If you are unable to send email to a "uri.edu" recipient or you have been told that your email is being rejected by your account, 'Reverse DNS' may be the reason.

What is DNS (Domain Name Service)?

Every Website, email account, etc., on the Internet is hosted on at least one computer server that has a unique numeric **IP** (Internet Protocol) **address**. To access a particular Internet service, you have to specify its IP address.

But because numbers are difficult to remember, an easier, alphabetic **host name** or domain name can be associated or "mapped" with an IP address. DNS is the Internet directory service that stores IP addresses and maps them to their host names, allowing you to use the host name to access your Internet service. For example, instead of having to remember *buddy@131.128.1.1* to send email to your friend, you can simply use *buddy@uri.edu*.

DNS: Forward and Reverse

Internet Service Providers (ISPs) typically maintain DNS servers for their Internet domain, and other ISPs query these servers when they need to validate a host name or IP address.

When DNS looks up a host name to see its IP address, the process is called **Forward DNS**. When it looks up the IP address to see the host name, the process is called **Reverse DNS**.

Email Rejection and Reverse DNS

In an effort to control SPAM, many ISPs - including URI, now require a Reverse DNS lookup to verify the identity of the email server attempting to send email into their domain.

Enforcement of this requirement has significantly reduced the amount of SPAM delivered to URI's email servers. In an attempt to shield their identity, SPAMmers use an email server that does not have a reverse lookup entry, often has a bogus host name, and is moved from IP address to IP address as each address gets black-listed.

However, along with rejecting SPAM, Reverse DNS lookup has also resulted in valid emails being denied delivery because their originating server does not have a reverse DNS record.

If You Are Unable To Send Email To A "uri.edu" Recipient…

The problem may be that the email server through which you are sending the message has not been set up through DNS and has no reverse DNS record - its IP address cannot be matched to a valid Internet host name.

To determine if that is the case, you can look up the DNS record for your server using the **nslookup** or **host** commands. Substitute your own email server information for that in the example:

Successful Reverse DNS Lookup:

```
halmac:~ hal$ host 131.128.1.50
50.1.128.131.in-addr.arpa domain name pointer allies.uri.edu.

halmac:~ hal$ nslookup 131.128.1.50
50.1.128.131.in-addr.arpa       name = allies.uri.edu.
```

Unsuccessful Reverse DNS Lookup:

```
halmac:~ hal$ host 131.128.1.251
Host 251.1.128.131.in-addr.arpa not found: 3(NXDOMAIN)

halmac:~ hal$ nslookup 131.128.1.251
** server can't find 251.1.128.131.in-addr.arpa: NXDOMAIN
```

If you need additional DNS records for your server(s), contact your Internet Service Provider.

Call the ITS Help Desk at 401-874-HELP (4357) if you have questions or are not sure what to do.

If You've Been Told That Email Is Being Rejected (Bounced) By Your Account…

Please contact the Help Desk at 874-HELP. We'll walk you through a process that will inform the system administrator of the server from which the email is originating that there is a Reverse DNS problem. If they cannot resolve the issue, we will exempt their server so you can continue to receive email from them.

The resolution process includes:

1. We will ask the sender of your rejected email to send the email to a non-URI email address so we can see the error message.
2. We will request a contact name and phone number or email address from the sender's site.
3. We will contact their email server technician and ask that the Reverse DNS problem be corrected, or we will exempt their server by recording their specific IP address to allow future exchanges.