System Management Daemons
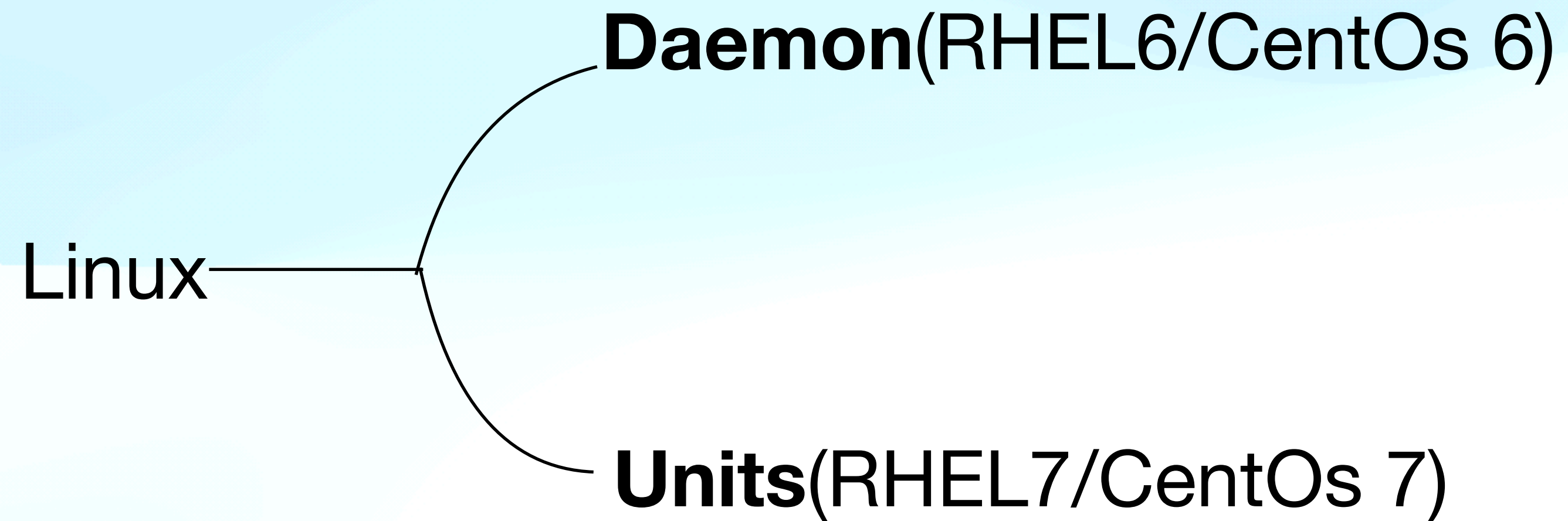
Kartik : 20-Dec-23

Systemd in linux
Service management tool


Software Application Package

Running in the background for controlling or managing installed application

Services

01-Linux

In Linux
History

Linux

Daemon(RHEL6/CentOs 6)

