

# DATENBLATT GELIN 18.10 – GINZINGER EMBEDDED LINUX PLATTFORM

Zweite Generation der Ginzinger Embedded Linux Distribution. Basierend auf dem Mainline Linux Kernel 4.14

## 1 HARDWARE-UNTERSTÜTZUNG

- EABI (embedded-application binary interface)
  - NPTL (Native POSIX Thread Library)
  - Compiler Optimierung: O2
  - Linker Optimierung: hash=both, O1
  - Konsole: automatisch (kernel argumente)
- i.MX28:
    - ARMv5TEJ
    - softfloat
  - i.MX53:
    - ARMv7-A
    - hardfloat: vfpv3/neon (FPU Register)
  - i.MX6:
    - ARMv7-A
    - hardfloat: vfpv3/neon-fp16 (FPU Register)
  - i.MX6 UL/ULL
    - ARMv7-VE
    - hardfloat: vfpv4/neon (FPU Register)

## 2 QT CREATOR

- qt-creator-opensource-src-4.6.2
- qt-everywhere-opensource-src-5.11.2

## 3 GINZINGER UPDATE MECHANISMUS

- ge\_update\_V7.5
- Einfache Erzeugung von Update-Images
- Automatische Erkennung der System-Konfiguration (system-type, ...)
- Patch- oder Full-Updates für Patch-Versions-Nummer
- Konfigurierbare Update-Regeln (down-date, re-date, up-date)
- Unterstützung für Update von MMC/SD-Karten
- Unterstützung für neue Kernel-Parameter für rootfs-, data- und flag-partition
- Unterstützung für neue rootfs-Filesysteme: squashfs, ubifs auf ubi
- Unterstützung für neue data-Filesysteme: ubifs
- Unterstützung für Update vom internen Flash (Daten Partition)

## 4 KERNEL SOURCE

- i.MX28 , i.MX53, i.MX6, i.MX6UL/ULL: linux-4.14.61-ge-18.08

## 5 PROJECT TEMPLATES

- EMPTY -- leeres Projekt
- c -- C Makefile-Projekt
- cpp -- C++ Makefile Projekt
- nodejs -- Node.js Projekt <sup>2,3,4</sup>
- qt-core -- Qt5-Core Projekt
- qt-gui -- Qt5-GUI Projekt
- qt-quick -- Qt5-Quick Projekt <sup>3</sup>

## 6 TOOLCHAIN

- GCC 7.3
- GNU C Library 2.27

## 7 SOFTWARE PAKETE FÜR GELIN-PROJEKTE

- busybox
- datafs\_async
- dosfstools
- e2fsprogs
- fonts\_base
- fonts\_dejavu
- fonts\_liberation
- fonts\_X11
- gdbserver
- ge\_update
- gstreamer
- gstreamer\_v4l2
- hotplugd
- libgecan\_tools
- linrpcd2
- matchbox
- mtdutils
- mtdutils\_test
- nodejs <sup>2,3,4</sup>
- qt\_common
- qt\_display\_common
- qt\_display\_eglfskms <sup>3</sup>
- qt\_display\_linuxfb
- qt\_misc
- qt\_plugins\_3d <sup>3</sup>
- qt\_plugins\_bearer
- qt\_plugins\_canbus
- qt\_plugins\_imageformats
- qt\_plugins\_input\_misc
- qt\_plugins\_multimedia
- qt\_plugins\_qmldebug <sup>3,4</sup>
- qt\_plugins\_sensors
- qt\_plugins\_sql
- qt\_qmlmodules\_3d <sup>3</sup>
- qt\_qmlmodules\_bluetooth <sup>3,4</sup>
- qt\_qmlmodules\_canvas3d <sup>3</sup>
- qt\_qmlmodules\_common <sup>3,4</sup>
- qt\_qmlmodules\_graphicaleffects <sup>3</sup>
- qt\_qmlmodules\_multimedia <sup>3</sup>
- qt\_qmlmodules\_qml <sup>3,4</sup>
- qt\_qmlmodules\_qt\_labs <sup>3,4</sup>
- qt\_qmlmodules\_quick2 <sup>3,4</sup>
- qt\_qmlmodules\_sensors <sup>3,4</sup>
- qt\_qmlmodules\_test <sup>3,4</sup>
- qt\_qmlmodules\_webkit <sup>3,4</sup>
- qt\_qmlmodules\_websockets <sup>3,4</sup>
- qt\_quick <sup>3</sup>
- qt\_touchscreen
- rootfs\_base
- splashscreen
- splashscreen\_logo
- ssh\_client
- ssh\_server
- telnet\_server
- tslib
- tslib\_tools
- tslib\_uinput
- ubiutils
- valgrind\_callgrind <sup>2,3,4</sup>
- valgrind\_common <sup>2,3,4</sup>
- valgrind\_full <sup>2,3,4</sup>
- valgrind\_memcheck <sup>2,3,4</sup>
- wlan
- xserver
- zoneinfo

