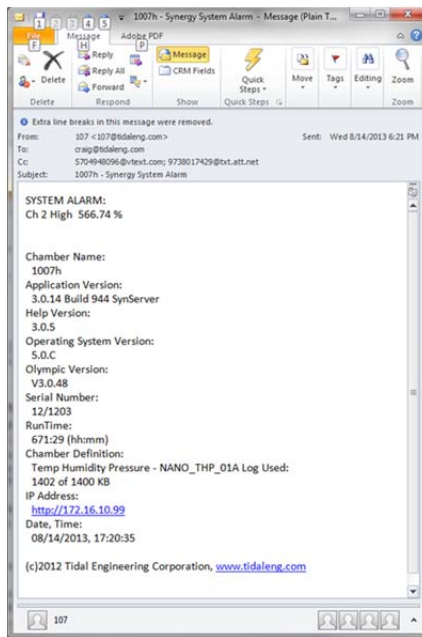


## Synergy Controller E-Mail Features



### Introduction

The Synergy Controller's e-mail feature sends alarm, test results plots, and log file e-mails automatically to desktop computers and mobile phones and tablets. This Synergy Controller application note describes these e-mail features and provides instructions and examples for setup. E-Mail is supported on the Synergy Micro, Synergy Micro 2, Synergy Quattro, and the ¼ DIN Synergy Nano with software application Version 3.0.7 Build 893B and newer. Contact the Tidal Engineering if you are interested in a software upgrade.

Tidal Engineering's Synergy Controllers provide state-of-the-art usability and connectivity for environmental test control and data acquisition and combine the functions of a chamber controller and a data logger and are designed to improve test efficiency by supporting both factory automation and test and measurement protocols and standards.

Synergy Controller feature highlights include:

- ➔ Color touch screen
- ➔ Ethernet, RS-232 and GPIB communications
- ➔ Built in Data logger with USB drive export support
- ➔ Data Acquisition, up to 64 T-type thermocouples (Optional)
- ➔ Built-in Web Server for remote control; WebTouch Remote™
- ➔ Compatibility with Synergy Manager for PC based control, monitoring, programming.
- ➔ Built-in FTP Server for factory automation and test and measurement applications
- ➔ Network Printing and Plotting Features provide low cost chart recorder functionality

For additional controller information see [www.tidaleng.com/synergy.htm](http://www.tidaleng.com/synergy.htm).

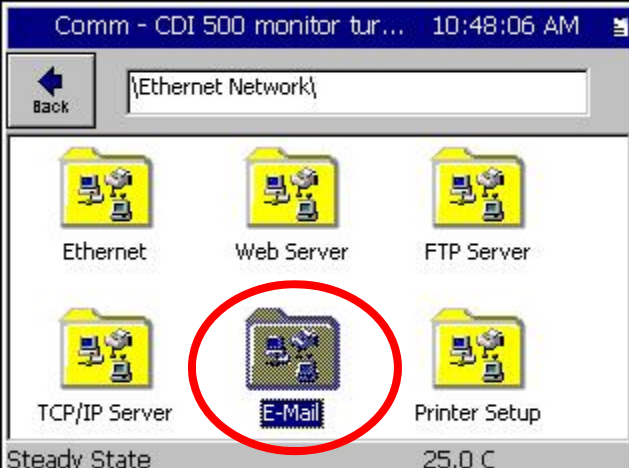
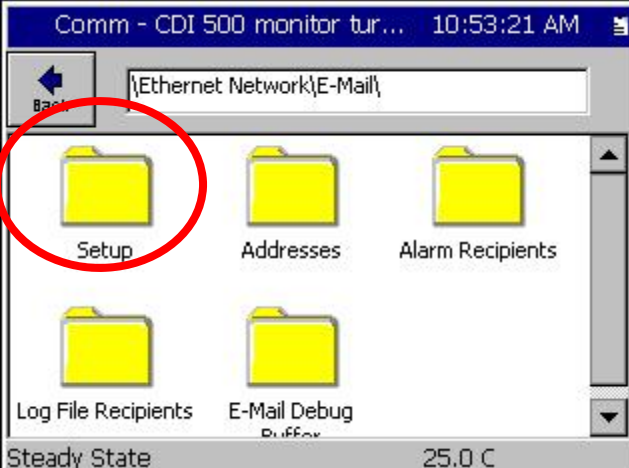
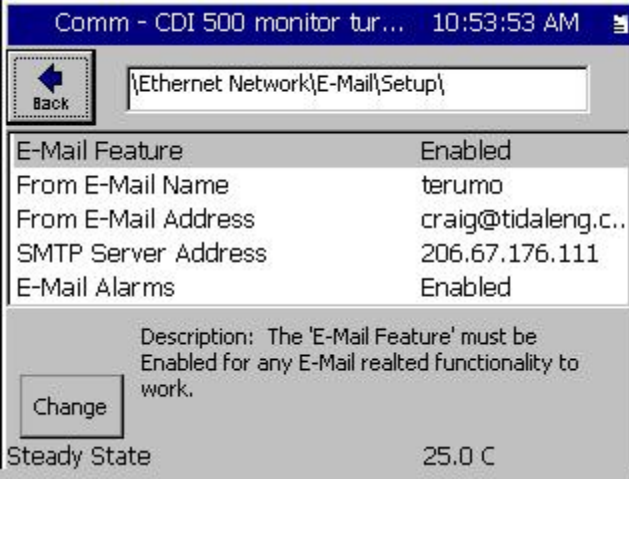
## Network Setup

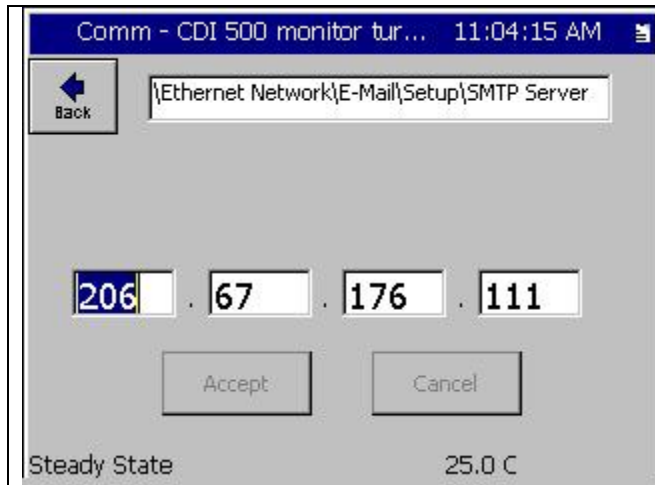
To send e-mail, your controller must be connected to your network and configured for an SMTP mail server. As always, the IP address of each Synergy Controller can be assigned by a DHCP server on your network if available or statically entered on the controller touch screen. See Application note 7 for information concerning network setup.

	<p>To begin, open the Comm Screen and browse to the <b>Ethernet Network</b> folder.</p>
	<p>Set the <b>IP Address Selection</b> and network properties as required.</p>

Then setup the E-Mail configuration as shown in the next section.

## E-Mail Setup

 <p>Comm - CDI 500 monitor tur... 10:48:06 AM</p> <p>{Ethernet Network}</p> <p>Ethernet Web Server FTP Server</p> <p>TCP/IP Server <b>E-Mail</b> Printer Setup</p> <p>Steady State 25.0 C</p>	<p>Open the <b>Ethernet Network</b> Folder in the <b>Comm</b> screen and select the E-Mail folder.</p> <p>Note that some screens have been reorganized in version 3.0.7 and may be a different on older versions.</p>										
 <p>Comm - CDI 500 monitor tur... 10:53:21 AM</p> <p>{Ethernet Network\E-Mail}</p> <p>Setup Addresses Alarm Recipients</p> <p>Log File Recipients E-Mail Debug Buffer</p> <p>Steady State 25.0 C</p>	<p>Open the <b>Setup</b> Folder as shown at left.</p>										
 <p>Comm - CDI 500 monitor tur... 10:53:53 AM</p> <p>{Ethernet Network\E-Mail\Setup}</p> <table border="1"> <tr> <td>E-Mail Feature</td> <td>Enabled</td> </tr> <tr> <td>From E-Mail Name</td> <td>terumo</td> </tr> <tr> <td>From E-Mail Address</td> <td>craig@tidaleng.c..</td> </tr> <tr> <td>SMTP Server Address</td> <td>206.67.176.111</td> </tr> <tr> <td>E-Mail Alarms</td> <td>Enabled</td> </tr> </table> <p>Description: The 'E-Mail Feature' must be Enabled for any E-Mail related functionality to work.</p> <p>Change</p> <p>Steady State 25.0 C</p>	E-Mail Feature	Enabled	From E-Mail Name	terumo	From E-Mail Address	craig@tidaleng.c..	SMTP Server Address	206.67.176.111	E-Mail Alarms	Enabled	<p>Enable the <b>E-Mail Feature</b> and set the following parameters to identify your system:</p> <p><b>From E-Mail Name</b> <b>From E-Mail Address</b></p> <p>Note that these parameters don't usually need to be actual names or e-mail addresses. They should be set so controller messages can be identified by the recipient</p> <p>Enable the <b>E-Mail Alarms</b> parameter if you want the controller to send notifications regarding alarm conditions to your e-mail or mobile phone (text messaging)</p>
E-Mail Feature	Enabled										
From E-Mail Name	terumo										
From E-Mail Address	craig@tidaleng.c..										
SMTP Server Address	206.67.176.111										
E-Mail Alarms	Enabled										

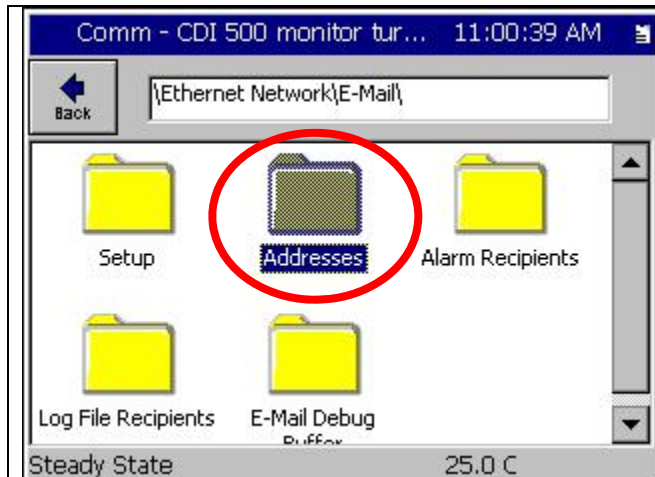


Enter the SMTP Server Address

This address can usually be provided by your e-mail administrator.

