



## Gcom Protocol Appliance 2G Release Notes

### Version Matrix

Release	Release Date	Contents		
		Gcom SPS	Gcom Management Console	GPA 2G
V3_0	9/3/2009	<a href="#">2.5p1.8</a>	1.34.3	V3_0.12
V2_0	11/14/2008	2.4p1.25	1.33.15	V2_0
V1_5	12/15/2006	2.3p1.27	1.32.14	V1_5
V1_4	10/19/2006	2.3p1.25	1.32.4	V1_4
V1_3	9/26/2006	2.3p1.20	1.31.2	V1_3

### Gcom Setup Menu

GPA 2G Version	Notes
V3_0.14	<ul style="list-style-type: none"> <li>Improve network config at installation time.</li> <li>Default IP address is 192.168.100.1.</li> </ul>
V3_0.13	<ul style="list-style-type: none"> <li>Using Linux kernel version 2.6.31.</li> </ul>
V3_0.12	<ul style="list-style-type: none"> <li>Menu item to install software update from a pen drive.</li> </ul>
V3_0.11	<ul style="list-style-type: none"> <li>Setting gateway address left a lock file on disk.</li> <li>Setting gateway address tried to change mac address (w/error).</li> </ul>
V3_0.10	<ul style="list-style-type: none"> <li>Fix get_mac script to use /sbin/ifconfig for GMC2 use.</li> <li>Update trademarks in license.</li> <li>Add scripts for 'l' and 'lsd' to package.</li> <li>Better detection for missing packages at install time.</li> </ul>
V3_0.9 First release	<ul style="list-style-type: none"> <li>Complete rework of the Console Setup Menu.</li> <li>Networking configuration enhanced. Saving and restoring to hard drive and pen drive supported.</li> <li>Firewall configuration enhanced.</li> <li>Menu items for installing, saving and restoring software packages. Packages can be installed from a variety of locations including pen drive and FTP download directory.</li> <li>Complete archive of installed packages. Can revert to previous packages by reinstalling from the archive.</li> <li>All pen drive operations initiated from the Console Setup Menu.</li> <li>FTP submenu for uploading and downloading files (packages).</li> <li>Console Setup Menu items for managing Gcom_dump files.</li> </ul>
V2_0	<ul style="list-style-type: none"> <li>The Console Setup Menu has been reorganized</li> <li>The "Personality Module" (compact flash) is no longer used in V2_0. System settings are stored on the local hard drive.</li> <li>The system time can now be set via the Console Setup Menu. The time zone is restricted to GMT only.</li> <li>Added the ability to perform software updated via the Console Setup Menu.</li> <li>Added the ability to create a restore pen drive via the Console Setup Menu.</li> <li>A new user account was created to allow the Console Setup Menu to run automatically when logging in. When logging in with the user "user" and password "gcom.com", the system will automatically load the Console Setup Menu. When exiting the Console Setup Menu, it</li> </ul>

	will automatically log out the user.
V1_5	<ul style="list-style-type: none"> <li>• Improved to support Compact Flash devices of varying geometry.</li> <li>• Improved to enable/disable SNMPTRAP port when enabling/disabling SNMP port.</li> </ul>