## 7 QUELLEN PAKETE

- acl-2.2.53
- alsa-lib-1.1.6
- alsa-utils-1.1.6
- attr-2.4.48
- aumix-2.9.1
- autoconf-2.69
- automake-1.15.1
- avahi-0.7
- binutils-2.29.1
- bison-3.0.4
- bluez5\_utils-5.50
- boost-1.67.0
- buildroot-2018.08.1-g5a9a1c0
- busybox-1.29.2
- bzip2-1.0.6
- can-utils-v2018.02.0
- c-ares-1.14.0
- cifs-utils-6.8
- cramfs-1a1e65f2a049
- crda-3.18
- dbus-1.12.10
- dbus-glib-0.110
- dbus-triggerd-ba3dbec805cb707c-94c54de21666bf18b79bcc09
- dejavu-2.37
- dhrystone-2
- dosfstools-4.1
- e2fsprogs-1.44.2
- elfutils-0.171
- ethtool-4.16
- evemu-2.7.0
- evtest-1.33
- expat-2.2.5
- faad2-2.8.8
- fbdump-0.4.2
- fbgrab-1.3
- fcgiwrap-99c942c90063c73734e56ba-cao65f947772d9186
- ffmpeg-3.4.4
- fftw-3.3.8
- flac-1.3.2
- flex-2.6.4
- fontconfig-2.12.4
- freetype-2.9
- gawk-4.2.1
- gcc-final-7.3.0
- gcc-initial-7.3.0
- gdb-7.12.1
- genext2fs-1.4.1
- gettext-0.19.8.1
- glibc-glibc-2.27-57-g6c99e37f6fb640a-50a3113b2dbee5d5389843c1e

