

# OTN **OpenMail Technical Note**

## B.06.00 Changes To Installing And Patching OpenMail

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### Summary

The main change to installing and patching at B.06.00 concerns the decreased role of HP-UX Software Distributor (swinstall) and the increased role of ominstall. This OTN describes the changes and explains what is going on in the background when you install or patch OpenMail B.06.00.

### Readership

I have assumed that the reader has some experience of installing and patching OpenMail, and is familiar with HP-UX Software Distributor (swinstall).

### Revision History

July 1999:      First issue  
Dec 1999:      Minor corrections to page 5

### Comments Please!

I would welcome any comments you may have on this document. Please email them to [joyce@pwd.hp.com](mailto:joyce@pwd.hp.com).

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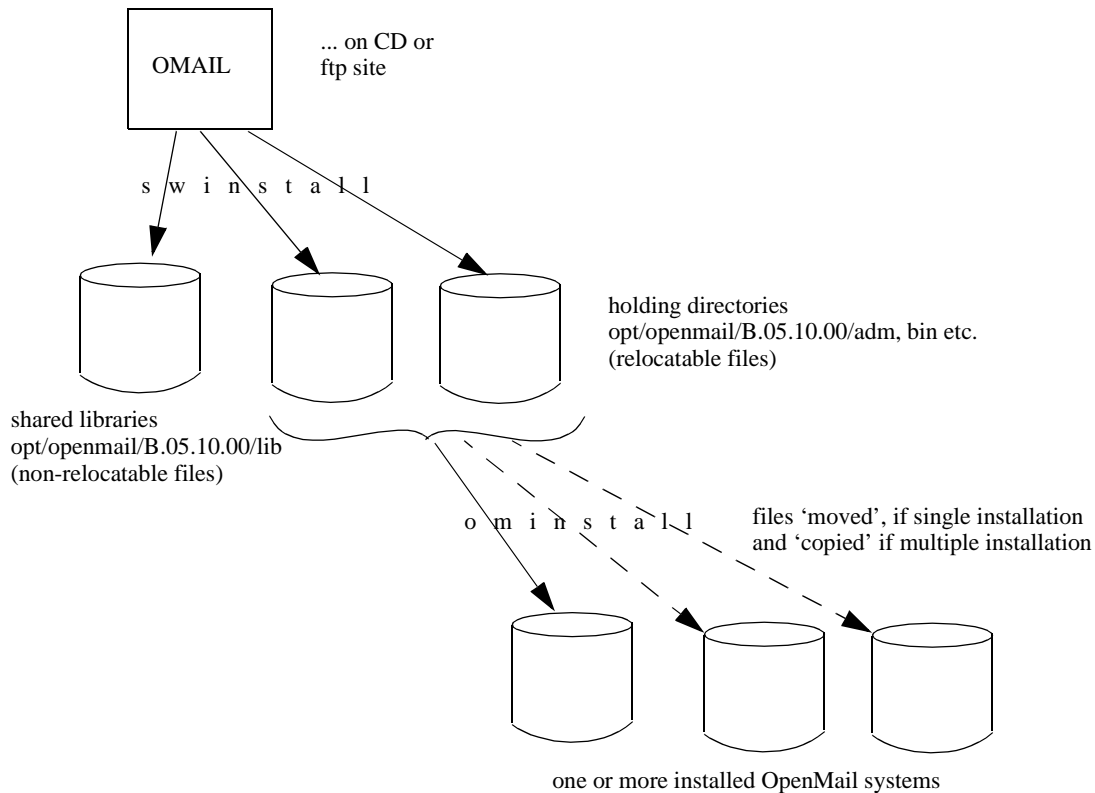
## Installing OpenMail

The main difference between installing OpenMail B.06.00 and installing previous versions, is the decreased role of HP-UX Software Distributor (SD), started by the `swinstall` command, and the increased role of the `ominstall` utility. At B.06.00, SD is only used to transport the software from the depot to the target system; it is not used to install OpenMail or check the finished installation. The way OpenMail is now installed on HP-UX is now similar to the way it is installed on AIX and Solaris platforms.