See appendix A for help using Outlook to determine your SMTP server address.

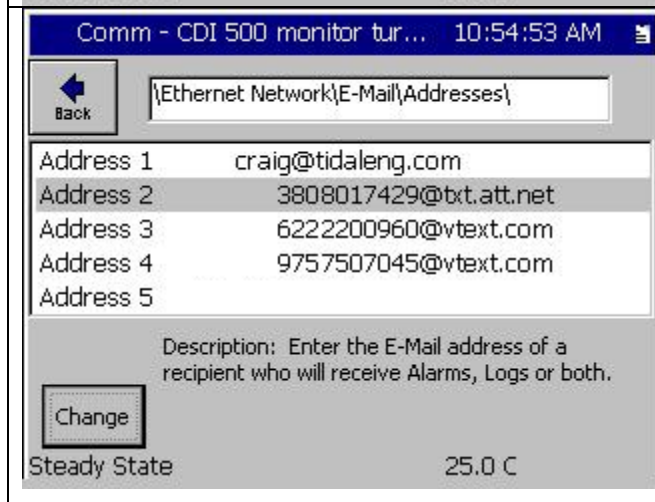
Enter the e-mail addresses.



Open the **Addresses** Folder.

Note that up to five E-Mail Addresses can be entered.

Note that each addressee can be set to receive Alarm messages and/or Test Data (Log Files) as required in the **Alarm Recipients** and **Log File Recipients** folders respectively.



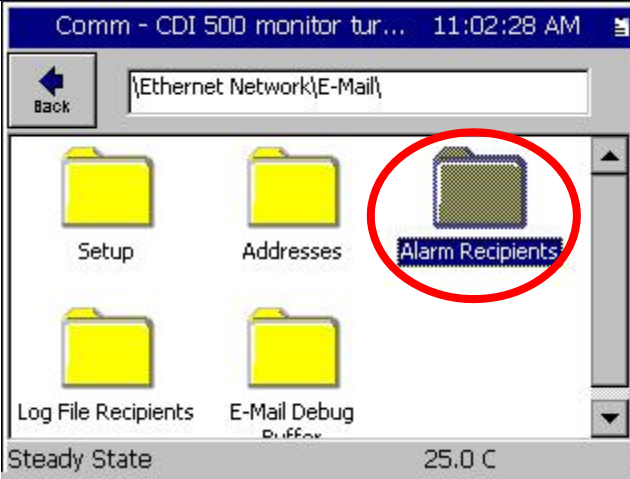
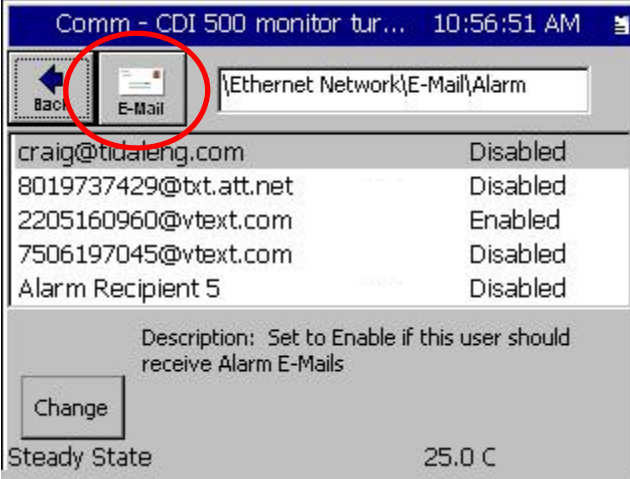
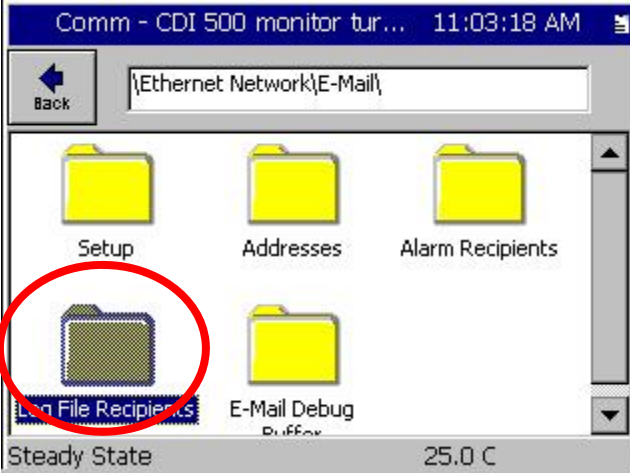
Virtually all wireless carriers can forward e-mails to a mobile phone as a text message (SMS). The e-mail address formats for telephone numbers for two popular carriers are shown in the examples below:

at&t Wireless: txt.att.net  
[1112223333@txt.att.net](mailto:1112223333@txt.att.net)

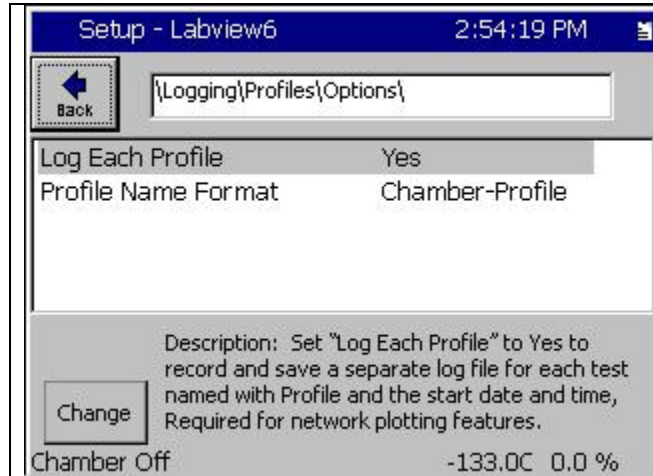
Verizon Wireless: vtext.com  
[1112223333@vtext.com](mailto:1112223333@vtext.com)

See Appendix B for a list of other wireless carriers in the US.

Set which addressees will receive Alarm messages and/or Test Data (Log Files).

	<p>Open the <b>Alarm Recipients</b> folder..</p>
	<p>Set the parameter next to each e-mail address to Enable or Disable the address for alarms notifications.</p> <p>Press the <b>E-Mail</b> button to send test e-mails to the enabled addresses.</p>
	<p>Open the <b>E-Mail\Log File Recipients</b> folder and set which addresses should get the test results e-mails.</p> <p>Press the <b>E-Mail</b> button to send test e-mails to the enabled addresses.</p>

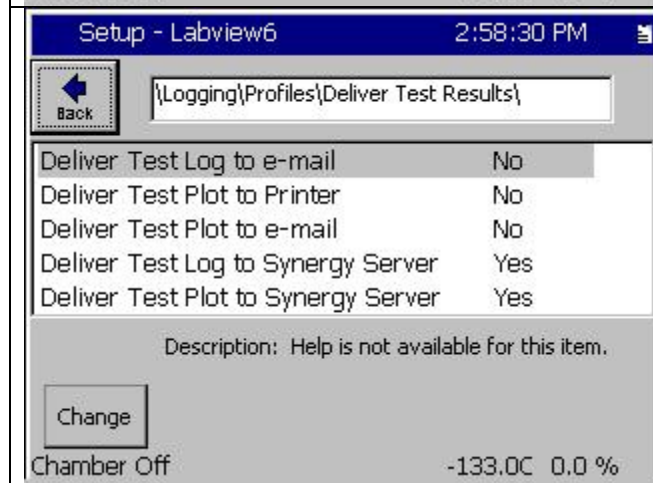
## Setup for Automatic E-Mails



To E-Mail profile logs automatically, first set the Logging system to **Log Each Profile**.

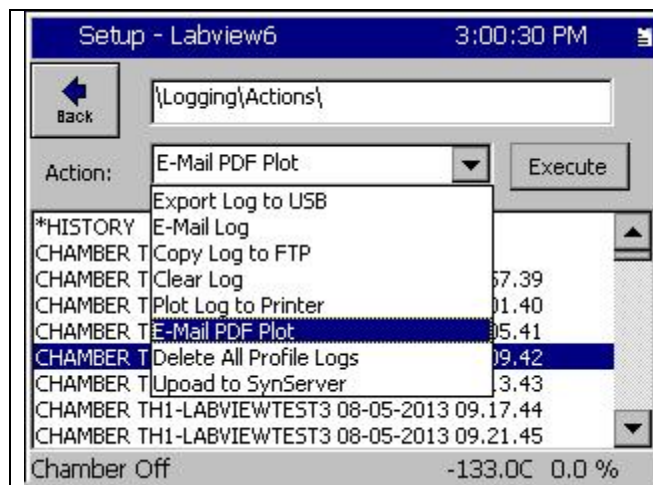
Then select the Profile Name Format to set the naming convention for the profile log file.