- glibmm-2.54.1
- glib-networking-2.50.0
- glmark2-9b1070fe9c5cf908f323909d3c-8cbed08022abe8<sup>3</sup>
- gmp-6.1.2
- gnupg-1.4.23
- gnutls-3.5.19
- gperf-3.0.4
- gst1-libav-1.14.2
- gst1-plugins-bad-1.14.2
- gst1-plugins-base-1.14.2
- gst1-plugins-good-1.14.2
- gst1-plugins-ugly-1.14.2
- gstreamer1-1.14.2
- gzip-1.8
- hostapd-2.6
- hotplugd-6319
- htop-2.1.0
- i2c-tools-4.0
- icu-60.2
- ifplugd-0.28
- imagemagick-7.0.7-39
- inotify-tools-3.20.1
- input-event-daemon-v0.1.3
- intltool-0.51.0
- iostat-2.2
- iproute2-4.17.0
- iptables-1.6.2
- isl-0.18
- iw-4.14
- jasper-version-2.0.13
- jpeg-turbo-1.5.3
- kbd-2.0.4
- kmod-24
- latencytop-0.5
- ldd-crosstool-ng-1.23.0
- libao-1.2.0
- libbsd-0.9.1
- libcurl-7.61.1
- libdaemon-0.14
- libdrm-2.4.93<sup>3</sup>
- liberation-2.00.1
- libevdev-1.5.9
- libevent-2.1.8-stable
- libfcgi-2.4.0
- libffi-3.2.1
- libftdi-0.20
- libgcrypt-1.8.3
- libgecan-1524
- libglib2-2.56.1
- libgpg-error-1.31
- libhid-0.2.16
- libhttpparser-v2.8.1
- libical-1.0.1
- liblog4c-localtime-v1.0
- libmicrohttpd-0.9.59
- libmms-0.6.4
- libmpeg2-0.5.1
- libnl-3.4.0
- libogg-1.3.3
- libopenssl-1.0.2p
- libowfat-0.30
- libpcap-1.8.1
- libpng-1.6.34
- libpthread-stubs-0.4
- libqrencode-4.0.0
- libsigc-2.10.0
- libsndfile-1.0.28
- libsocketcan-0.0.10
- libsoup-2.56.1
- libssh2-616fd4d1b3e4a55de67c48819fef-ca83132126b5
- libtasn1-4.13
- libtheora-1.1.1
- libtirpc-1.0.3
- libtool-2.4.6
- libuboot-ge-env-13255
- libunistring-0.9.9
- liburcu-0.9.2
- libusb-1.0.22
- libusb-compat-0.1.5
- libuv-v1.22.0
- libv4l-1.14.2
- libvncserver-0.9.11
- libvorbis-1.3.6
- libvpx-v1.7.0
- libxcb-1.13
- libxkbcommon-0.7.1
- libxml2-2.9.8
- libxml-parser-perl-2.44
- libxslt-1.1.32
- libzip-1.5.1
- libzlib-1.2.11
- linrpcd-14646
- linux-4.14.61
- linuxconsoletools-1.6.0
- linux-headers-4.14.61
- linux-zigbee-v0.3.1
- live555-2017.10.28
- log4cplus-2.0.0
- logrotate-3.13.0
- lrzsz-0.12.20
- ltrace-c22d359433b333937ee3d803450dc41998115685
- lz4-v1.8.2
- lzip-1.20
- lzo-2.10
- lzop-1.03
- m4-1.4.18
- matchbox-1.2
- matchbox-common-0.9.1
- matchbox-desktop-0.9.1
- matchbox-fakekey-0.1
- matchbox-keyboard-0.1
- matchbox-lib-1.9
- matchbox-panel-0.9.3
- mdadm-4.0
- memstat-1.0
- mesa3d-18.1.5<sup>3</sup>
- minit-0.10
- mmc-utils-37c86e60c0442fef570b75c-d81aeb1db4d0cbafd
- mosquito-1.5.3
- mpc-1.0.3
- mpfr-3.1.6
- mpg123-1.25.10
- mtd-2.0.2
- mxt-app-14190
- ncurses-6.1
- ne10-v1.2.0<sup>2,3,4</sup>
- netcat-openbsd-debian\_1.190-1
- nettle-3.4
- nfs-utils-1.3.3
- nginx-1.15.0
- nodejs-8.11.4<sup>2,3,4</sup>
- ntp-4.2.8p11
- opencv3-3.4.2
- openssh-7.8p1
- openvpn-2.4.6
- oprofile-1.2.0
- PACKAGE-VERSION
- patchelf-0.9
- pcre2-10.31
- pcre-8.42
- pixman-0.34.0
- pkgconf-0.9.12
- pnet-6325
- popt-1.16
- pppd-2.4.7
- pptp-linux-1.9.0
- pwgen-2.07
- python-2.7.15
- python-pycrypto-2.6.1
- qjson-0.9.0
- qt53d-5.11.1<sup>3</sup>
- qt5base-5.11.1
- qt5canvas3d-5.11.1<sup>3</sup>
- qt5connectivity-5.11.1
- qt5declarative-5.11.1
- qt5graphicaleffects-5.11.1<sup>3</sup>

