

Quick Start Guide – Time Machine for Solaris 9 Branded Zones

The following is a quick guide for installing & configuring Time Machine to run inside Solaris 9 branded zones contained in a system running Solaris 10.

NOTE: This paper is specific to Time Machine for use Solaris 9 branded zone on Solaris 10 (Sparc platform). For those running on other platforms please refer to the Time Machine manual or contact Solution-Soft support at support@solution-soft.com

System Configuration used in creating this paper:

OS: SunOS 5.10, Solaris 10, 1 CPU, 384 MB ram
Time Machine: Version 4.06 R4 for Solaris 5.10 Build Date: 11/21/11
Publish Date: Sept 23, 2011

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Download Software

There are two methods for obtaining Time Machine installation binaries via FTP or from our website.

Method 1) FTP

From a shell login, connect to the FTP site [ftp.solution-soft.com](ftp://ftp.solution-soft.com) and follow these steps:

1. ftp [ftp.solution-soft.com](ftp://ftp.solution-soft.com)
2. User name: anonymous
3. passwd: use your e-mail address as the password
4. Enter "bin" for binary
5. cd /pub/tm/solaris/10 (for Solaris 10)
6. Get the release by typing "**mget ***"
7. type **bye** to exit

Method 2) Download through HTTP via our website.

1. Go to <http://www.solution-soft.com/download.shtml>
2. Fill out the relevant information & click the submit button
3. Traverse through the programs listed to find the latest Solaris release.

Installation

Using the downloaded file from Step 1 above, do the following in the Global Zone.

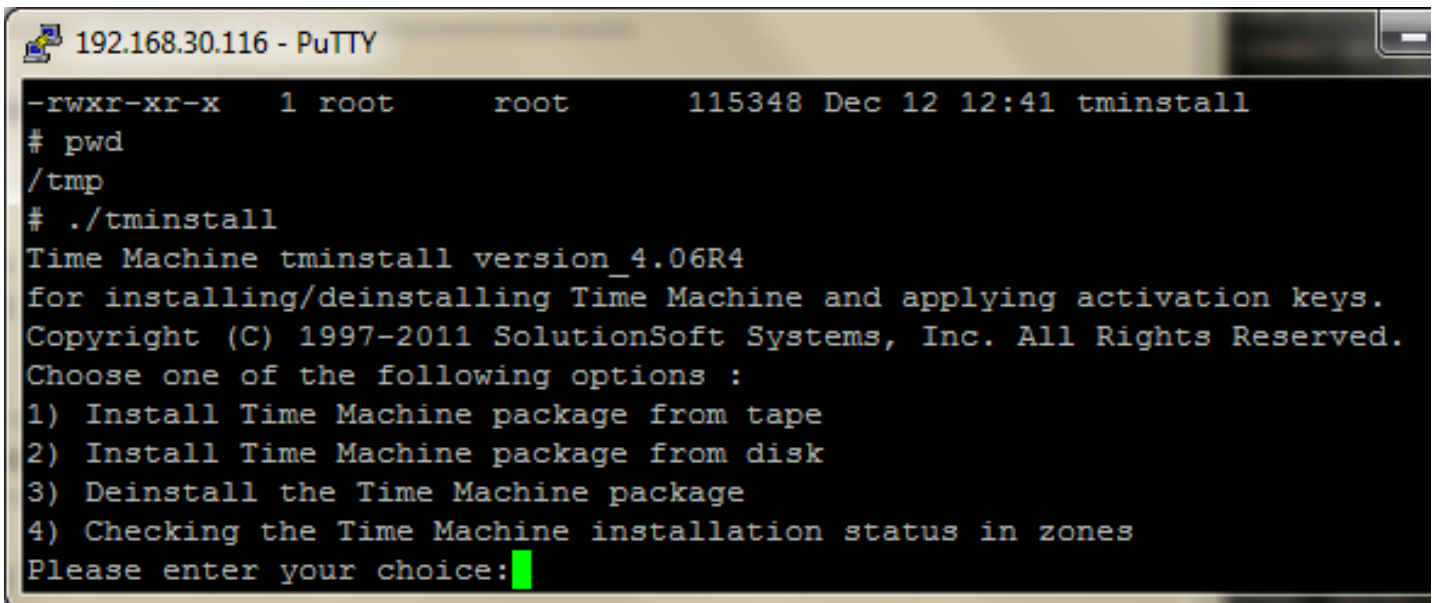
****Note:** The Solaris 10 Time Machine package (tm_4.06R4_solaris2_10.tar.gz) includes both the Solaris 10 and Solaris 9 branded zone installation files.