To appreciate the changes, it is worth looking briefly at the way things happened at B.05.10 first.

### How It Worked At B.05.10

**Figure 1 Installing OpenMail at B.05.10**



SD (`swinstall`) unpacked the depot archive and put the OpenMail shared libraries in their final position, `/opt/openmail/B.05.10.00/lib`. It copied the other selected, relocatable OpenMail files to the holding directories `/opt/openmail/B.05.10.00/adm`, `/opt/openmail/B.05.10.00/bin`, etc. before calling the `ominstall` utility.

`ominstall` then moved or copied the relocatable files to their final locations.

If you were installing a single OpenMail system, then the files were moved to equivalent directories in `/opt/openmail` and `/var/opt/openmail`. If you were installing multiple OpenMail systems, as in a ServiceGuard environment, then the files were copied to their final locations, as determined by `OMCURRENT` in the `/global/config` file.

SD, however, did not know that files had moved. The correct way to check an OpenMail installation was and is to run `omcheck` not `swverify`. However, if you did run `swverify` after installation, it reported lots of errors about missing files, which was not very reassuring.

## B.06.00 Installation

At B.05.10, there were two main problems with using SD to install OpenMail:

- For `swverify` to work cleanly, SD needs to be kept informed of the location of all the files it knows about. Because of the way OpenMail is installed and the number of files involved, keeping SD informed would be a significant overhead.
- SD can only cope with one copy of a file and during a multiple OpenMail installation there may be several copies of a file on one machine.

It was, therefore, decided to use SD to transport the software from depot to target machine but not to perform any of the installation; at B.06.00, SD does not know about the structure of an installed OpenMail system.

**Important!** The way OpenMail works with ServiceGuard is slightly different from other packages. If you are installing OpenMail systems in a ServiceGuard environment, it is important that you read the updated section on how to configure OpenMail in a ServiceGuard environment in the *OpenMail MC/ServiceGuard Technical Guide* before proceeding.

### What Is In The OpenMail B.06.00 Depot

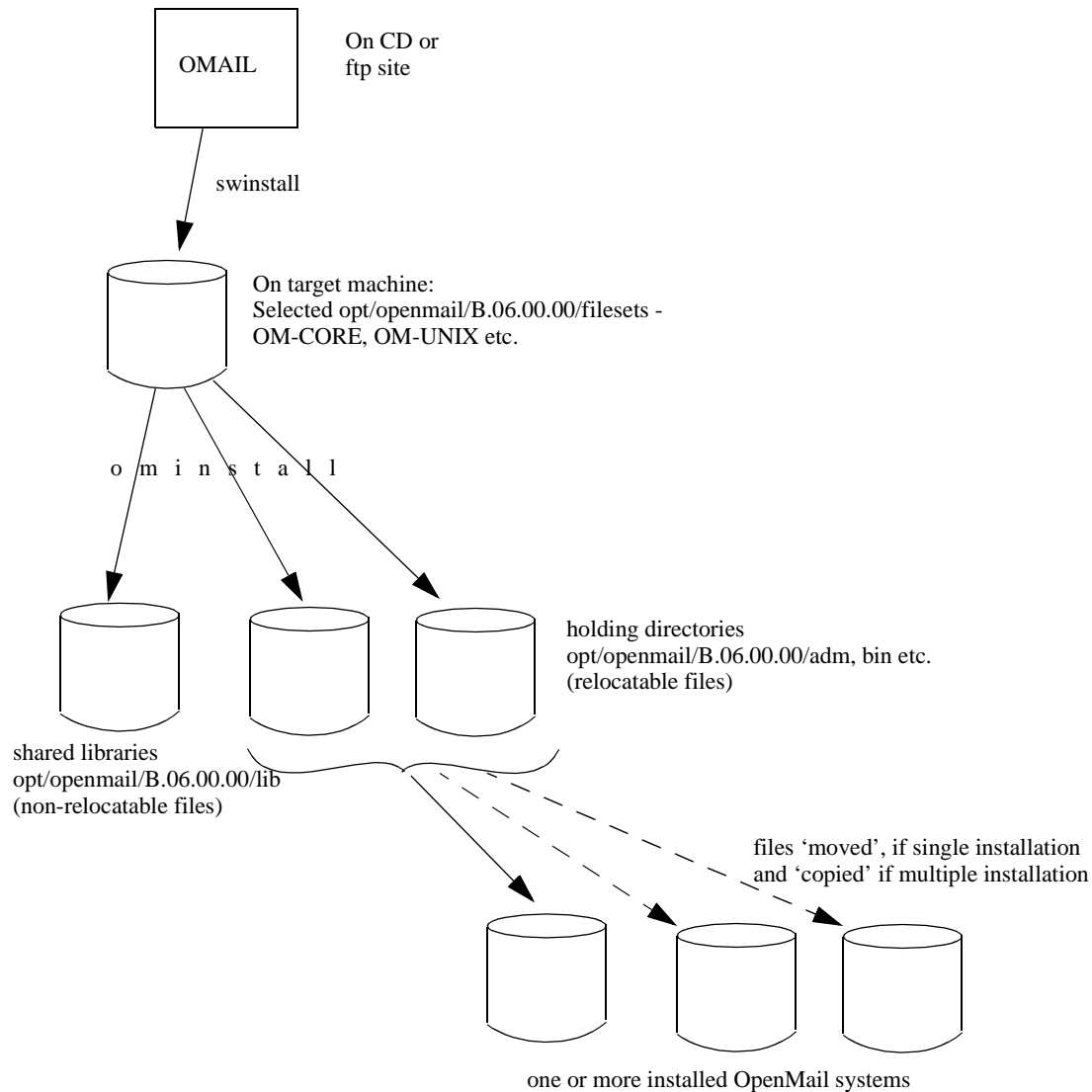
When you look at the OpenMail depot using SD, you will find, in total, 66 filesets:

OM-ADM  
OM-CORE  
... etc

Each fileset contains one file, which is, in fact, a compressed (gzip) tar archive. As far as SD is concerned, it is only ever aware of the 66 files it sees in the depot, it knows nothing of the files held within each fileset.

## The Role of SD (swinstall) At B.06.00

Figure 2 Installing OpenMail at B.06.00



SD (swinstall) downloads the filesets you select (66 filesets if you install all of OpenMail) into:

```
opt/openmail/B.06.00.00/filesets
```

At that point, SD invokes a *configure* script, which is part of the depot, to uncompress and install the shared libraries in `opt/openmail/B.06.00.00/lib` and unpack the other filesets into the holding directories:

```
opt/openmail/B.06.00.00/adm
```

```
opt/openmail/B.06.00.00/bin
```

... etc.

After each fileset has been successfully unpacked, the appropriate fileset in `opt/openmail/B.06.00.00/filesets` is shrunk to zero bytes and SD is informed that the fileset has changed.

**Note:** During installation, you will need an additional 20 Mbytes available in `/opt/openmail` to store the tar archives.

## If You Hit Problems During Extraction

If problems occur during extraction, you can restart the process with

```
swconfig openmail
```

You do not have to reinstall everything, as only non-zero length filesets will be unpacked.

## The Role of ominstall At B.06.00

After the filesets have been unpacked, the configure script calls `ominstall`, which in turn calls the scripts in `/opt/openmail/B.06.00.00/install` to install in their final locations the files in the holding directories.

The next stage is the same as at B.05.10:

- In a single installation, `ominstall` **moves** all files to final locations.
- In a multiple OpenMail installation (eg ServiceGuard environment), you will be prompted to set `OMCURRENT` then run `ominstall` manually for each copy. `ominstall` then **moves** the shared libraries to their correct location and **copies** all other files to their final locations.

**Important!** Use `omcheck` to verify installation and not `swverify`. Running `swverify` is meaningless; it will not report errors, as the 66 filesets SD knows about will be consistent with SD information, but `swverify` does not check the OpenMail installation.

As with B.05.10, use `omreset -i` to uninstall OpenMail, not `swremove`. `Swremove` would only remove the 66 filesets known to SD, leaving OpenMail intact.