Note: See Synergy Controller AppNote 90 - Synergy Controller Network Printing Feature for additional setup information



Then set the **Deliver Test Results** options.

## Triggering Test Results E-Mails Manually



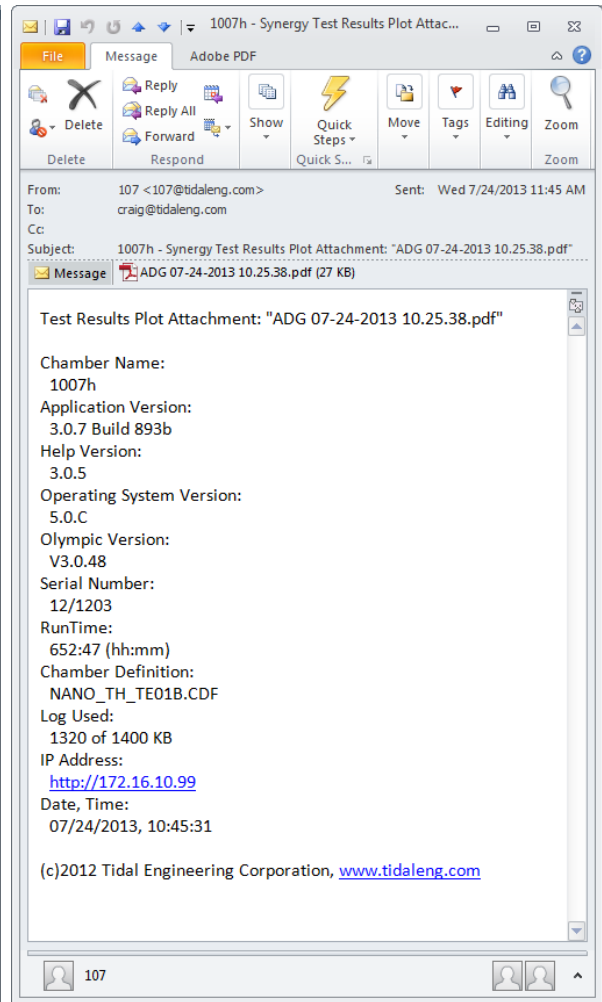
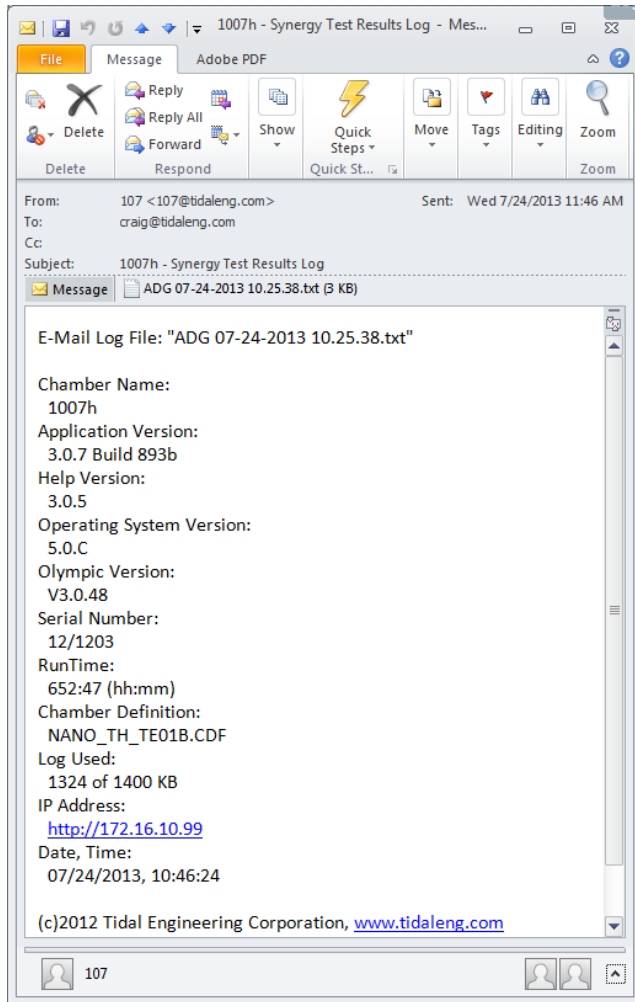
To trigger E-Mail deliveries manually, open the **Setup\Logging\Actions** folder, and pick **E-Mail Log** or **E-Mail PDF Plot** from the drop down selection list. Then choose the specific profile log from the list of logs and press the **Execute** button as shown at left.

Select **E-Mail Log** to deliver CSV log file test results. If Network Printing is enabled, select **E-Mail PDF Plot** to deliver formatted plots of the test results.

See Application Note 90 for Network Printing setup.

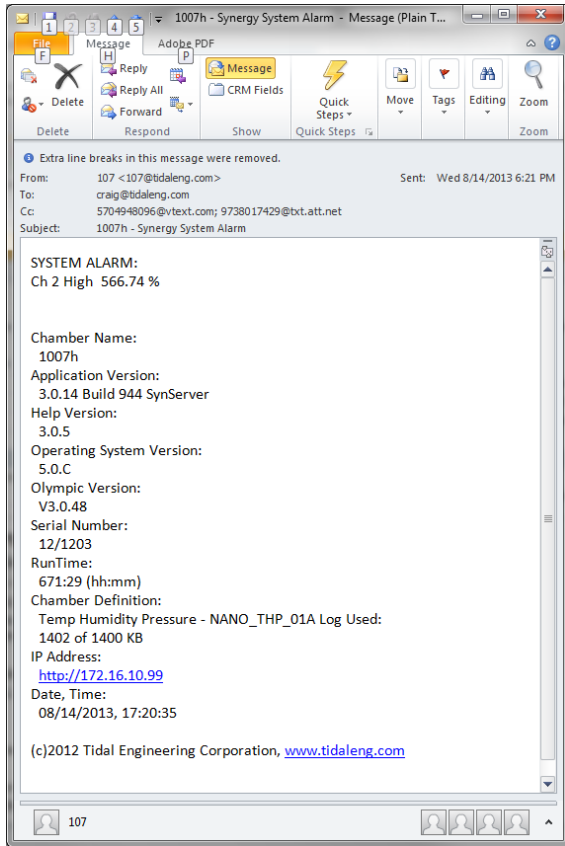
## E-mail Formats

The Log File and Plot File e-mails are formatted as shown in the screenshots below. Note that controller information is included in the body of both emails for diagnostic purposes. Log file attachments are in CSV file format and Plot attachments are in PDF format.



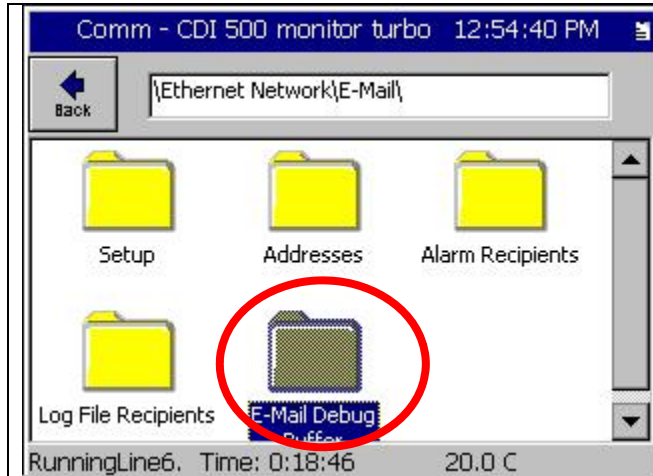
Alarm E-Mail message will include the Sensor and the Alarm Condition as well as diagnostic information concerning the Synergy Controller generating the alarm.

The Alarm Message can be sent to a PC or to a mobile phone as a txt message as shown below:

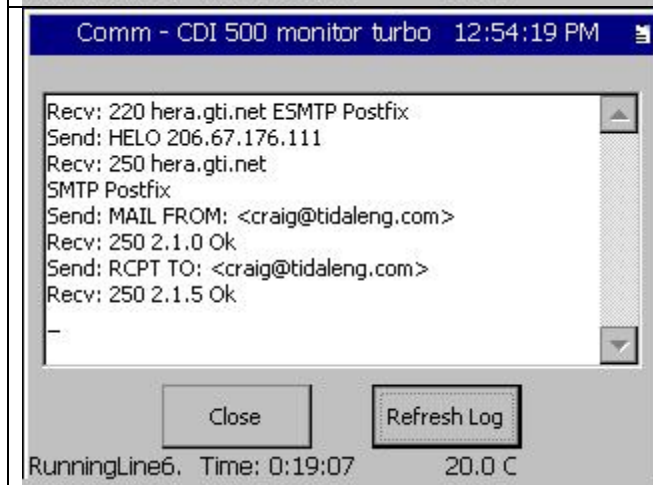




## Troubleshooting the e-mail feature.



Open the **E-Mail/E-Mail Debug Buffer** screen to troubleshoot e-mail setup problems.



The **E-Mail/E-Mail Debug Buffer** screen records the transactions between the Synergy Controller and the SMTP server and can be helpful when troubleshooting e-mail setup problems.

## Appendix A - Determine the SMTP server address from your Outlook setup

You may be able to look-up the name of your SMTP server in your e-mail program as shown below for Microsoft Outlook 2003. See Appendix B for when your organization is using Office 365 online exchange server.