- a) Change USER to root
- b) Copy the release tar file to /tmp
example: **# cp tm_4.06R4_solaris2_10.tar.gz /tmp**
- c) Change directory to /tmp. Unzip or Untar the file

You'll see these files after the untar:

- 3s_tm.tar (Build central-package)
- ssslicmgr (License management application)
- tm_4.06R4_solaris2_10.tar.gz (Build package)
- tm_4.06R4_solaris2_9.tar.gz (Build package)
- tmlib_v3.5_sol_2_10.tar.gz (Library package)
- tmman.txt (Time Machine manual)
- tmreadme.txt (Simple install guide)
- tm_tests_4.06R4_solaris2_10.tar.gz (Test & verify applications)
- tminstall (Install program)

- d) To install, please run **/etc/ssstm/tminstall** and Choose option 2 "**Install Time Machine package from disk**" and type 'y' when ready.



```
192.168.30.116 - PuTTY
-rwxr-xr-x  1 root    root      115348 Dec 12 12:41 tminstall
# pwd
/tmp
# ./tminstall
Time Machine tminstall version_4.06R4
for installing/deinstalling Time Machine and applying activation keys.
Copyright (C) 1997-2011 SolutionSoft Systems, Inc. All Rights Reserved.
Choose one of the following options :
1) Install Time Machine package from tape
2) Install Time Machine package from disk
3) Deinstall the Time Machine package
4) Checking the Time Machine installation status in zones
Please enter your choice: █
```

When the install is finished you will see the success message "Time Machine/Solaris installed successfully" along with some tips on moving forward, as shown below.

```
192.168.30.139 - PuTTY
x clk_gettime, 7416 bytes, 15 tape blocks
x ftime_test, 6604 bytes, 13 tape blocks
x gettimeofday_test, 6248 bytes, 13 tape blocks
x lwp_timed_test, 14832 bytes, 29 tape blocks
x pthread_timed, 8760 bytes, 18 tape blocks
x pthread_timed1, 11012 bytes, 22 tape blocks
Copying driver to /usr/kernel/drv
Copying 64bit driver to /usr/kernel/drv ...
Copying config file ...
Linking start/stop scripts ...
  Creating devlink.tab entry ...
Copying tmlib ...
Linking tmlib ...

Time Machine/Solaris installed successfully.
Please read tthreadme.txt about how to set environment variable.
Please run "ssslicmgr" to install the license.
If you do not have a license key, you need to contact SolutionSoft Systems, Inc.
at (408) 346-1414

After the license is activated correctly, to start Time Machine, run:
% /etc/ssstm/ssstmd start

# █
```

Note: If you do not use Time Machine in the global zone, skip steps e) and f).

e) If you need to use Time Machine in the global zone, a license for the global zone is needed. Please run `/tmp/ssslicmgr -k` and send the output to support@Solution-Soft.com to obtain a key.

Then run `/tmp/ssslicmgr` to apply the key once the key is provided.