## Patching OpenMail Installations

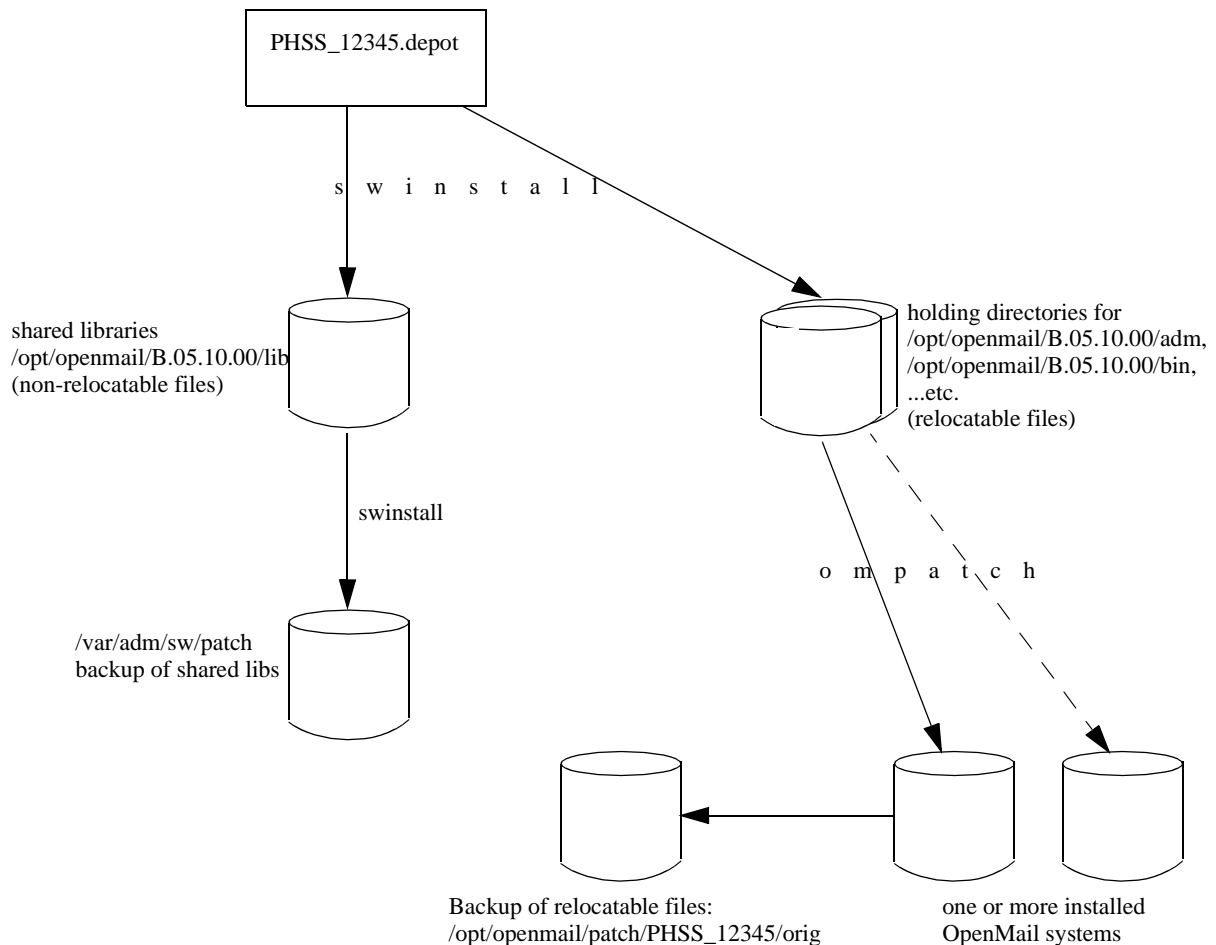
As with OpenMail installation, HP-UX Software Distributor (`swinstall`) is now only used to transport the patch software from the depot to the target system, not to install OpenMail, which makes patch installation similar across all platforms.