### Gcom SPS 2.3

Category	Patch Level	Notes
Linux		<ul style="list-style-type: none"> <li>• Fixed installation problems with SuSE 9.3 and Fedora Core 4.</li> <li>• Fixed installation problems with Linux 2.6.11 kernel and Ubuntu 2.6 kernel.</li> </ul>
LiS	P1.59	LiS will single thread poll inquiries to eliminate any races.
	P1.54	LiS-2.19.11 has better protection for simultaneous opens/closes.
	P1.51	LiS 2.19.10 puts its script to make /dev nodes in the proper rc directories for run levels 2, 3, 4 and 5. This fixes a problem where rebooting to run level 5 would not create the /dev nodes.
	P1.31	Fixed issue with cleaning up leaked message buffers
	P1.27	<ul style="list-style-type: none"> <li>• Added full GPL license.</li> <li>• Added lis_getpid abstraction.</li> <li>• Fixed prototype for lis_thread_start.</li> </ul>
	P1.26	Eliminated use of Linux kernel down_trylock
SyncSockets®	P1.59	<ul style="list-style-type: none"> <li>• Rework probe interface in SSD.</li> <li>• Add Gcom_ss utility.</li> <li>• Change SSD SNA to handle UNBIND properly.</li> <li>• Prevent starvation in SSD connection manager poll list. This was causing long delays in SSD connection setup involving thousands of connections.</li> <li>• Create Gcom_ssdump script.</li> <li>• Tweak SSD SNMP access as a result of probe rework.</li> <li>• Improved SS API listener thread to improve handling of signals.</li> <li>• Fix epoll abstraction to use same bits as Linux does. This was causing long delays in SSD connection setup some times.</li> </ul>
	P1.58	<ul style="list-style-type: none"> <li>• Fixed bug where worker thread was not checking for POLLERR.</li> <li>• Fixed issue with EAGAIN return on SyncSocket TCP connections.</li> <li>• Added call to enforce SSAPI log file size to SSD.</li> <li>• Added ss_keep_alive to SSAPI (keep alive is on by default).</li> </ul>
	P1.57	<ul style="list-style-type: none"> <li>• Fixed bug in Gcom_ssd that allowed integer index to wrap around to negative values.</li> <li>• Changed SSD default x.25 config files to suppress charging parameters in clearing packets.</li> <li>• Added x.29 emulation mode.</li> </ul>
	P1.54	Fix connection setup/teardown races in Gcom_ssd.

P1.50	Gcom_ssd now detects keepalive failures properly.
P1.48	Added raw frame SS_SOP_LINE_ERROR message
P1.46	<ul style="list-style-type: none"> <li>• SS_OP_DATA option SS_OPT_RAW_WRITE_READ to cause half duplex write of data for raw frame connections.</li> </ul>
P1.44	<ul style="list-style-type: none"> <li>• Gcom_ssd now has guard words to check memory usage.</li> <li>• Added two new debug bits related to memory allocation debugging.</li> </ul>
P1.40	Added Gcom_ssd restore TCP keep alive feature and parameter.
P1.39	<ul style="list-style-type: none"> <li>• Gcom_ssd deimplement debug bit for mutexes.</li> <li>• Implemented Gcom_ssd check rtn value of epoll calls for error.</li> <li>• Work around a bug in Linux pre 2.6.9 epoll.</li> </ul>
P1.34	<ul style="list-style-type: none"> <li>• Added Gcom_ssd debug option (0x1000) to print code path in real time.</li> <li>• Gcom_ssd synopsis now prints both connection names at disconnect.</li> <li>• Gcom_ssd now includes configured facilities in call packets.</li> </ul>
P1.31	<ul style="list-style-type: none"> <li>• Added Gcom_ssd dump parameters: <ul style="list-style-type: none"> <li>• gcom_dump_freq</li> <li>• gcom_dump_dir</li> </ul> </li> <li>• SSOP_SOP_GCOM_DUMP data has message for first line of dump.</li> <li>• Fix x.25 disconnecting "orphan" connections not hooked to SSAPI user.</li> </ul>
P1.27	<ul style="list-style-type: none"> <li>• Added ability to set size of per connection code path buffer.</li> <li>• Fixed Gcom_ssd problem with stripping WRITE and WCC codes from 3270 messages.</li> </ul>
P1.26	<ul style="list-style-type: none"> <li>• Improved SNMP access to Gcom_ssd.</li> <li>• Changed instrumentation for Gcom_ssd.</li> <li>• Improved protection for connect/teardown races in Gcom_ssd.</li> <li>• Eliminated use of strtok in Gcom_ssd to solve SNA connection restart problems.</li> <li>• Changed modem definition signals in SyncSockets header opt field.</li> <li>• Fixed Gcom_ssd to close stdin, stderr, and stdout in forked child process.</li> <li>• Added ASCII to EBCDIC translation parameters for Bisync and X.25.</li> </ul>
P1.24	Improved to force Gcom_ssd to produce a core file upon exit.
P1.22	<ul style="list-style-type: none"> <li>• Fixed Gcom_ssd to properly handle data following an SS_OP_CONN_CONF command.</li> <li>• Changed Gcom_ssd to ignore SIGABRT and SIGQUIT.</li> <li>• Improved logs to display all printable characters in messages.</li> </ul>
P1.20	Fixed Gcom_ssd to properly attach to Linux OS epoll().
P1.19	<ul style="list-style-type: none"> <li>• Improved Gcom_ssd to combine received X.25 packets that have the M bit set.</li> <li>• Added ability to delete bytes from a message received from the link layer connection or physical line.</li> <li>• Added ability to prepend bytes to a message sent to the link layer connection or physical line.</li> <li>• Fixed SNMP access to code path entries.</li> </ul>
P1.18	Fixed link layer unnumbered connections so they complete.
P1.9	<ul style="list-style-type: none"> <li>• Added 3270 Atalla emulation.</li> <li>• Added support for Uniscope.</li> </ul>