** Pages 5-6 have screenshots of this Licensing process

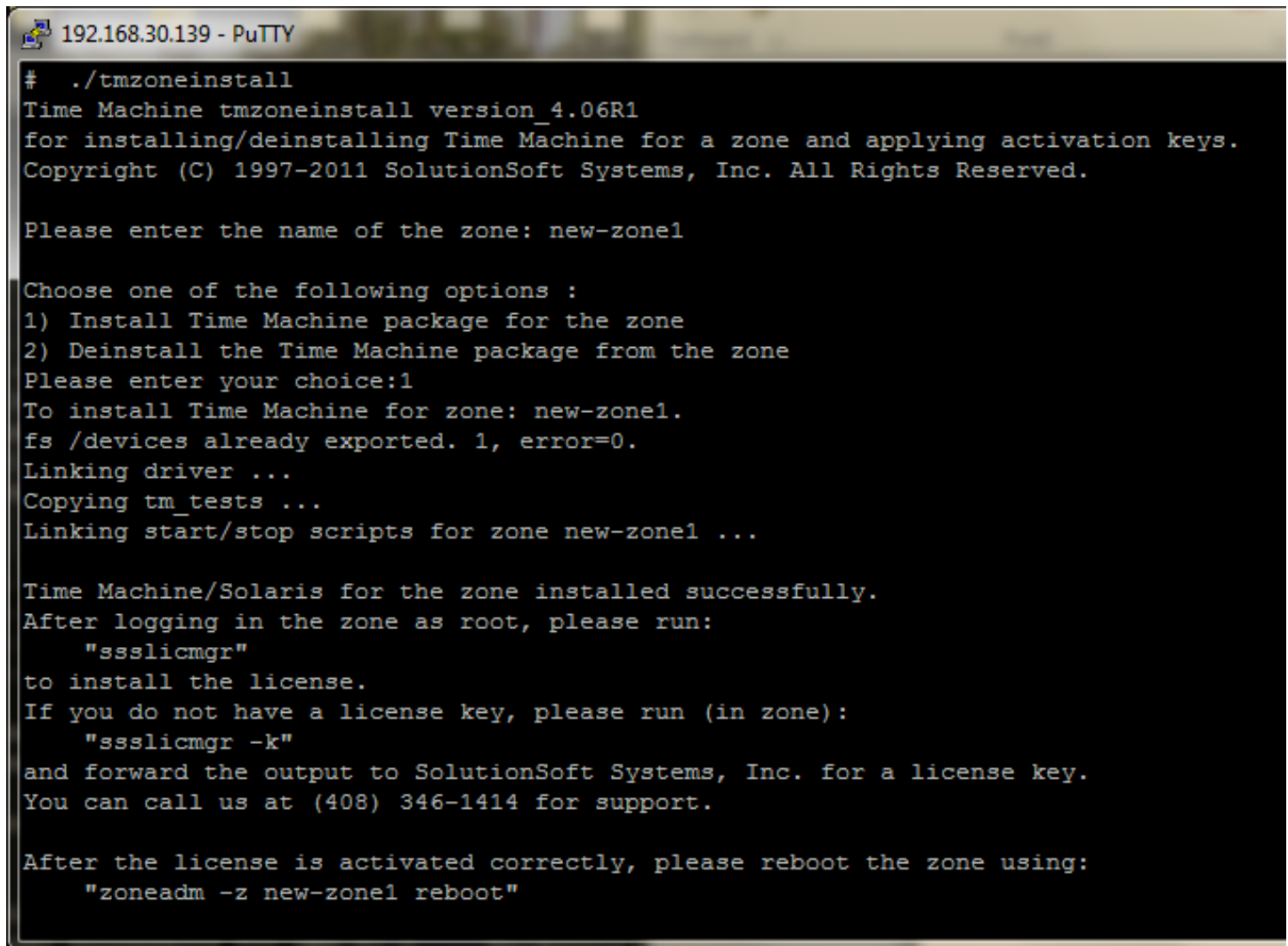
f) After the license is activated correctly, to start Time Machine run: `/etc/ssstm/ssstmd start`

Configuration for Zones

To enable Time Machine to work on any local zones perform the following steps for each zone:

- a) Make sure you have completed steps a) through d) in the above "Installation" portion of this guide.
- b) As root in the global zone, please run `/etc/ssstm/tmzoneinstall` and enter the zone name when asked. Then choose option #1 "Install Time Machine package for the zone".