Units(RHEL7/CentOs 7)
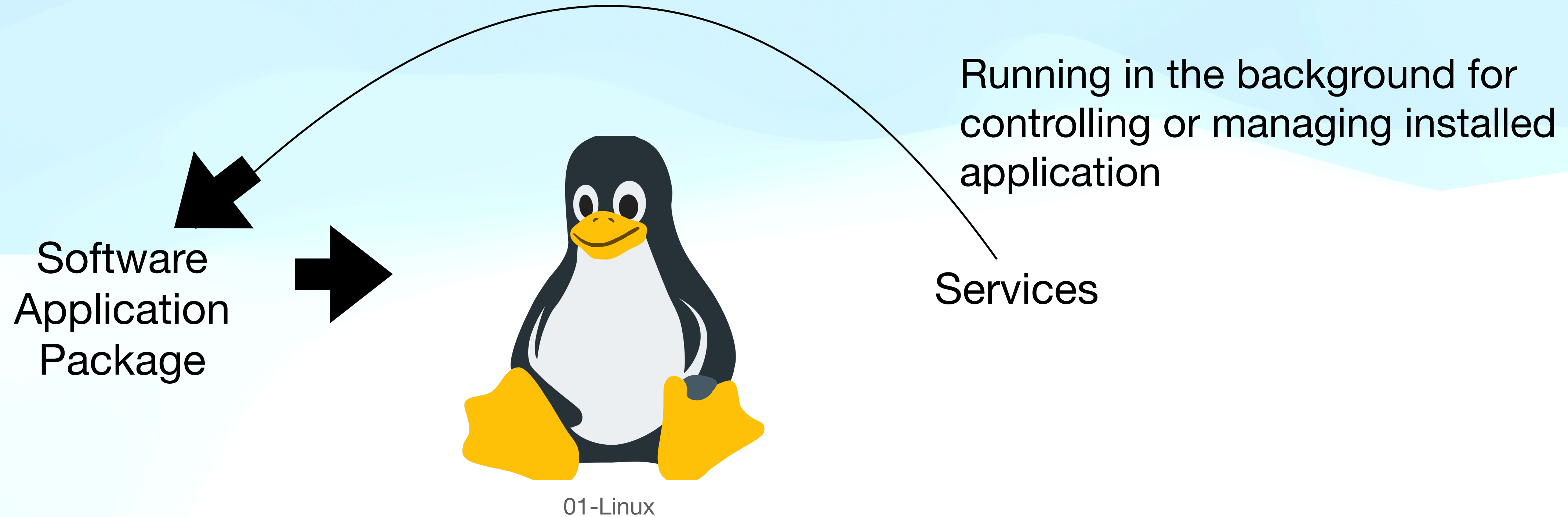
Systemd
What is systemd ?

- Systemd is a daemon or service management tool in Linux