The screenshot shows the 'E-mail Accounts' dialog box with the following fields and values:

User Information		Server Information	
Your Name:	Craig Borax	Incoming mail server (POP3):	mail.tidaleng.com
E-mail Address:	tidaleng@tidaleng.com	Outgoing mail server (SMTP):	mail.tidaleng.com

Logon Information:

- User Name: tidaleng
- Password: \*\*\*\*\*
- Remember password
- Log on using Secure Password Authentication (SPA)

Test Settings:

- Test Account Settings ...
- More Settings ...

Navigation buttons: < Back, Next >, Cancel

Once you have the server name, you can look up the server IP address using the ping command as shown below. In this example the E-mail Server IP address is 206.67.176.111.

```
C:\WINDOWS\system32\cmd.exe
C:\Documents and Settings\Craig>ping mail.tidaleng.com
Pinging mail.tidaleng.com [206.67.176.111] with 32 bytes of data:
Request timed out.
Request timed out.
Request timed out.
Request timed out.

Ping statistics for 206.67.176.111:
    Packets: Sent = 4, Received = 0, Lost = 4 (100% loss),

C:\Documents and Settings\Craig>
```

## Appendix B – Setting up Synergy Controller e-mail for Office 365 Exchange Server

You can setup Office 365 to accept e-mail messages from your Synergy Controllers and send them to recipients on your behalf.

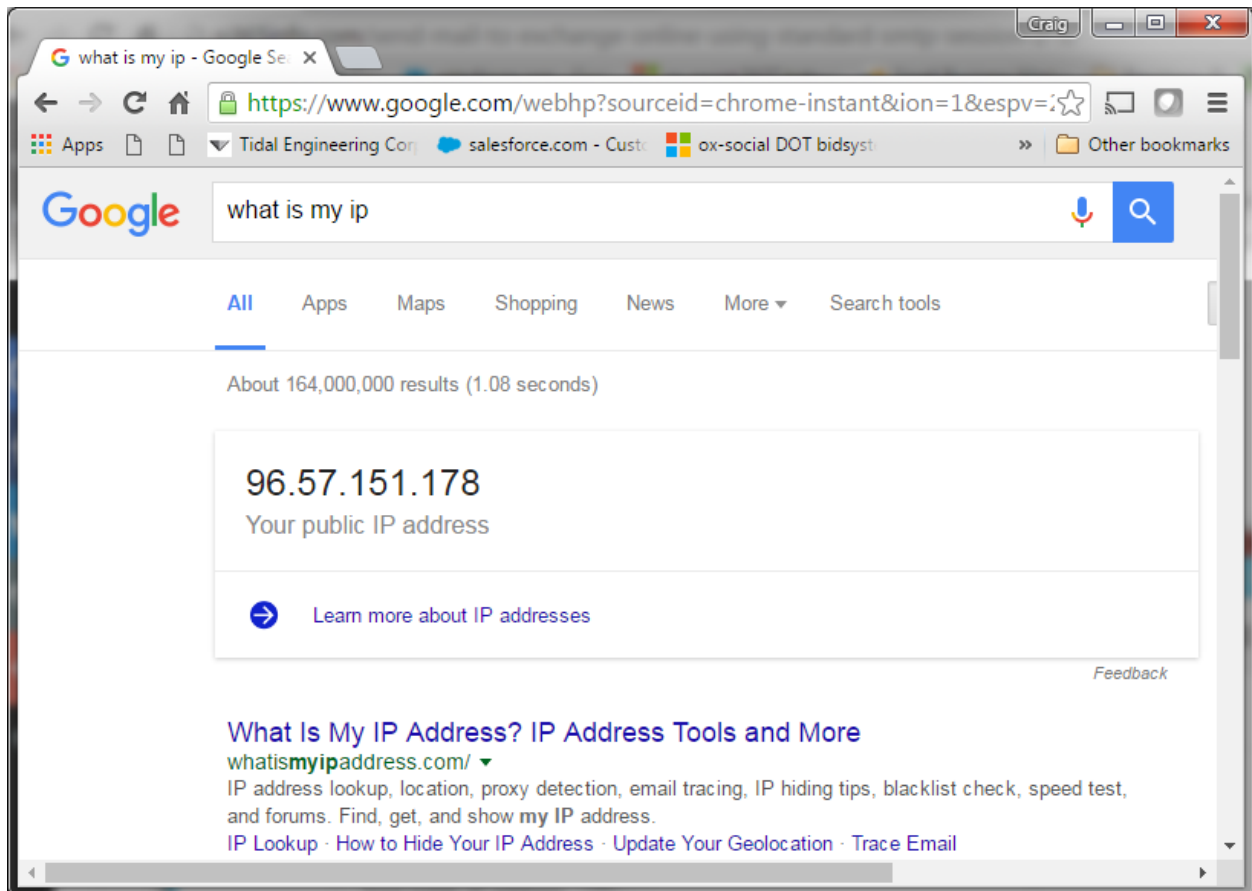
The following is summary of five steps for organizations running Office 365 Exchange Server.

1. Determine the public IP address for your outgoing e-mail.
2. Setup a connector in the Office 365 Exchange admin center.
3. Check the URL for your SMTP server from your MX Record.
4. Determine the IP address for your SMTP server from the MX record.
5. Enter the SMTP server IP address parameter in the Synergy Controller \COMM\Ethernet Network\E-Mail\Setup\ folder

(See the following URL for more details <http://o365info.com/send-mail-to-exchange-online-using-standard-smtp-session-2-3/>)

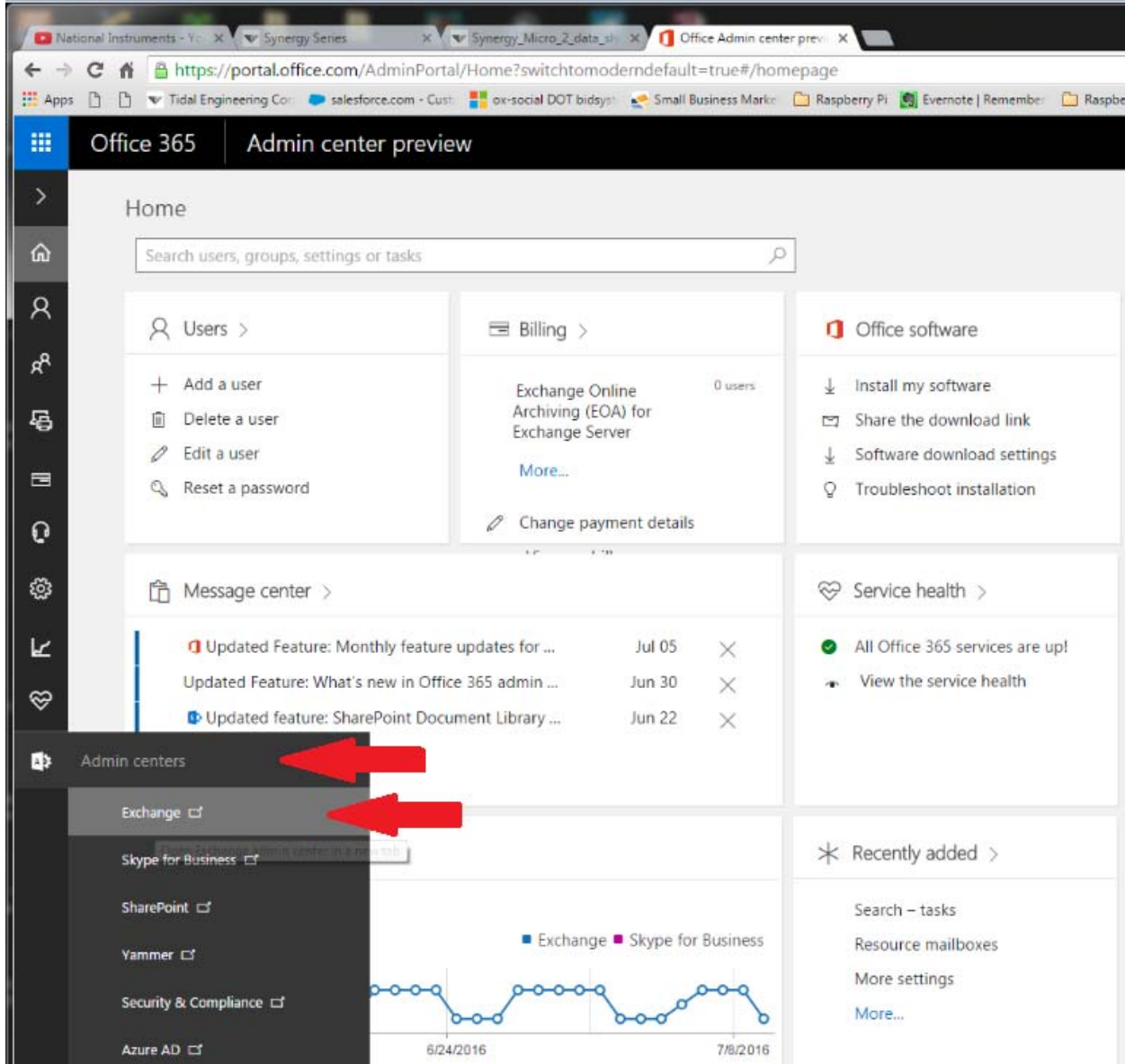
1. Determine the public IP address for your outgoing e-mail.

The simplest way to determine the public IP address for your outgoing e-mail is to search for “what is my ip” using Google as shown below. Note that large organizations may have multiple public IP addresses. Check with your IT department if this is the case.