		<ul style="list-style-type: none"> <li>• Improved SS_SOP_CONNECTION_INFO command.</li> <li>• Improved log file handling, naming, sizing, and defaults.</li> <li>• Improved connection tear-down.</li> <li>• Implemented timing histograms to print to a log file at termination.</li> <li>• Implemented probe command to enable interactive printing.</li> <li>• Increased configurability to 32,768 connections.</li> <li>• Enabled setting of maximum file descriptors from the number of connections in the configuration file.</li> <li>• Improved encryption capability.</li> <li>• Implemented encryption on TCP connections.</li> <li>• Added dial/modem signal parameters to raw frame connections.</li> <li>• Fixed problem with Gcom_ssd including facilities in X.25 clear requests.</li> <li>• Improved SyncSockets tutorial.</li> </ul>
Data Tunneling API and PCD	P1.59	Fix problem with PCD listener specification.
	P1.58	Added dt_keep_alive to DTAPI (keep alive is on by default)
	P1.49	Gcom_pcd now performs SSD side disc/conf sequence when a DT side HUP/ERR/NVAL event occurs while the connection is in the data transfer state.
	P1.27	Moved Data Tunneling API from deployment CVS repository to SPS package.
Gcom APIs	P1.23	Fixed a deadlock when using NPI API logs.
		<ul style="list-style-type: none"> <li>• Improved log file handling.</li> <li>• Improved abort handling.</li> </ul>
Gcom device drivers	P1.59	<ul style="list-style-type: none"> <li>• Rework flushing in DLPI User STREAMS driver. Causing SABME to get lost in LAPD/UDP. Also add debug bit for flushing.</li> <li>• Flush debugging in DLTLI driver (used with LAPD/UDP).</li> <li>• DLPI driver time stamp state history entries. Gcom_dlp -u prints.</li> </ul>
	P1.56	Fix bug in dlp aborting streams.
	P1.47	Added ALC il_optns 0x40 to force driver to invert idle bits as well as data bits. Must be used in conjunction with 0x10 to be effective.
	P1.46	Fix CDI provider state machine to work properly in half duplex mode.
	P1.45	ALC now supports full duplex
	P1.43	<ul style="list-style-type: none"> <li>• Fixed ALC to prevent races in transmitting messages.</li> <li>• Fixed ALC bug in receiving bit sync FSM.</li> <li>• Added ALC inter-frame delay via ix25_ifd parameter.</li> <li>• Improved ALC trace table information.</li> </ul>
	P1.42	<ul style="list-style-type: none"> <li>• Fixed ALC check for idle line character at start of message.</li> </ul>
	P1.41	<ul style="list-style-type: none"> <li>• Improved ALC parsing of received continuation messages.</li> <li>• Fixed ALC idle line transmit mode.</li> </ul>
	P1.38	Improved ALC checking for idle line characters.
	P1.37	ALC now allows anything as TA.
	P1.36	ALC improved checking for idle line characters.
	P1.35	Fixed ALC bug, which prevented it from syncing.
	P1.34	Fix ALC CRC handling.
	P1.33	NPI can now handle up to 4 facility markers.