This will install the Time Machine zone-aware binaries into the virtual machine local zone. This procedure works for both Solaris 10 native zones and Solaris 9 branded zones.



```
# ./tmzoneinstall
Time Machine tmzoneinstall version_4.06R1
for installing/deinstalling Time Machine for a zone and applying activation keys.
Copyright (C) 1997-2011 SolutionSoft Systems, Inc. All Rights Reserved.

Please enter the name of the zone: new-zone1

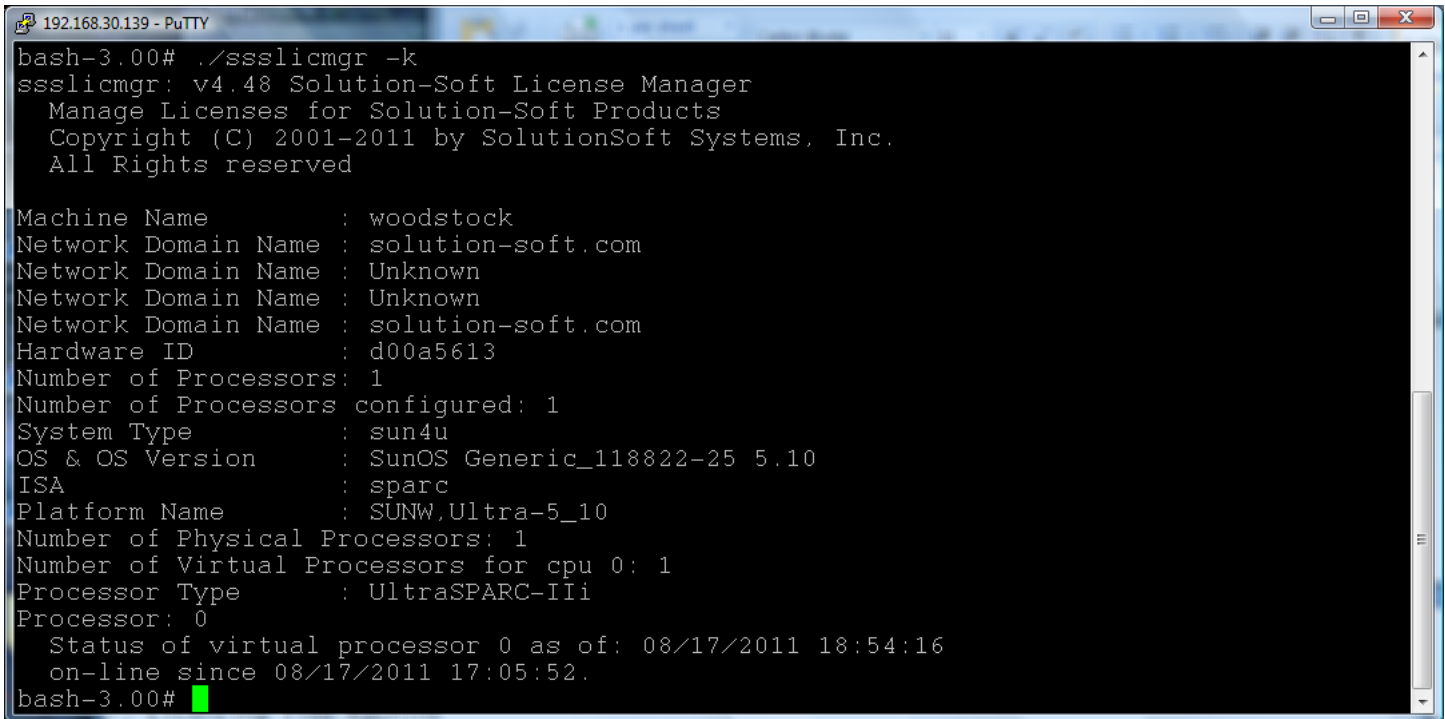
Choose one of the following options :
1) Install Time Machine package for the zone
2) Deinstall the Time Machine package from the zone
Please enter your choice:1
To install Time Machine for zone: new-zone1.
fs /devices already exported. 1, error=0.
Linking driver ...
Copying tm_tests ...
Linking start/stop scripts for zone new-zone1 ...

Time Machine/Solaris for the zone installed successfully.
After logging in the zone as root, please run:
    "ssslicmgr"
to install the license.
If you do not have a license key, please run (in zone):
    "ssslicmgr -k"
and forward the output to SolutionSoft Systems, Inc. for a license key.
You can call us at (408) 346-1414 for support.

After the license is activated correctly, please reboot the zone using:
    "zoneadm -z new-zone1 reboot"
```