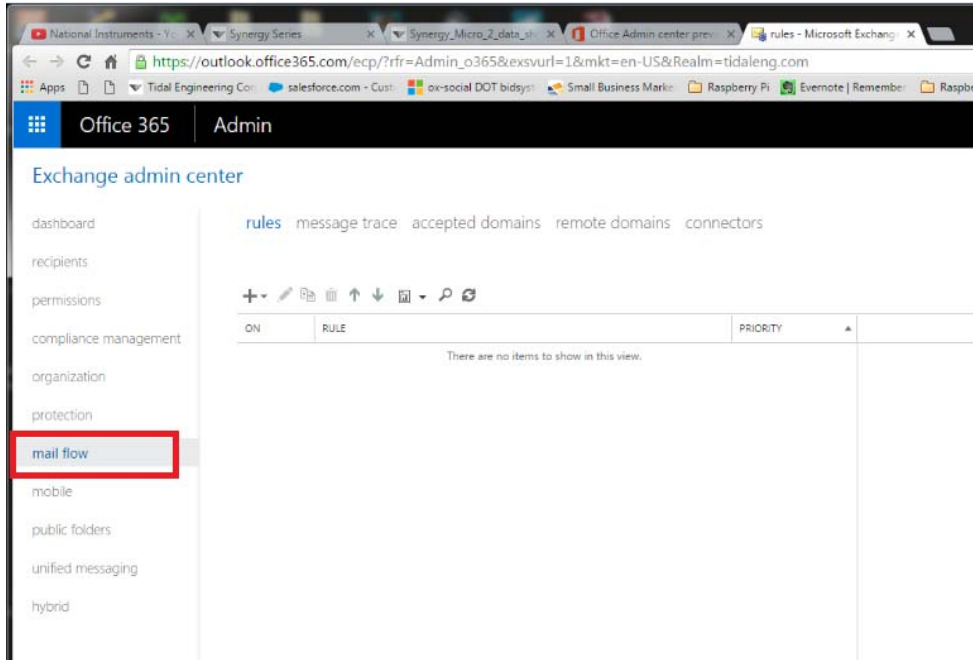


2. Setup a connector in the Office 365 Exchange admin center.

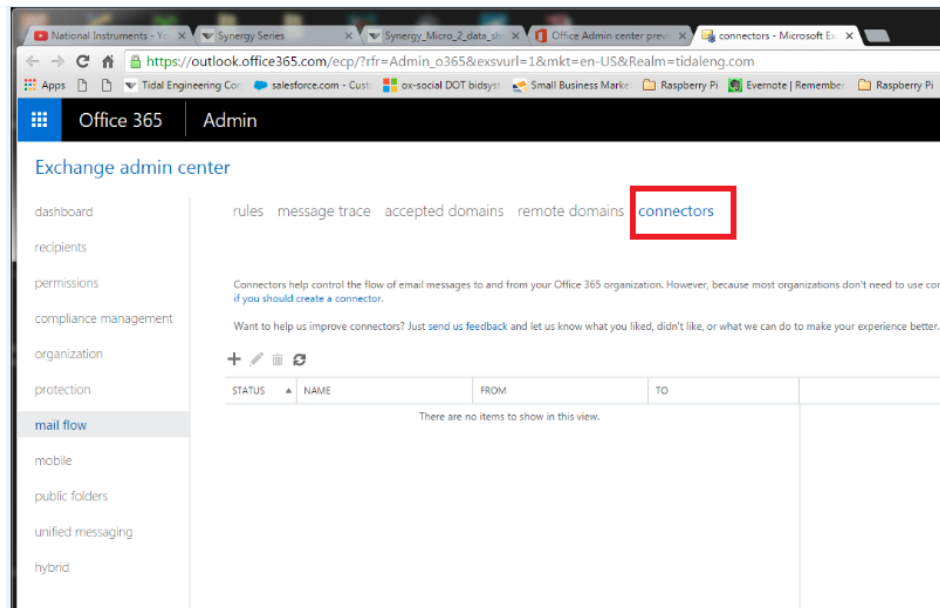
Log onto your Office 365 account with Administrator credentials and Open the Exchange Admin Center as shown below.



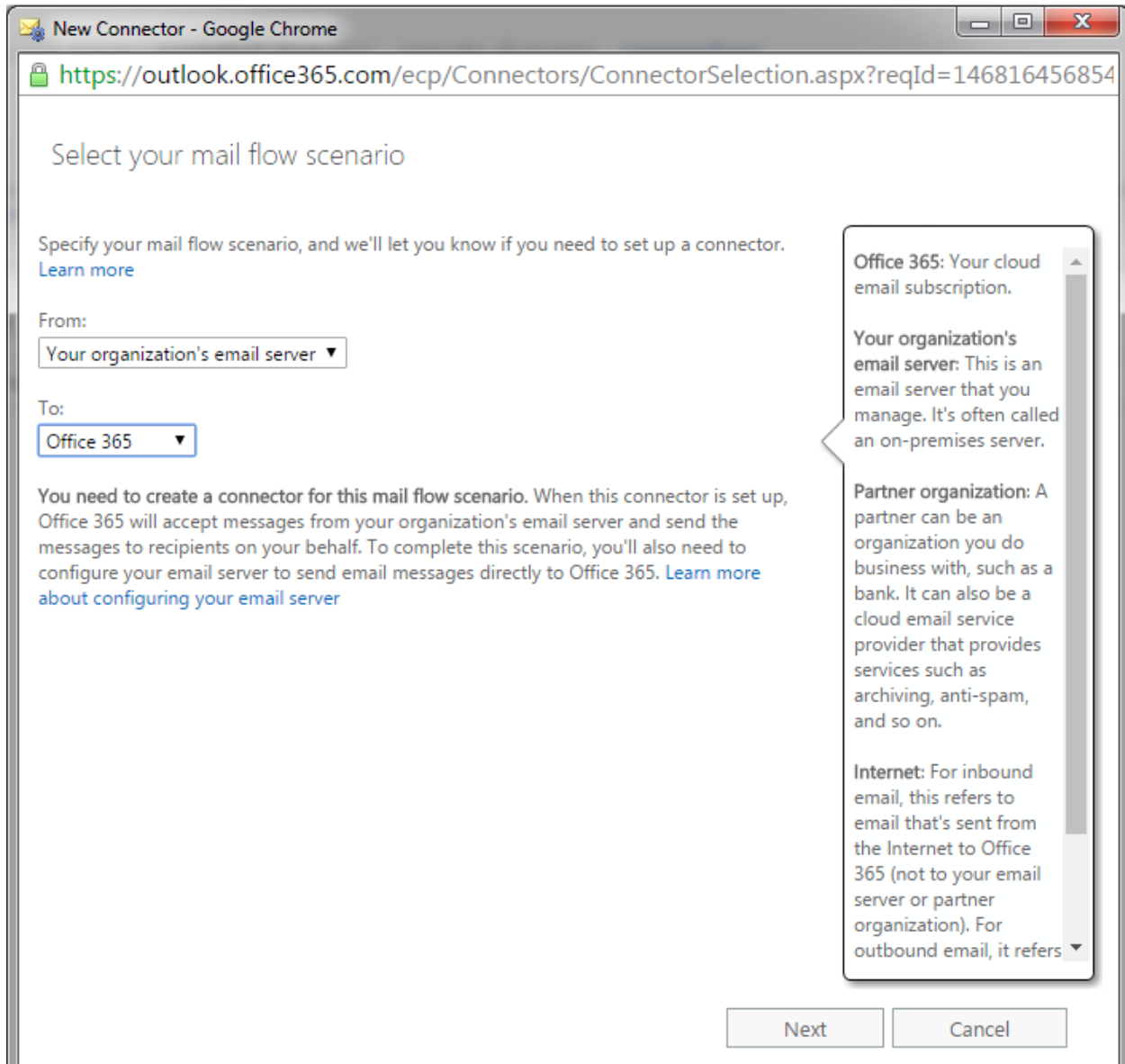
Click on the **mail flow** menu as shown below.



Click on the **connectors** menu as shown below.



Setup the **New Connector** dialog as shown below and click **Next**.



Type a **Name** and a **Description** for the **New Connector** as shown below and click **Next**.

New Connector - Google Chrome

<https://outlook.office365.com/ecp/Connectors/InboundOnPremConnector.aspx>

## New connector

This connector lets Office 365 accept email messages from your organization's email server (also called an on-premises server).