	P1.32	Relax NPI delivery confirmation rules to correspond with x.25 D-bit .
	P1.28	Fix race condition in NPI when a burst of calls arrive .
	P1.27	<ul style="list-style-type: none"> <li>Improved DLPI driver to capture PID of opening process and print it in Gcom_ivp.</li> <li>Improved to allow X.25 calling address of "*" (discarded).</li> <li>Added Bisync randomize T1 timer.</li> </ul>
	P1.26	<ul style="list-style-type: none"> <li>Added ring indicator sensing to synchronous serial adapter driver.</li> <li>Improved ALC driver.</li> <li>Improved DLPI driver to ensure no excess queuing in high-throughput situations.</li> <li>Improved instrumentation for RSYS® driver.</li> </ul>
	P1.19	Fixed state sequencing problems in DLPI driver used with link layer protocols.
	P1.12	Added 6-bit sync support.
	P1.9	<ul style="list-style-type: none"> <li>Added support for Uniscope to synchronous serial adapter driver.</li> <li>Fixed tear-down race in DLPI.</li> </ul>
	P1.4	Added code to token mux to do TEST exchange in Ethernet mode.
		<ul style="list-style-type: none"> <li>Improved compatibility with Linux.</li> <li>Fixed problem with driver clean-up code when shutting down Bisync and starting up SDLC.</li> <li>Enabled usage of UPA for line assignment when possible.</li> </ul>
Gcom utilities	P1.59	Add netstat, iptables and route info to Gcom_dump.
	P1.48	Added Gcom_pcd and Gcom_trafdir to package.
	P1.31	Gcom_dump -r<string> gives dump reason, goes at head of dump output.
	P1.26	<ul style="list-style-type: none"> <li>Gcom_dump: Added ability to run as non-root.</li> <li>Gcom_monitor: Fixed to close stdin, stderr, and stdout in forked child process.</li> <li>Gcom_ssdmux: Fixed to close stdin, stderr, and stdout in forked child process.</li> </ul>
	P1.16 & 1.15	Gcom_xray: Improved.
	P1.10	Gcom_config: Fixed problem configuring raw mode stacks.
	P1.9	Gcom_ivp: Added more Bisync mnemonics.
		<ul style="list-style-type: none"> <li>Improved key generation for Linux systems.</li> <li>Gcom_monitor: Eliminated lost buffer message upon shutdown.</li> </ul>
Gcom Management Console	P1.52	Updated version to 1.32.32
	P1.50	Updated version to 1.32.29
	P1.48	Updated version to 1.32.27
	P1.34	Updated version to 1.32.22
	P1.31	Updated version to 1.32.19
	P1.30	Updated version to 1.32.18.
	P1.29	Updated version to 1.32.16.
SNA		<ul style="list-style-type: none"> <li>Improved implementation of SNA over LLC over Ethernet.</li> <li>Added configuration options for SNA over LLC over Ethernet.</li> </ul>
LU 6.2		Fully implemented XID negotiation of primary/secondary.

LAPB/LAPD		<ul style="list-style-type: none"> <li>• Improved to speed up entry into information transfer state.</li> <li>• Improved handling of automatic role switching to/from DTE/DCE.</li> <li>• Improve setup time.</li> </ul>
x.25	P1.36	Fix x.25 problem receiving Clr Req on active PVC and responding to it.
	P1.34	<ul style="list-style-type: none"> <li>• x.25 now prints message telling why it does not like call/clr packet.</li> <li>• x.25 debug option (0x1000) to trace facility processing.</li> </ul>
T1/E1	P1.31	<ul style="list-style-type: none"> <li>• Fix problem of x.25/T1 sending wrong size packets.</li> <li>• Changed Gcom_decode_eeprom to print license key in "pretty" form. To get key, enter: Gcom_wanpmc -S1   grep ':'   Gcom_decode_eeprom</li> </ul>
XOT	P1.59	Add Gcom_xotd, Gcom_xotdump and Gcom_xot to package.

