

BRECIS uClinux 2.5 Beta 2

MSP2xxx Software Overview

Linux System (Note: items in blue are changes from Release 2.0)

- kernel 2.4.20 w/ fork system call
- uC-libc 0.9.15+
- Kernel Loadable Modules
- Ethernet and UART-Console drivers
- BRECIS Security Engine drivers (supports new 2xxx architecture)
- PCI (Intel Ethernet Pro 100+ driver, Intersil Indigo GT 802.11g drivers)
- Flash File System (jffs2)
- NFS (portmap v. 1.7)
- USB 1.1 (NEC D720100AGM, Agere USS-344 PCI host chips)
- pthread support
- EJTAG source debugger (EPI MAJIC)
- userland configuration tools
- Configurable scratchpad support for applicable devices

Shells

- sash 1.1.1.1
- sh
- bash 2.05a, 2.05b
- busybox

Networking Packages

- Netfilters (iptables v. 1.2.6)
 - NAT (SNAT, SPNAT, DNAT, MASQUERADING)
 - Application Layer Gateway support for FTP, SNMP, ICQ
- Stateful Packet Inspection
- bridge-utils v. 0.9.5
- DHCP client daemon (dhcpcd v. 1.3)
- udhcp client and server v. 0.9.6
- DNS client
- FTP client and server
- FreeS/WAN v1.99, ALG 0.8.0
- gnuttpd
- HTTP servers (httpd, thppd 2.20c)
- ipfwadm v 2.3 (firewall)
- l2tpd-0.67
- lproute2 (qos)
- net-snmp 5.0.1
- NET-TOOLS v. 1.52
- NTP client (ntpc client 345)
- openSSH 3.5p1
- openSSL 0.96e
- pppd v. 2.4.1 (also pppd v. 2.2)
- RP-PPPoE client 3.5
- TELNET client and server
- TFTP client and server
- Vlan (802.1Q)
- Zebra (advanced routing) 0.93b

Other Packages

bc-1.06 fileutils-4.1 sh-utils-2.0 strace-4.4 textutils-2.0 vtun-2.5

APIs

- DMA Block Copy
- Security (AES & ESP in supported architectures):
 - AES •DES/3DES •MD5 •SHA-1 •ESP •HMAC

Memory Footprint

- Configurations start at 2 MB Flash and 8 MB SDRAM

GNU-based Cross-Platform Tool Chain (PC host - MIPS target)

- gcc 3.2 (including c++), gas 2.13.1, binutils 2.13.1, gdb 5.3
- Cross-Compiler for PCs running RedHat Linux 9.0, 8.0, 7.3, 7.2 or 7.1

PMON 6.10 & BBLOAD 1.2

- Monitor and boot loaders providing debugging, downloading and scripting capabilities ([new manufacturability features](#))

BRECIS uClinux executables include

[Dmesg	Insmod	mtd_debug	stty
agetty	du	insmod_ksymoops_clean	mv	sync
arp	dumpleases	lpfwadm	netstat	tail
awk	echo	lptables	newbusybox	tee
basename	egrep	iptables-restore	ntpclient	telnet
bash	erase	iptables-save	ping	telnetd
bidi	eraseall	kallsyms	portmap	test
brctl	expand	kernelversion	pppd	tftp
brctld	expr	kill	pppoe	tftpd
busybox	false	ksyms	printenv	thttpd
cat	find	L	ps	tip
catchup	free	ln	pwd	touch
checkfs	ftp	login	reboot	true
chgrp	ftpd	logname	rm	udhcp
chmod	genksyms	logger	rmdir	udhcpd
chown	grep	ls	rmmod	umount
clear	gunzip	lsmod	route	uname
cmp	gzip	mawk	sash	vconfig
cp	head	mkdir	sed	vi
date	hostname	mkfifo	sh	wc
dd	httpd	mknod	shutdown	which
depmod	ifattach	modinfo	sleep	whoami
df	ifconfig	modprobe	sort	yes
dhcpcd	inetd	more	ssh	zcat
dirname	init	mount	sshd	zic