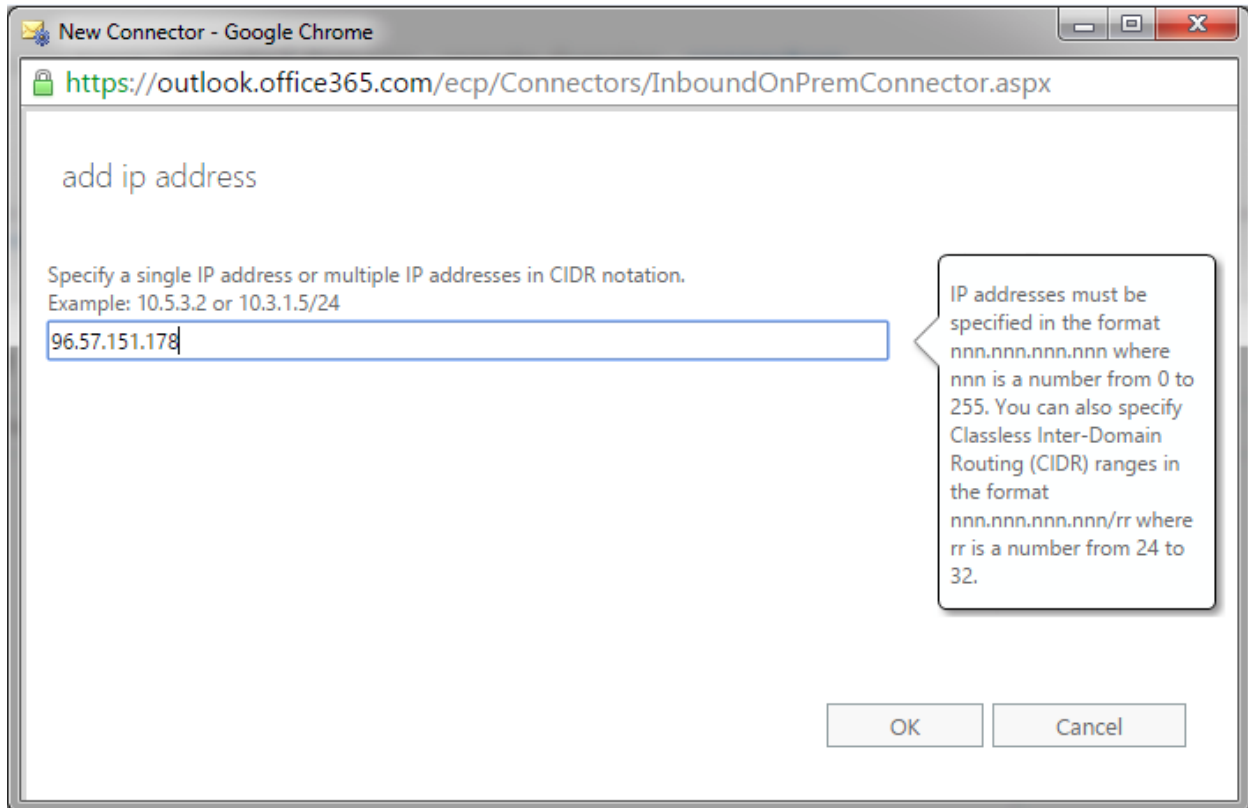
\*Name:

Description:

What do you want to do after connector is saved?

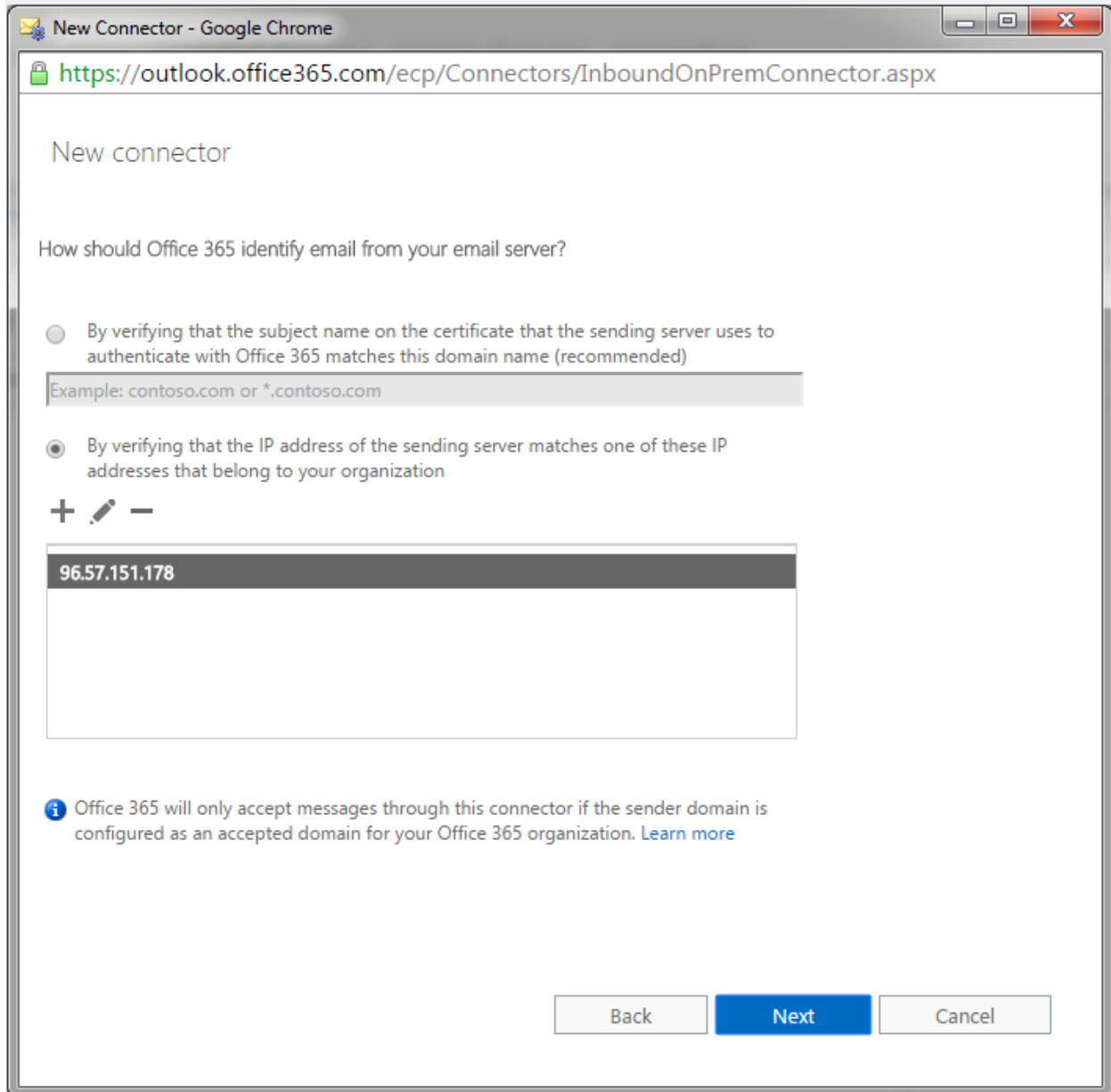
- Turn it on
- Retain internal Exchange email headers (recommended)

Enter public IP address for your outgoing e-mail from Step 1 and click **OK**.