- Used to manage or control installed applications and services

- Init—>systemd in new flavours of Linux
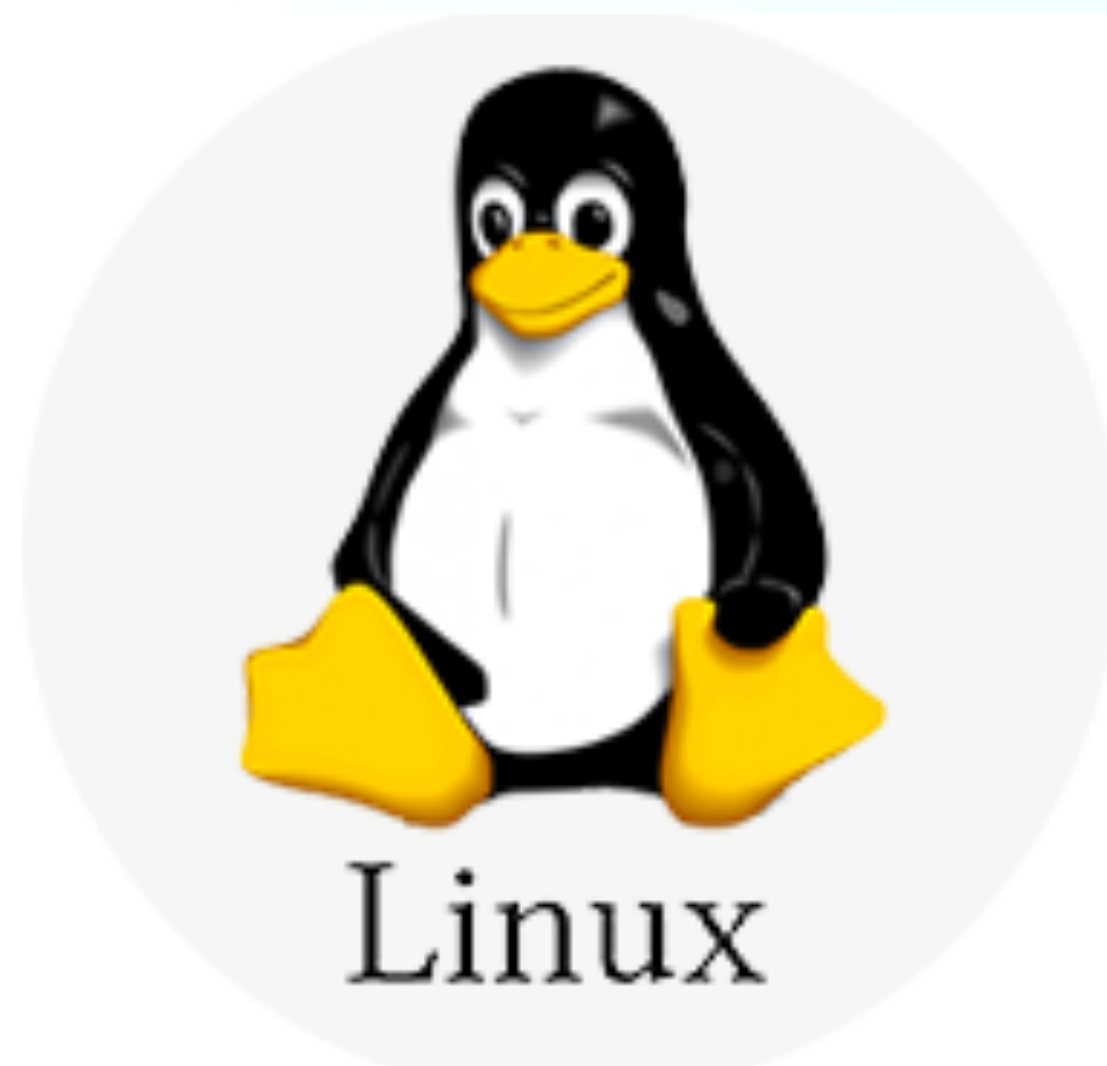
init vs systemd

