Secure mail makes it feasible to allow privileged users such as IO.SysDaemon and Backup.SysDaemon to send mail. A new subroutine called send_mail_send sends an ASCII message, with or without an accompanying wakeup, to the ring 1 mailbox used by secure mail (See MTR-064 on secure mail and messages). User programs can call this subroutine, as can system programs that have need to inform people that requests have been performed. Future mail sending and interprocess message sending commands will be based on send_mail_.

A feature of send_mail_ is the ability to send by name alone when no project id is specified. To do this send_mail_ calls the entry mail_table$lookup, which returns a mailbox pathname for a given registered user.

Users are listed voluntarily in the segment mail_table, which has the following format:

dcl 1 mail_table based (mail_table_ptr),
  2 version fixed bin(1) aligned,
  2 current_size fixed bin(17) aligned,
  2 area area ((sys_info$max_seg_size));

dcl 1 table_entry based (tablep);
  2 person char (22),
  2 alias char (8),
  2 ds char (12),
  2 mbx_length fixed bin(17),
  2 he_length fixed bin(17),
  2 mbx char (mbx1 refer mbx_length),
  2 he char (hel refer he_length);

person is the user's registered person id.
alias is his registered alias.
ds is a default destination for dprinting listings to the user.
mbx is the absolute pathname ending in .mbx of a mailbox or link to a mailbox.
he is a default dprint header.

The existence of mail_table and its accompanying hash table mail_table.nt is assured at system start up time by an answering service call to the entry mail_table_exists. If necessary, mail_table_exists creates a hash table by a call to hash_make and creates a segment mail_table containing an initialized area. It allocates, for every PNT entry, an entry in mail_table with the following default information:

```plaintext
person = id in PNT
alias = alias in PNT
mbx = >udd>default_project>id>id.mbx
ds = ""
he = id
```

When the answering service makes certain changes to the PNT, such as adding a new person or changing a default project, it calls the add, delete or update entry in mail_table. Administrative commands also exist to change mail_table information.

Writeups of the new subroutines and commands follow:
**Name:** send_mail_

The send_mail_ subroutine sends one piece of mail to one user.

**Usage**

dcl send_mail_entry (char(*), char(*), char(*),
ptr, fixed bin(35));

call send_mail_ (name, project, message, s_ptr, code);

1) **name** is the recipient’s person_id.

2) **project** is the recipient’s project_id. (See Notes)

3) **message** is the ASCII message.

4) **s_ptr** is a pointer to the following structure, to comprise the beginning of the added message:

   dcl 1 mail_structure aligned,
   2 version fixed bin(17), /* = 1 */
   2 sent_from char(32) aligned,
   2 lines fixed bin(17),
   2 switches,
   3 wakeup bit(1) unaligned,
   3 urgent bit(1) unaligned,
   3 has Been_read bit(1) unaligned,
   3 acknowledge bit(1) unaligned,
   3 pad bit(32) unaligned init("0"b);

5) **code** is a standard status code, for example:

   error_table_$user_not_found
   Not found in mail_table.
   error_table_$noentry
   Mailbox does not exist.
   error_table_$no_info
   No information can be returned about recipient.

**Notes**

The mailbox pathname is >udd>project>name>name.mbx.

When project is "", the pathname of a default mailbox is obtained by calling mail_table_$lookup.

Information on how to send is in mail_structure and is stored with the message so that it can be read. The wakeup bit, for example, tells send_mail_ when to send a wakeup and tells the mail and message reading commands which messages to print.

pad in mail_structure should always be zero to allow for defining new bits.
Name: mail_table_

This module manages the data base mail_table, which contains information useful for sending mail and printing listings to users.

Entry: exists

This entry checks whether mail_table and mail_table.ht exist and if not, creates them. $exists$ is usually called by the answering service.

Usage

dcl mail_table_$exists entry
  (ptr, bit(*), fixed bin(35));

call mail_table_$exists (ansp, switches, segname, code);

1) ansp is a pointer to the answer table. (Input)

2) switches (Output):

  made_one mail_table and mail_table.ht were created.

  old_one there was an old mail_table. This switch is on only when made_one is on.

  new_one a copy of mail_table exists because there is no access to write the original.

  fatal_error a fatal error is reflected in code. A fatal error is something like the SMTP being the wrong version.