**Important!** If you are patching OpenMail systems in a ServiceGuard environment, it is important that you read the section on patching in the *OpenMail MC/ServiceGuard Technical Guide* before proceeding.

### How It Worked At B.05.10

We will start with a brief look at the way patches were installed at B.05.10. This is shown diagrammatically in Figure 3 below.

**Figure 3 Patching at B.05.10**



Swinstall was responsible for:

- Backing up the shared libraries, `opt/openmail/B.05.10.00/lib`, and any files in `opt/openmail/B.05.10.00` and `var/opt/openmail/B.05.10.00` holding directories. On HP-UX, the files were backed up to `var/adm/sw/patch`. On AIX and SUN the files were backed up to `opt/openmail/patch`. On HP-UX only, you could prevent these backups being done by creating the file `var/adm/sw/patch/PATCH_NOSAVE`.

### *B.06.00 Changes To Installing And Patching OpenMail*

- Installing the new shared libraries in `opt/openmail/B.05.10.00/lib`.
- Unpacking the new files in the holding directories `/opt/openmail/B.05.10.00/adm` etc.

Ompatch was invoked by `swinstall` and was responsible for:

- Backing up any changed relocatable file to `/opt/openmail/patch/PHSS_12345/orig`. This always happened and was unaffected if `PATCH_NOSAVE` existed.
- Installing the new files in their final locations for each copy of OpenMail installed on the machine. Ompatch would look for an `/opt/openmail/global/config` file and attempt to patch each instance of OpenMail referenced in the file. If some of the directories referenced from that file were unavailable, the patch installation would fail.



## What Is In a Patch At B.06.00

We will look first at what is in a patch depot at B.06.00. Instead of lots of files, as in previous releases, an SD depot now contains one tar archive per installation fileset, for example, /opt/openmail/patch/filesets/OM-CORE, /opt/openmail/patch/filesets/OM-AMECAT, up to a maximum of 66.

Each fileset file is a compressed tar-archive of files (it is important to get it this way round, i.e. it is not a tar archive of compressed files!). The .doc and .text files only detail the fileset archives, not the individual files contained in the fileset. To see details of individual files included in a fileset, you can look at the .idx file, /opt/openmail/patch/PHSS\_12345.idx. This is the file ompatch looks at to determine what to install.