Differences

RHEL6	RHEL7

RHEL6

- Parent process—>init

- Process id —>1

- Service Management tool

- Type - temporary, Permanent

```
service nginx start
service nginx stop
chkconfig httpd on
chkconfig httpd off
```

RHEL7

- Parent process—>systemd

- Process id —>1
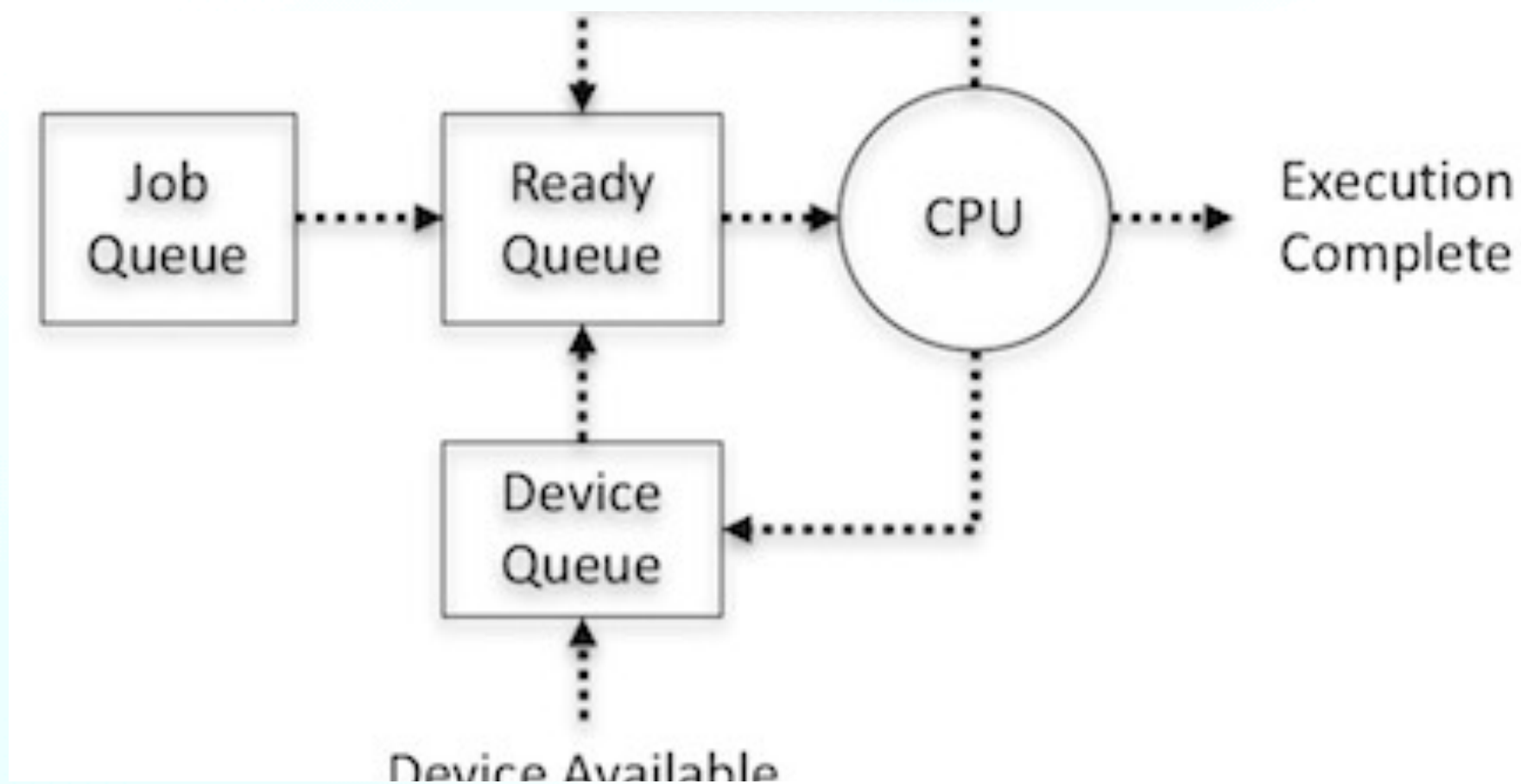
- Service Management tool

- Type - temporary, Permanent

```
systemctl start nginx
systemctl stop nginx
systemctl enable nginx
systemctl disable nginx
```