3) segname is the name of the segment referred to by code if code is non-zero and new_one is off. If new_one is on, segname is the name of the copy. (Output)

4) code is a normal status code.
**Entry: lookup**

This entry returns information from mail_table given a user's registered person id or alias as a lookup name.

**Usage**

dcl mail_table_\$lookup entry
    (char(*), ptr, fixed bin(35));

call mail_table_\$lookup (name, argp, code);

1) name is a registered person id or a registered alias.  
   (Input)

2) argp is a pointer to the following structure in which information is returned:

dcl 1 args based (argp),
    2 version fixed bin(17),
    2 person char (22),
    2 alias char (8),
    2 mbx char (168),
    2 ds char (12),
    2 he char (44);

Every version mail_table has a different args structure.  (Input)

3) code is a standard status code, usually either zero or 
   error_table_\$user_not_found.  (Output)

**Entry: add**

This entry adds a user to mail_table.

**Usage**

dcl mail_table_\$add entry (ptr, fixed bin(35));

call mail_table_\$add (argp, code);

1) argp is a pointer to the above args structure.  (Input)

2) code is a standard status code.  error_table_\$namecup 
   indicates that an entry for person already exists and 
   the caller must use the delete or update entry.  
   (Output)
**Entry:** delete

This entry deletes a user from `mail_table`.

**Usage**

dcl mail_table_$delete entry (char(*), code);

call mail_table_$delete (name, code);

1) name is a registered person id or alias. (Input)
2) code is a standard status code. (Output)

**Entry:** update

This entry updates selective information in `mail_table` for a particular user.

**Usage**

dcl mail_table_$update entry

(char(*), ptr, fixed bin(35));

call mail_table_$update (name, argp, code);

1) name is a registered person id or alias. (Input)
2) argp is a pointer to the args structure. (Input)
3) code is a standard status code. (Output)

**Notes**

If a field in the args structure is ",", that field is not updated in `mail_table`. 
**Name**: mail_table_lookup, mtl

The `mail_table_lookup` command returns information from `mail_table` given a user's registered person id or alias.

**Usage**

```
mail_table_lookup name -control_arg-
```

1. **name** is a registered person id or alias.

**Control Argument**

- **-all**
  
  print the following information:

<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Person</td>
<td>registered person id</td>
</tr>
<tr>
<td>Alias</td>
<td>registered alias</td>
</tr>
<tr>
<td>Mailbox</td>
<td>pathname of default mailbox</td>
</tr>
<tr>
<td>Destination</td>
<td>default dprint destination</td>
</tr>
<tr>
<td>Header</td>
<td>default dprint header</td>
</tr>
</tbody>
</table>

Default is to print only Mailbox.

**Name**: mail_table_add, mta

The administrative command `mail_table_add` adds a user to `mail_table`.

**Usage**

```
mail_table_add person alias -control args-
```

1. **person** is a registered person id, maximum of 22 characters.
2. **alias** is the registered alias, maximum of 8 characters.

**Control Arguments**

- **-mailbox path** path is the pathname of a default mailbox. If the suffix ".mbx" is not present, it is assumed.
- **-mbx path**
- **-destination string** string is a default destination for the dprint command, no longer than 12 characters.
- **-ds string**
- **-header string** string is a default header for the dprint command, no longer than 64 characters.
- **-he string**

**Note**

Any fields not specified by control arguments are set to "".
**Name:** mail_table_delete, mtu

The administrative command `mail_table_delete` removes a user from `mail_table`.

**Usage**

```
mail_table_delete name
```

1) `name` is a registered person id or alias.

**Note**

An error message is printed if no entry for `name` exists.

**Name:** mail_table_update, mtu

The administrative command `mail_table_update` updates information in `mail_table` for a particular user.

**Usage**

```
mail_table_update name -control args-
```

1) `name` is a registered person id or alias.

**Control Arguments**

- `-mailbox path`  
  Path is the pathname of a default mailbox. If the suffix "*.mbx" is not present, it is assumed.

- `-mbx path`  
  String is a default destination for the dprint command, no longer than 12 characters.

- `-destination string`  
  String is a default header for the dprint command, no longer than 64 characters.

- `-ds string`  
  String is a default destination for the dprint command, no longer than 12 characters.

- `-he string`  
  String is a default header for the dprint command, no longer than 64 characters.

**Notes**

Any fields not specified by control arguments are not updated.

This command cannot replace the person id or alias.