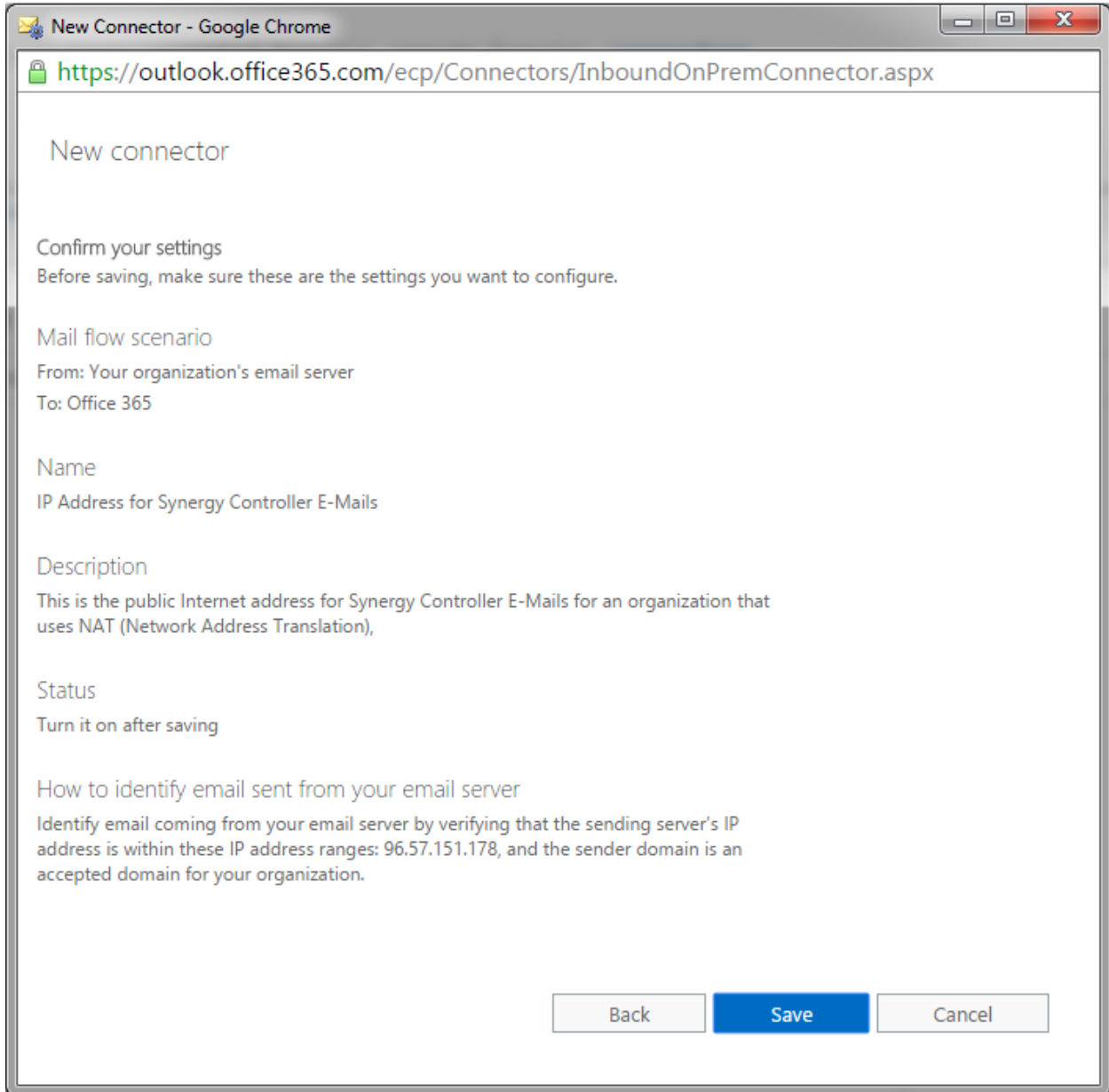




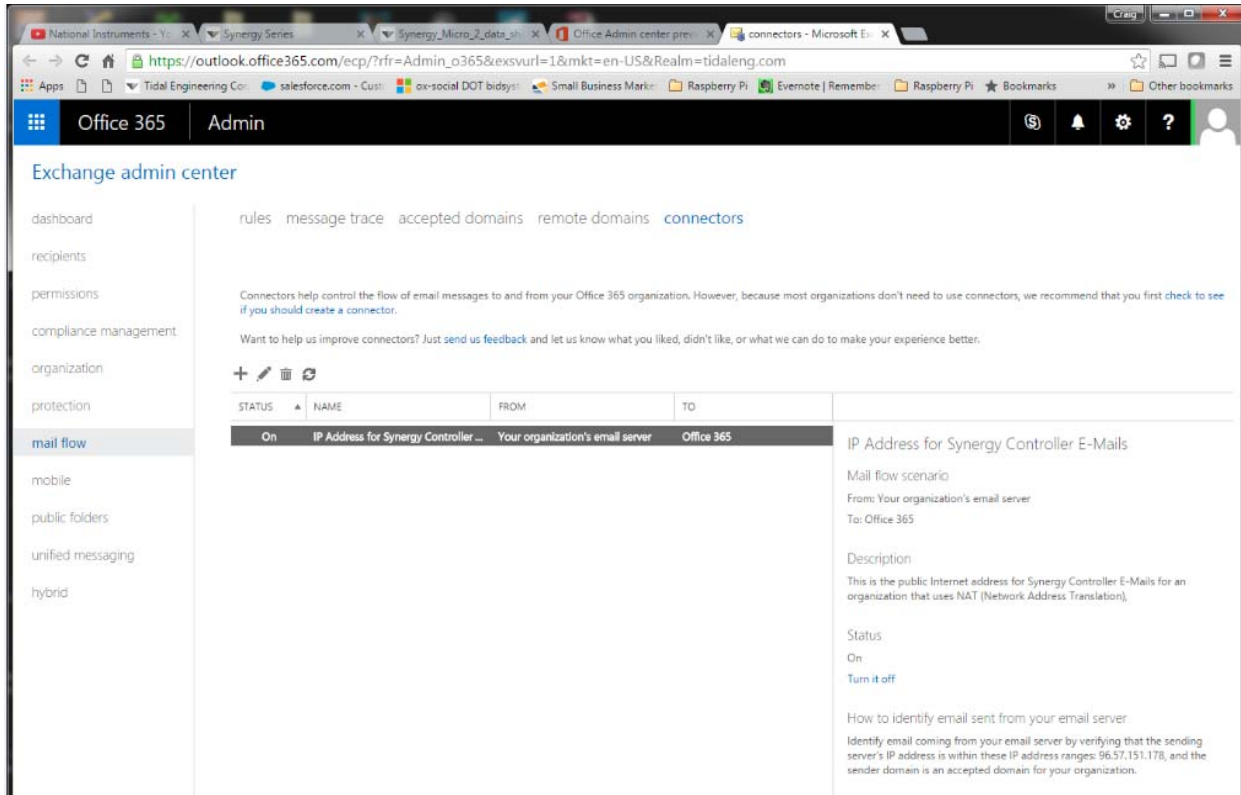
Select the **By IP Address** option for “How should Office 365 identify email from your email server?” as shown below and click **Next**.



Check the New connector settings and click **Save** as shown below.

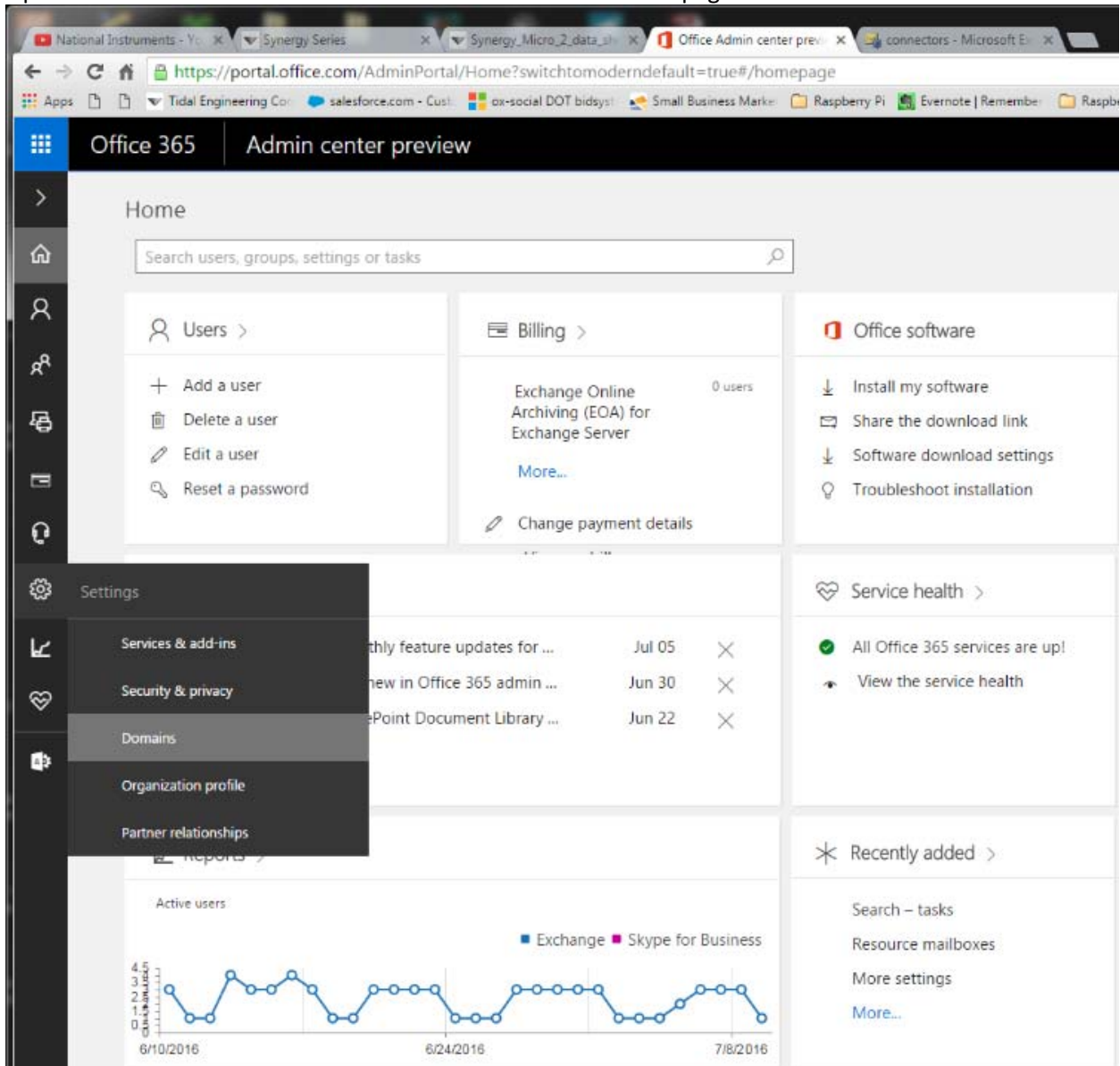


Check the New connector will appear in the **connectors** list as shown below.

