of each method will be reviewed. How hard is it to send email?

Why e-mail?

“You’ve got mail” has got to be the most tired phrase on earth, recited more often than any other. But email has become a normal part of day-to-day business for most people. Having the ability to provide e-mail from within FoxPro can offer convenience and distinguishing features to your application or service. Consider, for example:

- ❑ The ability to email customers when a new publication comes out, of interest to them.
- ❑ The ability to contact appropriate sales people immediately when the pricing or availability of your products change.
- ❑ Generating an email, as well as an error message when your application detects an error condition. If you are responsible for ensuring uptime for the application, you can be responding while the user is still trying to look up your phone number!

What do you need?

There are a couple of pieces of hardware and software required for you to send, receive and process email. Obviously, you will need some connection to the Internet. Typically, you’ll go through an ISP, either dial-up or one of the many cable connections, or use a broadband connection from a home office. You will also need support from the ISP in sending and receiving e-mail.

You have a choice of using the ISP’s mail servers or of hosting your own (read the rules, regulations and terms of service (TOS) carefully to ensure that you are acting appropriately). Using the ISP’s servers have the advantage of less hardware for you to maintain, balance with greater dependence on their ability to maintain it. Using your own server gives you greater control, at the cost of more responsibility.

While they seem similar, the two operations of sending and receiving mail are often separated into two machines. This helps with scalability, and also allows each machine to be tuned to do one task well. Sending mail is done using SMTP, the Simple Mail Transport Protocol, while receiving mail is using done using POP, Post Office Protocol, or IMAP (Internet Message Access Protocol). Details of how these work are beyond the scope of this document, but you can learn more at the Internet Engineering Task Force web site, <http://www.ietf.org>, and check the Request for Comments (RFCs) for the authoritative details.

How do you send e-mail?

At the lowest level, you can create TCP IP packets destined for port 25 of your SMTP server, and carefully following the instructions of the RFC, assemble the packets per the standard to send mail. Most of us have better things to do with our time. This is where “helper” programs like Outlook or West Wind’s wwIPStuff or Mabry’s Mail/X control to simplify the access from FoxPro to the servers.

Acronym-o-phobia

Two more acronyms before we’re done with this section. MAPI is Microsoft’s Messaging Application Programming Interface. This interface and its derivatives have been referred to within Microsoft as Active Messaging, Simple MAPI, Extended MAPI, Common Messaging Calls and Collaboration Data Objects, but they all come down to a common and proprietary API Microsoft uses for sending mail.

Another acronym you'll run into is MIME, which stands for the Multi-purpose Internet Mail Extensions. Also in the RFCs at IETF, these extensions are what allows the mail system, essentially a text-only system to encode and transport binary attachments.

Automating Outlook

How To

- Setting up the objects
- Sending email
- Tracking your results

Automating Outlook

Advantages

- Powerful object model
- No additional investment needed
- Automatically keeps copy of what's sent

Automating Outlook

Disadvantages

- Requires Outlook
- Slow, awkward to configure
- ILOVEYOU patch prevents automated access to address book

Using MAPI or CDO

- MAPI is Microsoft's proprietary interface to Outlook/Exchange
- CDO is a simple front end to MAPI; can be invoked in VBScript or any COM-compatible language

Using ActiveX Controls

- Mabry
- Others?

Using wwIPStuff

How To

- o=CREATEOBJECT('wwIPStuff')
- Set properties: to, from, body
- o.SendMail() or o.SendMailAsync()

Using wwIPStuff

Advantages

- Works with any SMTP server
- Does not require client software
- Inexpensive: \$99 shareware

Using wwIPStuff

Disadvantages

- You must record what's sent, to whom and when
- You have to handle and log errors

Business Issues

- Purpose: bulk or targeted
- Data design to handle both
- Opt-in vs. opt-out
- Rules & regulations

Technical Issues

- Ensuring valid addresses
- Handling removes
- Handling bounces
- Configuring your email server and client

Summary

- Protocols over TCP/IP send and receive text and binary messages
- Automation too slow or restrictive for large scale operations
- ActiveX Controls
- wwIPStuff

wwIPStuff example of SendMail/SendMailAsync:

```
o=CREATEOBJECT('wwIPStuff')  
  
o.cMailServer='mail.yourmailserver.net'  
o.cSenderEmail='rstrahl@west-wind.com'  
o.cSenderName='Rick Strahl'  
  
o.cRecipient='somebody@sweat.com,another@bust.com'
```

```
o.cCCList='rstrahl@east-wind.com,looser@nobody.com'  
o.cBCCList='fred@flintstone.com'  
o.cSubject='wwIPStuff Test Message'  
o.cMessage='Who said this had to be difficult?'  
o.cAttachment='c:\config.sys,c:\utl\hex.exe'
```

```
*** Optionally send HTML formatted messages  
*** if your content is HTML  
* o.cContentType='text/html'
```

```
*** Send and don't wait for completion  
*? o.SendMailAsync()
```

```
*** Send again - wait for completion  
llResult = o.SendMail()  
IF !llResult  
    Wait window o.cErrorMsg  
ENDIF
```

wwIPStuff example of SendMAPIMail:

```
loIP=create('wwipstuff')
```

```
loIP.cRecipient = 'somebody@star.net,meg@guest.com'  
loIP.cCCList = 'frank@gorge.com,greg@gorge.com'  
loIP.cBCCList = 'bill@gorge.com,bail@gorge.com'
```

```
loIP.cSubject = 'Test'  
loIP.cMessage = 'Test Message text'
```

```
IF !loIP.SendMapiMail()  
    ? loIP.cErrorMsg  
ENDIF
```

Microsoft Security Patches

Microsoft first provides a patch for Outlook (SR-1 and later SR-1a) to prevent the ILOVEYOU virus and others from infecting a machine and sending e-mails to addresses listed in the address book. Unfortunately, this also hampers tools that used Automation with Outlook to send e-mail: each time an email is sent, a dialog box pops up that requires a five-second delay before the “Yes” button is enabled and the mail can be sent. Don’t even try SendKeys() tricks to by-pass the dialog – Microsoft thought of that, too! According to some reports of folks running Outlook 2002 (part of Office XP), even bypassing Outlook and sending mail directly to an SMTP server is enough to trigger a warning message from Outlook 2002. As we don’t have that running yet, we haven’t been able to verify it, but take care in upgrading until you can confirm your functionality will continue.

References

Information on customizing the security restrictions in Outlook (for Exchange server customers only) is available at <http://www.microsoft.com/Office/ORK/2000/journ/outsecupdate.htm> . More information, with links to another half-dozen articles, can be found at: <http://support.microsoft.com/support/kb/articles/Q262/6/31.asp>

Outlook Redemption is a hack to once again regain control of Outlook object automation after applying the security patches: <http://www.dimastr.com/redemption> for details. I haven't tried it and don't endorse it, but you should know it is out there.

Exchange Messaging Outlook (EMO) has a special article on Outlook Redemption at <http://www.slipstick.com/emo/2001/up010228.htm> - good article and a great site for many Exchange, messaging and Outlook issues.

Rick Strahl's wwIPStuff is available from the Downloads section of <http://www.west-wind.com> - \$99 shareware, or included with West Wind's WebConnect.

Information on the Imail server is available at <http://www.ipswitch.com>. Prices are \$995 and up.