c) Login to each zone and run **/etc/ssstm/ssslicmgr -k**

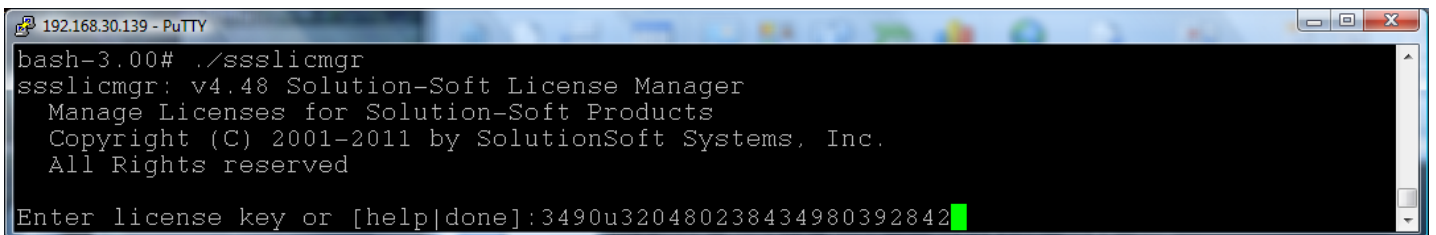
Copy & Paste the entire output as text and send it to support@Solution-Soft.com to obtain a key for the zone.
(See Below Figure)



```
192.168.30.139 - PuTTY
bash-3.00# ./ssslicmgr -k
ssslicmgr: v4.48 Solution-Soft License Manager
Manage Licenses for Solution-Soft Products
Copyright (C) 2001-2011 by SolutionSoft Systems, Inc.
All Rights reserved

Machine Name       : woodstock
Network Domain Name : solution-soft.com
Network Domain Name : Unknown
Network Domain Name : Unknown
Network Domain Name : solution-soft.com
Hardware ID        : d00a5613
Number of Processors: 1
Number of Processors configured: 1
System Type        : sun4u
OS & OS Version    : SunOS Generic_118822-25 5.10
ISA                : sparc
Platform Name      : SUNW,Ultra-5_10
Number of Physical Processors: 1
Number of Virtual Processors for cpu 0: 1
Processor Type     : UltraSPARC-III
Processor: 0
  Status of virtual processor 0 as of: 08/17/2011 18:54:16
  on-line since 08/17/2011 17:05:52.
bash-3.00# █
```

d) Once the key is provided, login to the zone as root and run **/etc/ssstm/ssslicmgr** to apply the key.



```
192.168.30.139 - PuTTY
bash-3.00# ./ssslicmgr
ssslicmgr: v4.48 Solution-Soft License Manager
Manage Licenses for Solution-Soft Products
Copyright (C) 2001-2011 by SolutionSoft Systems, Inc.
All Rights reserved

Enter license key or [help|done]: 3490u320480238434980392842 █
```

e) After applying the license key, you will be prompted to answer a few informational questions. Afterwards send the output text back to support@Solution-Soft.com. This will enable your system to be updated and/or recorded into our support system.

```
192.168.30.139 - PuTTY
# ./ssslcmgr
ssslcmgr: v4.48 Solution-Soft License Manager
Manage Licenses for Solution-Soft Products
Copyright (C) 2001-2011 by SolutionSoft Systems, Inc.
All Rights reserved

Enter license key or [help|done]:F0FD643400013B230E12059701065600
Preparing to install a 14 day demo license for Time Machine Unix
Checking Host ID ... Passed.
Checking Authorized CPU Tiers Level ... Passed.
Check lic status: -704
Enter your name or main contact point at your company:Michael Morrison
Enter Your Company or Organization Name:Ford
Enter Your Phone Number:408-3461415
License installation successful.
Action successful. Please send the following back to SolutionSoft:
"\
5966676461111d6317191a1b1b1c1d1d1b7505710477040403\
7d0c7f7d0c7b0d0b05750174077474730d7d097c0f7c7c7f68\
376262666662626e69626b6c6d6e2f101112131c1516171819\
1a1b1c1d6b7a7e7a7c7c637b697377747b72720d0659707070\
70707070770797a7b7c7d7e7f60616a636465666768696a6b\
190810546e6e756d7b61696a6960641b1a5e5b410101500104\
7306717c0f0e08080d0e0f71720071777503767a797f727b7d\
7f7f666464636464661a313a323a39317e524f53504a574a48\
171c6f4559481d6c1b00091f0000030703090c0b0d6f584a05\
2e2e7378642b2975736924247f766e213f6563641d3b303862\
37356a677d3070121a024d4b161d0746461e1b1b5840445e5e\
455d0403060208080a0b0c0d0e0f707072737676767678797a\
7b7e7c0c7f"
ssslcmgr: v4.48 Solution-Soft License Manager
Manage Licenses for Solution-Soft Products
Copyright (C) 2001-2011 by SolutionSoft Systems, Inc.
All Rights reserved

Enter license key or [help|done]:done
```

Note: You do not need a license for the Global Zone if you wish to solely run Time Machine on the sub/local zones.