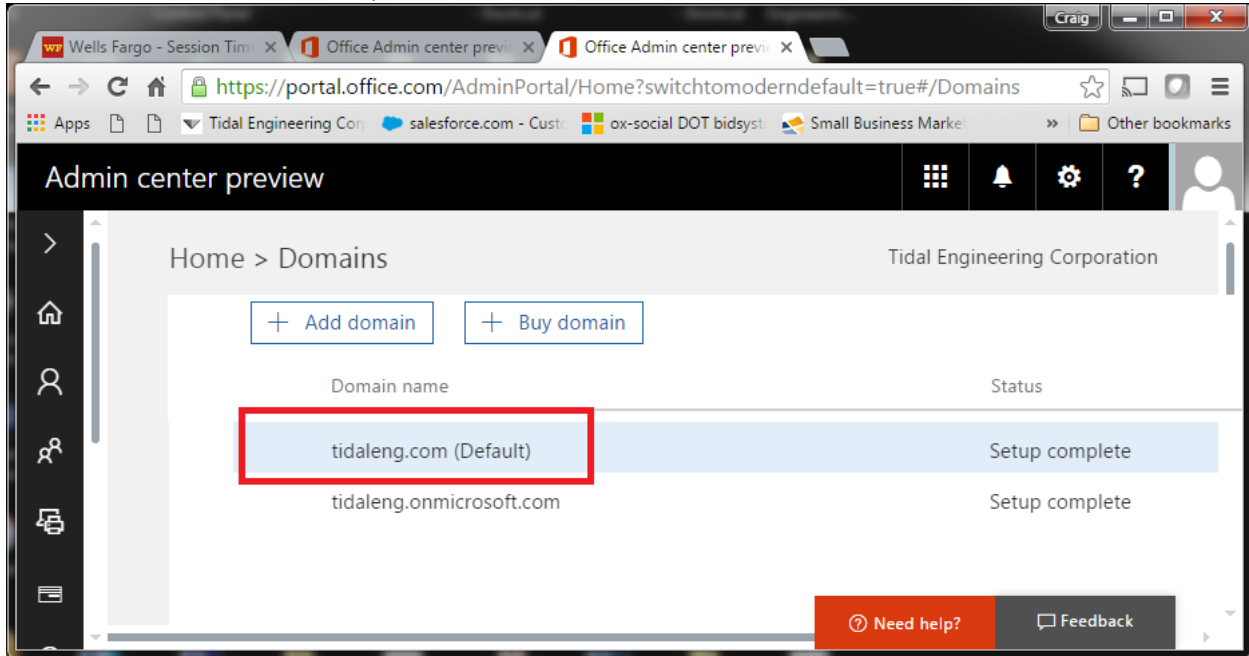


3. Check the URL for your Office 365 SMTP server from your MX Record

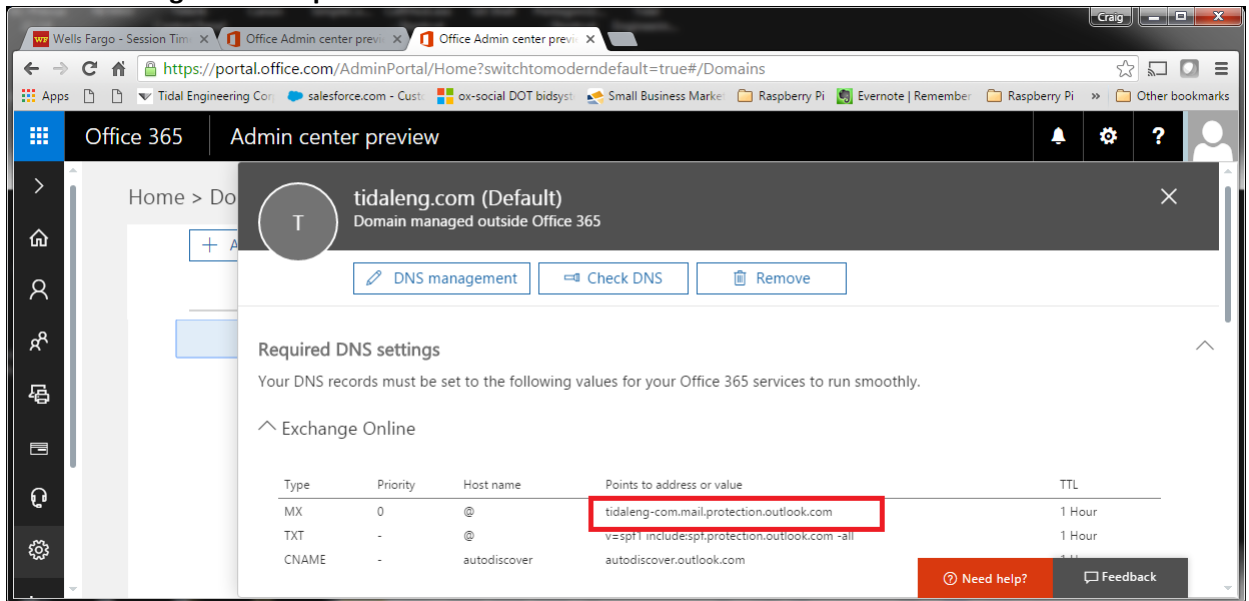
Open the **Domains** menu on the Office 365 Admin center homepage as shown below.



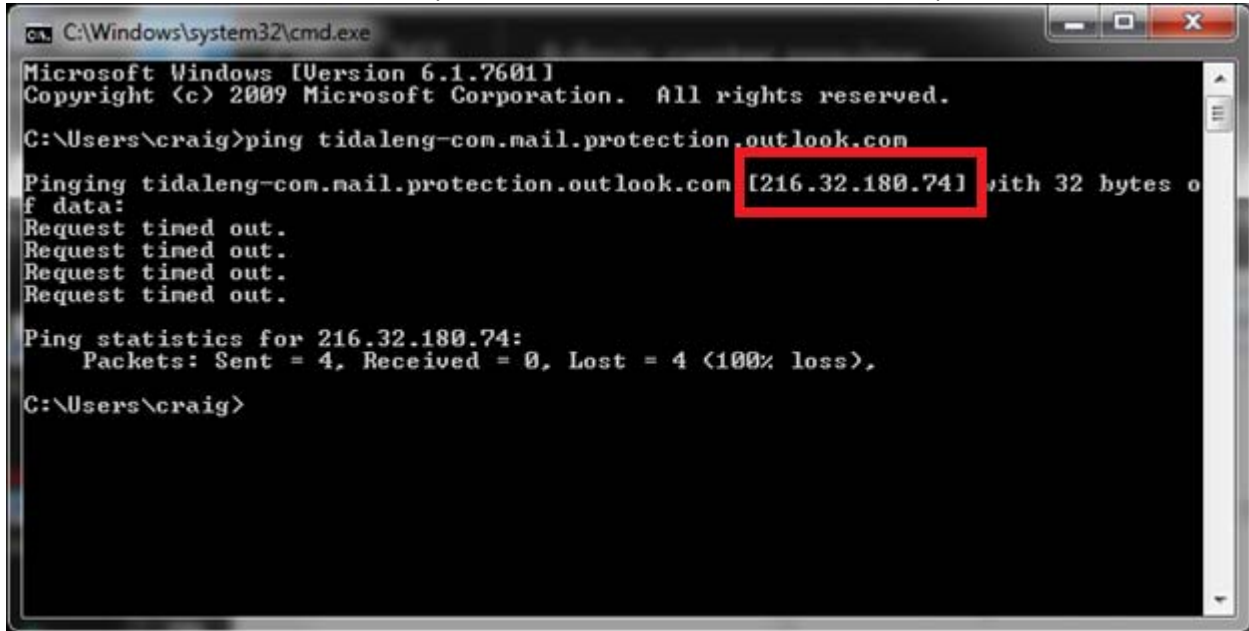
Click on the **Domain** name for your Office 365 email as shown below.



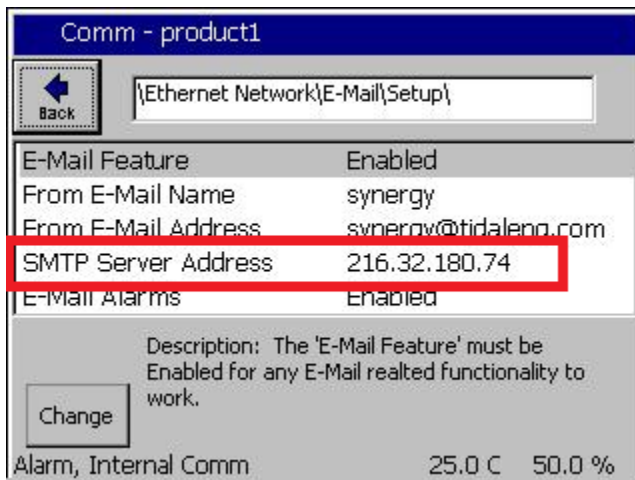
Note the URL for the MX Record for your Exchange Online account as shown below. In this example the URL is **tidaleng-com.mail.protection.outlook.com**.



4. Determine the IP address for your Office 365 SMTP server URL from Step 3.



5. Enter the Office 365 SMTP server IP address in the Synergy Controller \COMM\Ethernet Network\E-Mail\Setup\ folder.



**Appendix C - E-mail address formats for popular Wireless Carriers**

Virtually all wireless carriers can forward an e-mail to a mobile phone as a text message (SMS). The e-mail address for text messaging is based on the mobile phone number. The formatting for some popular US carriers is listed in the table below:

<b>Carrier</b>	<b>Format</b>	<b>Example</b>
at&t Wireless	number@txt.att.net	1112223333@txt.att.net
Verizon Wireless	number @vtext.com	1112223333@vtext.com
T-Mobile Wireless	number @tmomail.net	1112223333@tmomail.net
Sprint Wireless	number@messaging.sprintpcs.com	1112223333@messaging.sprintpcs.com
Virgin Mobile	number@vmobl.com	1112223333@vmobl.com
US Cellular	number@email.uscc.net	1112223333@email.uscc.net
Qwest Wireless	number@qwestmp.com	1112223333@qwestmp.com
Cingular	number@cingular.com	1112223333@cingular.com
Bellsouth	number@bellsouth.cl	1112223333@bellsouth.cl
Alltel	number@sms.alltelwireless.com	1112223333@sms.alltelwireless.com

Source: [http://en.wikipedia.org/wiki/List\\_of\\_SMS\\_gateways](http://en.wikipedia.org/wiki/List_of_SMS_gateways)



## About the Synergy Controller Family

Tidal Engineering's Synergy Controllers, the Synergy Micro 2, Synergy Quattro, and the 1/4 DIN Synergy Nano provide state-of-the-art usability and connectivity for environmental test control and data acquisition and combine the functions of a chamber controller and a data logger. They are designed to improve test efficiency by supporting both factory automation and test and measurement protocols and standards.

Synergy Controller feature highlights includes:

- ➔ Color touch screen
- ➔ Ethernet, RS-232 and GPIB communications
- ➔ Built in 100 MB Data logger with USB drive support
- ➔ Data Acquisition, up to 64 T-type thermocouples (Optional)
- ➔ Built-in Web Server for remote control; WebTouch Remote™
- ➔ Compatible with Synergy Manager for PC based control, monitoring and programming.
- ➔ Built-in FTP Server for factory automation and test and measurement applications

For more information regarding these controllers please visit our website at

<http://www.tidaleng.com/synergy.htm>

## About Tidal Engineering

Headquartered in Randolph, NJ, Tidal Engineering Corporation has been designing and building award-winning embedded hardware and software for test and measurement and data acquisition applications since 1992. The company is recognized for technical expertise in such areas as environmental test chamber control, embedded IEEE 488, and turnkey SCADA (Supervisory Control and Data Acquisition) systems.

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