- qt5imageformats-5.11.1
- qt5multimedia-5.11.1
- qt5quickcontrols2-5.11.1<sup>3,4</sup>
- qt5quickcontrols-5.11.1<sup>3,4</sup>
- qt5script-5.11.1
- qt5sensors-5.11.1
- qt5serialbus-5.11.1
- qt5serialport-5.11.1
- qt5svg-5.11.1
- qt5webkit-5.9.1
- qt5websockets-5.11.1
- qt5xmlpatterns-5.11.1
- quazip-0.7.5
- qwt-6.1.3
- readline-7.0
- rpcbind-0.2.3
- rp-pppoe-3.12
- rsync-3.1.3
- rt-tests-1.0
- ruby-2.4.4
- sdl-1.2.15
- sdl2-2.0.8
- sdl\_mixer-1.2.12
- sdl\_net-1.2.8
- socat-1.7.3.2
- softether-v4.22-9634-beta
- spawn-fcgi-1.6.4
- spidev\_test-v4.10
- splashscreen-11945
- sqlite-3240000
- squashfs-e38956b92-738518c29734399629e7cdb33072d3
- sshpass-1.06
- strace-4.23
- sysstat-11.6.3
- tar-1.29
- tcpdump-4.9.2
- tiff-4.0.8
- trace-cmd-trace-cmd-v2.6.1
- tremor-7c30a66346199f-3f09017a09567c6c8a3a0eedc8
- tslib-1.16
- tzdata-2018e
- ubiecdump-13895
- uboot-tools-2018.07
- usb\_modeswitch-2.5.2
- util-linux-2.32.1
- valgrind-3.13.0<sup>2,3,4</sup>
- vorbis-tools-1.4.0
- wavpack-5.1.0
- wget-1.19.5
- whetstone-1.2
- wireless-regdb-2018.05.31
- wireless\_tools-30.pre9
- wpa\_supplicant-2.6
- x11vnc-0.9.15
- xapp\_bdftopcf-1.1
- xapp\_mkfontdir-1.0.7
- xapp\_mkfontscale-1.1.3
- xapp\_xauth-1.0.10
- xapp\_xbacklight-1.2.2
- xapp\_xev-1.2.2
- xapp\_xeyes-1.1.2
- xapp\_xhost-1.0.7
- xapp\_xinit-1.4.0
- xapp\_xinput-1.6.2
- xapp\_xkbcomp-1.4.2
- xapp\_xkbemd-1.1.4
- xapp\_xkbprint-1.0.4
- xapp\_xlogo-1.0.4
- xapp\_xmessage-1.0.5
- xapp\_xmodmap-1.0.9
- xapp\_xset-1.2.4
- xapp\_xsetmode-1.0.0
- xapp\_xsetpointer-1.0.0
- xapp\_xsetroot-1.1.2
- xcb-proto-1.13
- xcb-util-0.4.0
- xcb-util-image-0.4.0
- xcb-util-wm-0.4.1
- xdata\_xbitmaps-1.1.2
- xfont\_encodings-1.0.4
- xfont\_font-alias-1.0.3
- xfont\_font-cursor-misc-1.0.3
- xfont\_font-misc-misc-1.1.2
- xfont\_font-util-1.3.1
- xkeyboard-config-2.23.1
- xlib\_libfontenc-1.1.3
- xlib\_libICE-1.0.9
- xlib\_libSM-1.2.2
- xlib\_libX11-1.6.6
- xlib\_libXau-1.0.8
- xlib\_libXaw-1.0.13
- xlib\_libXcomposite-0.4.4
- xlib\_libXcursor-1.1.15
- xlib\_libXdamage-1.1.4
- xlib\_libXdmcp-1.1.2
- xlib\_libXext-1.3.3
- xlib\_libXfixes-5.0.3
- xlib\_libXfont-1.5.4
- xlib\_libXft-2.3.2
- xlib\_libXi-1.7.9
- xlib\_libXinerama-1.1.4
- xlib\_libXkbfile-1.0.9
- xlib\_libXmu-1.1.2
- xlib\_libXpm-3.5.12
- xlib\_libXrandr-1.5.1
- xlib\_libXrender-0.9.10
- xlib\_libXres-1.2.0
- xlib\_libXScrnSaver-1.2.3
- xlib\_libxshmfence-1.3<sup>3</sup>
- xlib\_libXt-1.1.5
- xlib\_libXtst-1.2.3
- xlib\_libXv-1.0.11
- xlib\_libXxf86vm-1.1.4
- xlib\_xtrans-1.3.5
- xmlstarlet-1.6.1
- xorgproto-2018.4
- xserver\_xorg-server-1.17.4
- xterm-327
- xutil\_util-macros-1.19.2
- xvkbd-3.7
- xz-5.2.3
- zic-2018e
- zstd-v1.3.5