## Gcom SPS 2.4

Category	Patch Level	Notes
Linux		
LiS	P1.31	Fix problem with frozen streams.
	P1.27	LiS IRQ attach flags made portable. Fixes misunderstanding involving shared IRQs.
	P1.22	LiS will now install with a completely cleaned kernel.
	P1.21	<ul style="list-style-type: none"> <li>• LiS is now compatible with 2.2.24 and 2.2.26 kernels</li> <li>• Fixed a bug in LiS that manifested itself only in multi-CPU systems running 2.6 Linux kernels. This bug would cause a race condition that occasionally would result in LiS failing to wake up any of its queue runner threads when there were queues that needed to be run.</li> </ul>
	P1.1	LiS will single thread poll inquiries to eliminate any races.
SyncSockets®	P1.32	Fix problem with SNMP that would sometimes cause fault at Gcom_ssd exit.
	P1.31	<ul style="list-style-type: none"> <li>• Fix Gcom_ssd problem that could lead to stuck connections.</li> <li>• Fix Gcom_ssd problem with NPI disc req too long.</li> </ul>
	P1.22	Implement Gcom_ss -t parameter. This enables a trace table for SyncSockets connections inside Gcom_ssd.
	P1.18	<ul style="list-style-type: none"> <li>• Gcom_ssd SNA fixed mixup of data_ack_options and sense_code_options.</li> <li>• Gcom_ssd SNA added respond_with_null_ru parameter.</li> <li>• Gcom_ssd SNA 'uno' parameter set to 2 to leave pacing params alone.</li> <li>• Gcom_ssd SNA fixed problem in flow control to avoid being out of transmit buffers.</li> <li>• Gcom_ssd SNA get null RU working for rev-only hdx flip-flop data streams.</li> <li>• Gcom_ssd SNA added suppress_null_ru parameter.</li> <li>• Gcom_ssd SNA always print decoded bind to log file.</li> </ul>
	P1.16	Added SSD packetizing for Bisync type connections. Functions in the same manner as x.25.
	P1.14	<ul style="list-style-type: none"> <li>• Better diagnostics in SS API when receiving a mal-formed message</li> <li>• Added SSD debug but for packetizing.</li> <li>• Added output_packet_size parameter to SSD X.25 connections. Causes NPI driver to packetize on arbitrary packet boundaries instead of power of 2. Useful for AX.25 240 byte packets.</li> <li>• Fixed XOT log format to make it the same format as other logs.</li> </ul>
	P1.13	<ul style="list-style-type: none"> <li>• Fixed poll event handling bug in SSD SNA code that could leave a connection stuck with no activity.</li> <li>• Change time stamps on all log files to show year/mo/day/time.</li> <li>• Change time stamps on all "-t" output to show year/mo/day/time.</li> </ul>

	P1.9	<ul style="list-style-type: none"> <li>• Gcom_ss -W option to print worker poll list.</li> <li>• Gcom_ssd checks for TCP accept errors.</li> <li>• Gcom_ssd retry ss_recv on partial message.</li> <li>• Gcom_ssd better logging of disconnect reason.</li> <li>• Gcom_ssd fix problem with partnering with SNA connections.</li> <li>• Gcom_ssd ensure message count statistics are correct.</li> <li>• Gcom_ssd fix races in SNA code.</li> <li>• Gcom_ssd fix Ascii to Ebcidic translation.</li> <li>• Gcom_ssd proper handling of pending incoming X.25 calls.</li> <li>• Gcom_ssd disallow logging to stderr.</li> <li>• Gcom_ssd fix uninitialized mem problems.</li> <li>• SS API will now inform user if accept fails.</li> <li>• Fixed SS tutorial to run fid in non-blocking mode w/ss_recv retries.</li> </ul>
	P1.8	<ul style="list-style-type: none"> <li>• Fix Gcom_ssd problem with DLPI API log files.</li> <li>• Fix Gcom_ssd SNA problem with EBCDIC to ASCII translate tables.</li> <li>• Added compression to SS API. ss_use_compression() function.</li> <li>• SS API set TCP_NODELAY to always defeat Nagle algorithm.</li> <li>• SS API make log file header match Gcom_ssd format.</li> <li>• Add enable_compression param to all Gcom_ssd connection params.</li> </ul>
	P1.6	<ul style="list-style-type: none"> <li>• Fix Gcom_ssd bug in default connection type processing.</li> <li>• Added Gcom_ss -Uw to ensure non-blank entry in operation column.</li> <li>• Add TTY support for Gcom_ssd as back end connection types</li> </ul>
	P1.4	<ul style="list-style-type: none"> <li>• Add socket type connections as "legacy" types for Gcom_ssd. This implementation only has basic functionality.</li> <li>• Add PortId column in Gcom_ss -Uw output.</li> </ul>
	P1.2	<ul style="list-style-type: none"> <li>• Eliminated UNIX domain sockets from SSD and test programs</li> <li>• Modified SSAPI to compile for QNX</li> </ul>
	P1.1	<ul style="list-style-type: none"> <li>• Prevent starvation in SSD connection manager poll list. This was causing long delays in SSD connection setup involving thousands of connections.</li> <li>• Rework probe interface in SSD.</li> <li>• Add Gcom_ss utility.</li> <li>• Create Gcom_ssdump script.</li> <li>• Tweak SSD SNMP access as a result of probe rework.</li> <li>• Change SSD SNA to handle UNBIND properly.</li> <li>• Improved SS API listener thread to improve handling of signals</li> </ul>
Data Tunneling API and PCD	P1.18	<ul style="list-style-type: none"> <li>• Fixed length calculation in 2bytelen header.</li> <li>• Added more detail in printing errors in dt_recv.</li> <li>• Added more detail to gcom_pcd pollerr events</li> </ul>
	P1.17	<ul style="list-style-type: none"> <li>• Added PCD -R parameter to set reconnect timer interval for listening SyncSocket connections.</li> <li>• PCD log file entries now have the same header prefix as all others.</li> <li>• PCD fixed to allow reverse brackets.</li> </ul>
	P1.13	<ul style="list-style-type: none"> <li>• Change time stamps on all log files to show year/mo/day/time.</li> <li>• Change time stamps on all "-t" output to show year/mo/day/time.</li> </ul>
	P1.9	<ul style="list-style-type: none"> <li>• Fixed DTAPI Bancnet header processing.</li> <li>• Change debug bits to hex in DTAPI and SSAPI for easier reading.</li> </ul>