systemd

Advantages

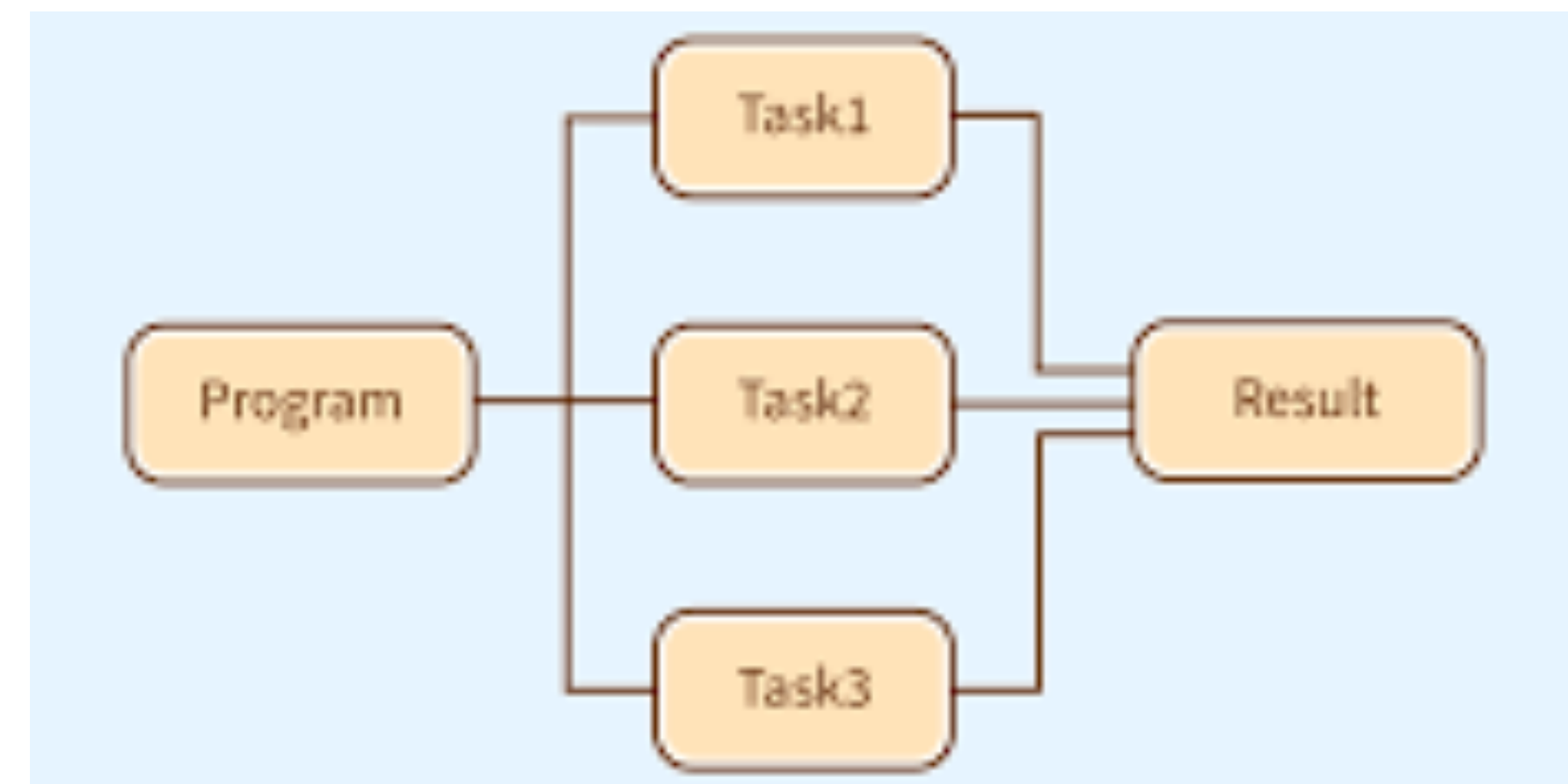| RHEL6	RHEL7

RHEL6

- Booting process queue ,Slow

- More likely to cause thrashing during startup

RHEL7

- Booting process parallel ,fast

- No more likely to cause thrashing during startup

systemd Utilities

`systemctl` `journalctl` `notify` `analyze` `cgls` `cgtop` `loginctl` `nspawn`

systemd Daemons

`systemd`

`journald` `networkd`

`loginduser session`

systemd Targets

`bootmode` `basic`

`shutdown` `reboot`

multi-user
`dbus` `telephony`
`dlog` `logind`

graphical
`user-sesssion`

user-session
`display service`
`tizen service`

systemd Core

`manager`

`systemd`

unit
`service` `timer` `mount` `target`
`snapshot` `path` `socket` `swap`

login
`multiseat` `inhibit`
`session` `pam`

`namespace` `log`

`cgroup` `dbus`

systemd Libraries

`dbus-1` `libpam` `libcap` `libcryptsetup` `tcpwrapper` `libaudit` `libnotify`

Linux Kernel

`cgroups` `autofs` `kdbus`

03-architecture of systemd

Sections
Of unit file

- **[unit]**:a unit refers to any resource that the system knows how to operate on and manage.

- **[service]**:contains information about the service and the process it supervises.

- **[install]**:provides instructions on how systemd installs the service.

Structure
Of unit file

- Where to create **cd /etc/systemd/system**

- Create a file named your-service.service and include the following:

```
[Unit]
Description=<description about this service>

[Service]
User=<user e.g. root>
WorkingDirectory=<directory_of_script e.g. /root>
ExecStart=<script which needs to be executed>
# optional items below
Restart=always
RestartSec=3

[Install]
WantedBy=multi-user.target
```

04-service file example