Below is an extract from the /opt/openmail/patch/PHSS\_18905.idx. It contains a text summary of the problems/SRs fixed by the patch, followed by a list of the files to be installed:

```
root@kuda[patch] #more PHSS_18905.idx
patch PHSS_18905 B.06.00 HPUX_10

oneline OpenMail B.06.00 July 99 Periodic Patch

Equivalent_Patches HPUX_11 PHSS_18906
Equivalent_Patches AIX PASS_17009
Equivalent_Patches SunOS PFSS_17009

sup PHSS_18282

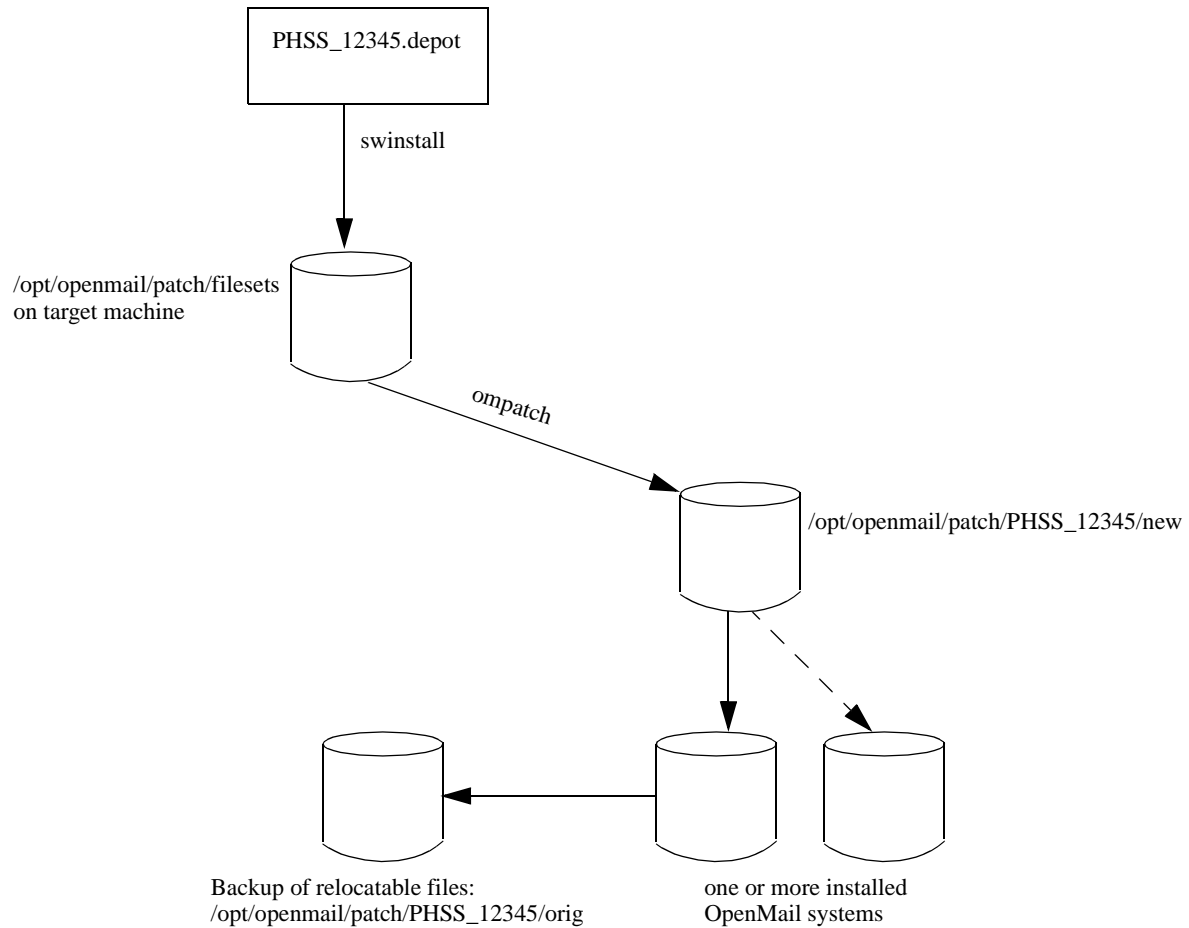
sympt PHSS_18905:
sympt 5003444174:
sympt Corruption in the DIT upsets OpenMail very seriously, but
sympt problems do not become visible until more damage is done.
sympt
sympt 1653299818:
sympt omdbmon process occasionally aborts with a SYS 22 error
...
dtext PHSS_18905:
dtext 5003444174:
dtext customer misunderstandings lead them to corrupt their
dtext message stores. OpenMail attempted to recover from this
dtext when it is in fact better to halt processing immediately.
dtext
dtext 1653299818:
dtext The problem may be caused by spurious error number returned
dtext even when the entry is valid. Should only check error
dtext number if no valid entry is returned.
...
sr 5003444174
sr 1653299818
sr D500427419
...
inst /opt/openmail/B.06.00.00/bin notif.mon openmail hpoffice 6555
B.06.00.Q0 OM-CORE
inst /opt/openmail/B.06.00.00/bin nw.browse openmail hpoffice 2555
B.06.00.Q0 OM-CORE
inst /opt/openmail/B.06.00.00/bin omacmd root hpoffice 7555 B.06.00.Q0
OM-CORE
inst /opt/openmail/B.06.00.00/bin omadcdf root hpoffice 6555 B.06.00.Q0
OM-ADM
inst /opt/openmail/B.06.00.00/bin omaddaci openmail hpoffice 2555
B.06.00.Q0 OM-CORE
inst /opt/openmail/B.06.00.00/bin omaddcda openmail hpoffice 2555
B.06.00.Q0 OM-CORE
```

```
inst /opt/openmail/B.06.00.00/bin omaddmn openmail hpooffice 2555
B.06.00.Q0 OM-CORE
```

## B.06.00 Patch Installation

Figure 4 gives an overview of the patching procedure at B.06.00. As in the installation of OpenMail, SD (`swinstall`) is used only to transport the patch software to the target machine. The rest of the installation and backup process is performed by `ompatch`.