	P1.7	<ul style="list-style-type: none"> <li>DTAPI modified to disable Nagle algorithm on sockets.</li> <li>Added support for use of ISO8583 to DTAPI.</li> <li>Added 2003 spec encoder/decoder to ISO8583 library.</li> <li>Fixed several issues with the 1993 spec encoder/decoder portion of ISO8583.</li> </ul>
	P1.6	<ul style="list-style-type: none"> <li>Added ISO8583 encapsulation to DTAPI</li> <li>Added of DTAPI ISO8583 encapsulation to PCD</li> </ul>
	P1.3	Fixed a memory leak in the DTAPI related to sending packets.
Gcom APIs	P1.14	Add np_i_set_opktsz function to NPI API. Sets output pkt size.
	P1.13	<ul style="list-style-type: none"> <li>Change time stamps on all log files to show year/mo/day/time.</li> <li>Change time stamps on all "-t" output to show year/mo/day/time.</li> </ul>
	P1.8	DLPI API, NPI API regularize use of file descr printing in logs.
Gcom device drivers	P1.27	Fix problem of attaching to shared IRQs in 2.6 Linux kernels.
	P1.18	DIGI driver include byte count in Rx-Fin trace entries in async.
	P1.17	Fix Uniscope Bisync problem of disabling receiver upon CRC error.
	P1.15	<ul style="list-style-type: none"> <li>Digi driver modified to support 2.6.18 kernel.</li> <li>Suppress unneeded messages from Rsys driver at stack startup.</li> <li>Fix driver crash when attempting to start Digi driver stack with no Digi driver present (no board system).</li> </ul>
	P1.14	<ul style="list-style-type: none"> <li>Fix transmit underrun problem in ALC at start of message transmission.</li> <li>Improve half-duplex operation in ALC mode.</li> </ul>
	P1.13	<ul style="list-style-type: none"> <li>Change time stamps on all log files to show year/mo/day/time.</li> <li>Change time stamps on all "-t" output to show year/mo/day/time.</li> </ul>
	P1.10	Add DIGI PAL based license keys for Bisync only and Link Layer only.
	P1.9	<ul style="list-style-type: none"> <li>NPI now prints message when rejecting a call.</li> <li>Fix NPI bug leaving structure allocated when aborting.</li> <li>NPI state sequencing: data downstream after disc-ind upstream is OK</li> <li>Gcom_npi -L add PU ID to output.</li> </ul>
	P1.8	<ul style="list-style-type: none"> <li>ALC driver make more efficient use of bisync trace buffer.</li> <li>ALC driver log error message for garbled messages.</li> <li>CDI API improve debugging output via log bits.</li> </ul>
	P1.4	<ul style="list-style-type: none"> <li>Gcom_npi -l print out packet throughput class in hex, not decimal.</li> <li>Fix underrun and overrun handling problems in ALC driver. Was causing system hang.</li> <li>Add additional stats to Gcom_ivp driver-counters.</li> </ul>
	P1.2	Implemented cd_event_mask, dl_event_mask and np_event_mask.
	P1.1	<ul style="list-style-type: none"> <li>Rework flushing in DLPI User STREAMS driver. Causing SABME to get lost in LAPD/UDP. Also add debug bit for flushing.</li> <li>Flush debugging in DLTLI driver (used with LAPD/UDP).</li> <li>DLPI driver time stamp state history entries. Gcom_dlpi -u prints.</li> </ul>
	P1.36	separate scripts for log file and net stats dumping for Gcom_dump

