SPARCbook™ Technical Reference

PPP Installation and setup on the SPARCbook

This document covers the installation of the standard Solaris™ PPP package that comes bundled on the Tadpole Solaris 2.x CD. Note: Dynamic IP assignments are only supported with Solaris 2.5 and later. Also note that if you are using Solaris 2.3 and trying to connect to a machine other than another Solaris 2.3 machine, you need to make sure patch 101448 is installed. This patch allows your 2.3 machine to be able to talk to other machines, not running Solaris 2.3, to communicate via PPP.

First install the packages required for PPP. These may already be installed depending on the type of installation you have.

The packages needed for PPP are:

- SUNWapppr PPP/IP Asynchronous PPP daemon configuration files
- SUNWapppu PPP/IP Asynchronous PPP daemon and PPP login service
- SUNWpppk PPP/IP and IP dialup device drivers

If you are going to be using dial-out connections, you will also need:

- SUNWbnur Networking UUCP Utilities (Root)
- SUNWbnuu Networking UUCP Utilities (Usr)

To check to see if the packages are installed correctly, use the pkgchk command:

- pkgchk SUNWpppk SUNWapppu SUNWapppr
- ERROR: /etc/asppp/cf
- group name <sys> expected <other> actual
- file size <360> expected <689> actual
- file cksum <27915> expected <57161> actual

The message above says that the file /etc/asppp.cf has changed since it was installed on the system. This is correct since the default asppp.cf file is empty and is always modified when configuring PPP.

NOTE: Some device files might not be properly created when the PPP packages are installed after the initial system installation (bugid 1162353). This is indicated by missing /dev/ipd, /dev/ipdptp, and /dev/ipdpcm files. This bug can be avoided if the PPP packages are installed in the following order: SUNWpppk, SUNWapppr, SUNWapppu.

After you have installed all of the correct packages, reboot with the -r flag:
reboot -- -r

Or boot with
ok boot -r

Setting up a dial-out PPP client machine.

This example shows a home machine or a remote machine whose only interface is the PPP link. If you normally use this machine on a network and you are now remotely using it, you may need

to modify the /etc/defaultrouter and the /etc/resolv.conf files. You will need to modify these files to reflect the domain name you will be using while you are connecting using PPP. To modify these files you will need to know two static or one static and one dummy IP addresses for the PPP link as well as the IP address of a DNS server to point to.

Note: PPP does not support dynamic IP address assignments in 2.3 or 2.4. If your service provider doesn't give you a static IP address you will need to install Solaris 2.5 which supports dynamically assigned IP addresses.

Your provider will normally give you these things:

- your IP address (for this example we'll use *200.100.10.50*)
- a gateway IP address (for this example we'll use *200.100.10.254*)
- a DNS server IP address (for this example we'll use *200.100.10.1*)
- a domain name (for this example we'll use *tadpole.com*) (Example uses of the above IP addresses will be *italicized*.) (Spacing is represented as ^ when needed for clarity.)

You should do the following steps to set your PPP client up correctly:

1. Install the system as a networked system. For naming service, chose OTHER. Do not choose NIS+ or NIS.

2. Remove the hostname.le0 to prevent the le0 interface from being configured and brought up when the system is booted. The primary interface will be the PPP interface and it will be configured when S47asppp is executed. Make sure the hostname in /etc/nodename is correct and corresponds to the IP address of the PPP link.
Assumption: The local ethernet interface is not used because this example assumes just one machine.

3. Check to see if the file asppp.cf exists. If not create /etc/asppp.cf. If it does then simply modify it to look similar to the following.

ifconfig ipdptp0	plumb	200.100.10.50 200.100.10.254	up
	path		
		interface ipdptp0	# interface to be used
		inactivity_timeout 300	# drop idle link after 5 minutes
		peer_system_name myprovider	# matches "myprovider" in
			# /etc/uucp/Systems
		ipcp_async_map 0	# more efficient
	#	negotiate_address on	# uncomment for dynamic IP assignments
	default_route		# turns on routing through the dial up server
			# see the note on item 12 for more info
	#	debug_level 5	# uncomment for chat script debugging
	#	debug_level 9	# uncomment for ppp negotiation debugging

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The ***myprovider*** label can be anything you want. It is used to connect the asppp.cf file to a specific login script that you have setup in the Systems file. If you plan on connecting to multiple locations, using PPP, there can be more than one entry in the Systems file.

4. Move the file /etc/defaultrouter to /etc/defaultrouter.network
NOTE: This file may already be setup if you use this machine directly connected to a network through the ethernet port. This step will preserve this file so you can get your local network back up and running when you finish using your PPP connection.

5. Create /etc/resolv.conf:
domain *tadpole.com* nameserver *200.100.10.1*
NOTE: This file may already be setup for your network if you use this machine dirrectly connected to the network. You should preserve this file so you can get your local network back up and running when you finish using your PPP connection. For example copy /etc/resolv.conf to /etc/resolv.conf.network

6. Set up nsswitch.conf so the system looks at dns:
If you already have a nsswitch.conf file you can just check to see that the **hosts:files dns** line is already in there rather than copying it and then adding it.
cp /etc/nsswitch.files /etc/nsswitch.conf
vi /etc/nsswitch.conf
and add "dns" to the hosts line of the nsswitch.conf, so that it looks like this:
hosts: files dns

7. Set up the modem port as a dial-out modem or as a bidirectional modem using admintool's serial port manager.

8. Create an entry in the /etc/uucp/Systems for '***myprovider***' or the name you choose to match the location you are setting up. This name matches the peer_system_name line in the asppp.cf file.
cd /etc/uucp
grep ***myprovider*** Systems

If there is no line in the Systems file for ***myprovider*** or if it is different than the following line then it will need to be modified. This will also need to be modified to the specifics of the machine that you are dialing into.

myprovider Any ACU 9600 9,2192217^""^\r^login:^pc1\r^word:^ppp\r

9. Create an entry in the /etc/uucp/Devices file that matches the third entry (ACU) in the line used in the /etc/uucp/Systems file.
cd /etc/uucp
grep ACU Devices
If there is no line in the Devices file for ACU or if it is different than the following line it will need to be modified.
ACUcua/c - 9600 spkbook3

10. Create an entry in the /etc/uucp/Dialers file that matches the last entry in the line used in the /etc/uucp/Devices file.
cd /etc/uucp
grep spkbook3 Dialers

If there is no line in the Dialers file for spkbook3 or if it is different than the following line it will need to be modified. **Note:** Due to the editor used this is one line, not 3 as shown.
spkbook3^=,-,^""^P_ZERO^""^ \M\dA\pTZ\r\c^OK
\r^ATE1V1X1Q0&C1&D3&R0&S1S2=
255S12=255\r\c^OK\r^\EATDT\T\r\c^CONNECT^\m
NOTE: The above line is broken into several lines for this document. This should be all on one line.

11. At this point, reboot the system. The connection to the remote system should be made on startup. If it isn't for some reason, a ping to the far side of the PPP link (200.100.10.254) should start bringing up the link. Note: it is OK if the ping fails.

12. NOTE ABOUT default_route in the asppp.cf file:
With this in the asppp.cf file, when the link comes up, a default route is added through the far side of the PPP link. The link will function normally and remain up until the inactivity_timeout expires, and when it comes down, the default route will be removed.

NOTE:This will run in.routed in quiet mode. It assumes that the file "/etc/gateways" does not exist and that only the PPP interface exists (besides the loopback interface lo0 of course).
NOTE: To use this for a dynamic PPP connection, uncomment out the line negotiate_address on in the /etc/asppp.cf file.