**Figure 4 Patching at B.06.00**



`swinstall` knows nothing about OpenMail structure, it just copies the fileset archives to `/opt/openmail/patch/filesets` then invokes `ompatch`.

Only installed filesets will be patched. To find out what is installed, `ompatch` notes `.inst` and `.fin` files in `/opt/openmail/B.06.00.00/install`. The compressed files are then extracted from fileset archives into `/opt/openmail/patch/PHSS_12345/new`. This directory will then contain all the files to be installed. As the files are extracted from each fileset, the fileset archive in `/opt/openmail/patch/filesets` is shrunk to zero bytes.

`PATCH_NOSAVE` now affects `ompatch` on HP-UX, AIX and Sun platforms. In HP-UX, you create the `PATCH_NOSAVE` file in `/var/adm/sw/patch`. On AIX and Sun, you create it in `/opt/openmail/patch`. If backups are required, all original files are saved in `/opt/openmail/patch/PHSS_12345/orig`.

**Warning!** If you decide to remove this directory at a later stage, you will not be able to remove the patch.

If you are installing Periodic Patches, you only need to keep last one, because they are cumulative. Be careful, however, if you have point patches installed, as they may not be in the Periodic Patches.

ompatch then installs the files in /opt/openmail/patch/PHSS\_12345/new to their final locations. If you have a ServiceGuard environment with more than one copy of OpenMail, ompatch will read the /opt/openmail/global/config file and attempt to install the new files in all the instances of OpenMail referenced in that file. If some of the directories are not available, the patch process will continue to replace what it can. Files in /opt/openmail/patch/PHSS\_12345/new are deleted after they have been installed.

**Important!** In a ServiceGuard environment, if an OpenMail package can potentially run on two machines, the shared libraries on both machines must be patched to the same level. The patch level is in /opt/openmail/B.06.00.00/lib/version.

If you are patching OpenMail systems in a ServiceGuard environment, it is important that you read the section on patching in the *OpenMail MC/ServiceGuard Technical Guide* before proceeding.

## Removing a Patch

To remove a patch, you run swremove (on HP-UX), which calls omunpatch. On AIX and SUN, you call omunpatch directly.

## Omcheck Data Directory And Patch Checksums

When you run omcheck, the details, i.e. file permissions, of each file are checked against the information in an omcheck data file. The size of each file is also held in the omcheck data file.

In the past, there was a problem with new omcheck data files being installed by patches, even if you did not have some of the OpenMail sub-components installed. Running omcheck after installing the patch would flag missing files.

This has now been fixed. ompatch only installs omcheck data files for filesets which are already installed.

Below is part of the omcheck data file for the OM-CORE fileset on my machine:

```
root@kuda[check] #more d.OM-CORE
% Product Description File
% OpenMail OM-CORE
/opt/openmail:openmail:hpooffice:drwxrwxr-x:3:::
/opt/openmail:openmail:hpooffice:drwxrwxr-x:13:::
...
/opt/openmail/bin/omdiropt:openmail:hpooffice:-r-sr-srx: \
189496:1::198115197:
```

In the entry for the file, /opt/openmail/bin/omdiropt, the first number I have underlined is the size of the file. To verify the file on your system, you could match this with the size of the same file on your system. The second underlined number is a checksum for this file. As this number is generated by an internal algorithm, it will not match the output of cksum (or sum) on this file.

In the PHSS\_12345.text file in the depot, there are checksums on each fileset (not file). As we have seen, the installation and patch installation process automatically shrink the filesets to zero after installation, so if you want to use these to verify what has been downloaded to your system, you need to extract the files in the depot to a temporary location on your system, for example,

```
cd /somewhere
tar -xvf PHSS_12345.depot
```

Then run cksum (or sum) on each fileset.