Gcom utilities	P1.21	om_dump now includes /etc/default/gpa2g and /etc/hosts
	P1.12	<ul style="list-style-type: none"> <li>• Added test.xc and test.btob scripts to ssd text directory.</li> <li>• Created testall in /usr/lib/gcom/ssd.</li> </ul>
	P1.9	Fix Bsc test start scripts for 3780
	P1.6	Added Gcom_mcd multicast daemon to linux packages.
	P1.1	<ul style="list-style-type: none"> <li>• Add Gcom_ss utility.</li> <li>• Fix Gcom_monitor circular log file maintenance.</li> </ul>
Gcom Management Console	P1.35	<ul style="list-style-type: none"> <li>• Create userfiles directory if needed.</li> <li>• Create admin directory if needed.</li> </ul>
	P1.25	Fixed issues with GMC not starting stacks upon system reboot
	P1.16	Added additional packetizing parameters for SSD Bisync connections.
	P1.14	Changed /usr/bin/kill references to /bin/kill
	P1.3	Updated version to 1.33.9.
SNA	P1.18	<ul style="list-style-type: none"> <li>• SNA API handles zero length RU properly.</li> <li>• SNA API takes primary/secondary into account in bind processing.</li> <li>• Improved debugging messages.</li> <li>• Initial hdx ff state now takes primary mode into account.</li> <li>• Print message when send negative response.</li> <li>• Fixed bug evaluating b_prim_send_pacing 0x80 bit.</li> <li>• SNA lu0 honors half duplex mode in bind byte 7.</li> <li>• Prints error on bind reject.</li> <li>• Fixed zero length RU size in bind for LU type 0.</li> </ul>
	P1.14	<ul style="list-style-type: none"> <li>• Fix buffer leak in SNA kernel code.</li> <li>• SNA API calls disconnect call back function upon error; it no longer tries to close and re-open the file descriptor</li> <li>• Performance improvements.</li> <li>• Improved buffer tracking and memory allocation tracking in SNA kernel code.</li> <li>• Add sna_set_non_blocking function to SNA API. This allows SNA API to put the file in non-blocking mode and leave it there.</li> </ul>
	P1.9	Tighter consistency checking in SNA API
LU 6.2	P1.18	Fixed IPR
LAPB/LAPD		
X.25	P1.11	Fixed problem with suppressing flow control facils in x.25
Rsystem	P1.21	<ul style="list-style-type: none"> <li>• Rsystem 'ticks' variable is now 32bit instead of 16bit</li> <li>• Improve instrumentation of wakeup latency</li> </ul>
Traffic Director	P1.33	Implement -x to cross couple POS and Siras connections
	P1.29	<ul style="list-style-type: none"> <li>• Fix crash/loop problem.</li> <li>• Only look at D-bit when M-bit is zero.</li> <li>• Fix Postilion connection setup race.</li> <li>• Separate out DTAPI log file.</li> <li>• Clear POS connection immediately if Siras or Postilion fails.</li> <li>• Improve log messages.</li> </ul>