After the installations for all the zones are finished and all the license keys are applied successfully, you need to reboot the zones for all the installed drivers to be in place and functioning.

f) To perform reboots, either login to each zone where you installed Time Machine and reboot it or simply run **"zoneadm -z [zone-name] reboot"** from the Global zone. After the zone selected comes back online you will be able to run Time Machine and begin testing your applications.

- a) Checking the Time Machine installation status in zones, please run **/etc/ssstm/tminstall** and choose option 4:
"Checking the Time Machine installation status in zone"

g) If you need to de-install Time Machine from the zones, please perform the following steps:

a. Login to the zone as root, run **"/etc/ssstm/ssstmmd stop"** to detach Time Machine drivers from the system.

b. As root in the global zone, please run **/etc/ssstm/tmzoneinstall**

Enter the zone name when asked, and choose option 2 **"Deinstall the Time Machine package from the zone"**.

c. Answer confirmation questions (yes/no).

Time Machine Evaluation

At this point you should have successfully installed Time Machine onto the Global Zone and then applied the zone-aware binaries onto which ever local/branded zones you selected as well as installed a license for said machines. Now let's go through a simple test to verify Time Machine will provide a user with a virtual date on a local zone.

1. Login to the local zone that has been licensed to run Time Machine.

```
bash-3.00# zlogin sun9b
[Connected to zone 'sun10b' pts/1]
Last login: Wed Aug 17 19:17:27 on pts/1
Sun Microsystems Inc. SunOS 5.10 Generic January 2005
```

2. Grant all users on this zone the ability to set their own virtual dates by running tmuser_setup

```
# cd /etc/ssstm
# ./tmuser_setup
Copyright (C) 1997-2011 SolutionSoft Systems, Inc. All Rights Reserved. Time Machine tmuser_setup
version_4.06R1 for SUN Solaris 5.10, sun4u machine. tmuser_setup will make the necessary changes to TM
installation so that non-root users can use the "tmuser" utility.
```

Please choose from the menu:

- 1) to continue and non-root users will be able to use the "tmuser" utility.
- 2) to continue and non-root users will NOT be able to use the "tmuser" utility.
- 3) to exit and keep the current behavior.

1

```
Please wait while tmuser_setup makes the changes to TM...
The TM tmuser utility has now been configured to allow usage
by non-root users for adding and deleting their own virtual clocks.
```

3. Run /etc/ssstm/tmuser list to verify that Time Machine is running on the zone.

```
# /etc/ssstm/tmuser -l
Copyright (C) 1997-2011 SolutionSoft Systems, Inc. All Rights Reserved.
Time Machine tmuser utility version_4.06R1 for SUN Solaris 5.10, sun4u machine
tmuser: report: Listing all virtual clocks:

Id          Clock type      Clock date/time

- End of list -
tmuser: report: All Time Machine users have been listed above.
```

4. Switch user from 'root' to a normal user, in this case we use the 'oracle1' account.

```
# su - oracle1
```

5. Check that the date as of now shows the real date & time

```
bash-3.00$ date
Wed Aug 17 19:53:46 PDT 2011
bash-3.00$ id
uid=2500(oracle1) gid=101(oinstall)
```

6. Now set a date for the non-root user account, in this example we are using "oracle1" and will give it a date of 2/28/2019 and hour 11:55 am.

```
bash-3.00$ /etc/ssstm/tmuser -a -u oracle1 -x 022811552019
Copyright (C) 1997-2011 SolutionSoft Systems, Inc. All Rights Reserved.
```

Time Machine tmuser utility version_4.06R1 for SUN Solaris 5.10, sun4u machine,
for managing TM(tm) virtual clocks at the command line.

tmuser: report: uid 2500 has been added with a Running virtual clock: Thu Feb 28 11:55:00 2019

7. Next verify the virtual date for this account by running 'date'

```
bash-3.00$ date  
Thu Feb 28 11:55:47 PST 2019
```

8. Run 'cal' to see the virtual month's calendar display

```
bash-3.00$ cal  
February 2019  
S M Tu W Th F S  
      1  2  
3  4  5  6  7  8  9  
10 11 12 13 14 15 16  
17 18 19 20 21 22 23  
24 25 26 27 28
```