	P1.24	Fixed trafdir CPU usage related to poll bit handling.
--	-------	---

### Gcom SPS 2.5

Category	Patch Level	Notes
Linux	V3_0.13	Linux kernel version 2.6.31.
	V3_0.11	Custom configuration of kernel results in smaller kernel binary and source package.
	V3_0.9	<ul style="list-style-type: none"> <li>• GPA V3_0 uses Ubuntu 8.04.1.</li> <li>• Gcom added patch to limit memory for disk buffers.</li> <li>• Gcom added patch to fix TCP/poll bug.</li> </ul>
LiS	P1.8	LiS 2.20.8 compatible with Linux kernel version 2.6.31.
	P1.1	LiS add workaround for Linux kernel bug in poll.
SyncSockets®	P1.3	<ul style="list-style-type: none"> <li>• Implement listen mode for raw connections. Initiate connect on modem signals or first input.</li> <li>• Overwrite last-ssd-config file not append to it.</li> </ul>
	P1.1	<ul style="list-style-type: none"> <li>• Gcom_ssd logs connect/disconnect info under synopsis option.</li> <li>• Gcom_ssd prevent call info residue being sent in SS_OP_DISC_REQ.</li> <li>• Gcom_ssd fix accidental zero-length data packet just after connect.</li> </ul>
Protocol Converter Daemon	P1.6	Allow all encapsulation types. Defeat encapsulation config file.
Data Tunneling API and PCD	P1.6	Misc code cleanups.
	P1.1	Fix memory leak in DT API.
Gcom APIs		
Daemon Monitoring	P1.8	<ul style="list-style-type: none"> <li>• Shorten core file name template for older Linux kernels.</li> <li>• Add machine information to daemon monitor email.</li> </ul>
	P1.7	Fix permissions on daemon configuration files.
	P1.6	Make daemon.log file writeable by GMC.
	P1.2	<ul style="list-style-type: none"> <li>• Most daemons set to restart upon crash by default.</li> <li>• Gcom_dump upon daemon crash by default.</li> </ul>
	P1.1	<ul style="list-style-type: none"> <li>• All daemon processes produce a core file upon crash.</li> <li>• All daemon processes save their previous log files at startup.</li> <li>• Gcom_daemon_run script monitors daemons for stop and crash.</li> </ul>
Gcom device drivers	P1.2	ALC get working in full duplex mode.
	P1.8	Do not have Gcom_dump recompute package map -- too slow.

Gcom utilities	P1.3	<ul style="list-style-type: none"> <li>• Gcom_dump decode facilities options.</li> <li>• Gcom_dump print ps w/threads.</li> <li>• Gcom_monitor clean up in proper order when terminated via kill.</li> </ul>
	P1.2	<ul style="list-style-type: none"> <li>• Gcom_sstest add -A option for printable ASCII test data.</li> <li>• Gcom_sstest ensure M-bit not set in test messages.</li> </ul>
	P1.1	<ul style="list-style-type: none"> <li>• More information gathered by Gcom_dump</li> <li>• Change name of Gcom_monitor's log file to monitor.log.</li> </ul>
Gcom Management Console Version 1	1.34.8	<ul style="list-style-type: none"> <li>• Fix problem detecting applications running in GMC.</li> <li>• Ensure startup.log owned by apache.</li> </ul>
	1.34.3	Fix boot time protocol start problem.
Gcom Management Console Version 2	1.6Alpha	GMC and test scripts use Gcom_daemon_kill to kill daemons.
SNA	P1.2	<ul style="list-style-type: none"> <li>• Fix SNA flow control.</li> <li>• Suppress an error message from SNA.</li> </ul>
Bisync	P1.2	<ul style="list-style-type: none"> <li>• Bisync 3270 fix the EOT/Poll problem.</li> <li>• Bisync 3270 fix problem with queues and message counts.</li> </ul>
X.25	P1.1	<ul style="list-style-type: none"> <li>• X.25 improve some error messages in call handling.</li> <li>• X.25 save call, clear, reset and diagnostic pkts in probe table.</li> </ul>
Traffic Director	P1.8	Gcom_trafdir v1.37 has thread limit.
	P1.4	Properly handle error on Postilion open connection.
	P1.3	Fix deadlock when connection to Postilion fails.
	P1.2	Synchronization for Postilion resets.
	P1.1	Misc reliability changes for Gcom_trafdir.