OpenWrt: 10 years of fun with Embedded Devices

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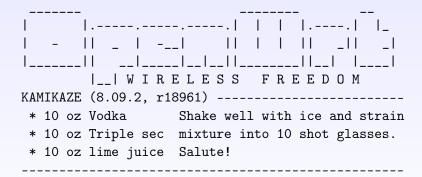
Early days of OpenWrt

- Built for WRT54G
- Created from uClibc Buildroot
- Used Linksys GPL tarball directly
- Later reworked for standalone build
- Linux 2.4 kernel updated
- Build system rewrite

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WHITE RUSSIAN (0.9)									
*	2 oz	Vodka	Mix	the	Vodka	and K	ahlua	toget	her
*	1 oz	Kahlua	a ovei	cice	, then	floa	t the	cream	or
		z cream							

Development after White Russian

- Focus shifts away from Broadcom 47xx
- Multiplatform support
- Build system rewrite
- New config system: UCI
- New web interface: LuCl



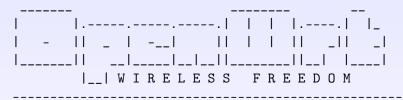
Development after Kamikaze

- Main focus: stabilization
- More targets
- More packages
- GCC updates

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W I R E	LESS FREEDOM							
Backfire (10.03.1, r29592)								
* 1/3 shot Kahlua	In a shot glass, layer Kahlua							
* 1/3 shot Bailey's	on the bottom, then Bailey's,							
* 1/3 shot Vodka	then Vodka.							

Development after Backfire

- Linux 2.4 support dropped
- Big user space overhaul begins
- Work on IPv6 integration



ATTITUDE ADJUSTMENT (12.09, r36088)

- * 1/4 oz Vodka Pour all ingredients into mixing * 1/4 oz Gin tin with ice, strain into glass.
- * 1/4 oz Amaretto
- * 1/4 oz Triple sec
- * 1/4 oz Peach schnapps
- * 1/4 oz Sour mix
- * 1 splash Cranberry juice

Components

- ubus system RPC service
- netifd network setup daemon
- procd process monitoring

Features:

- System wide config reload support
- Automatic service restart
- Config validation in backend
- Web API via JSON-RPC

IPv6 integration

- New user space stack, written from scratch
- Small code size
- netifd tracks prefixes and delegations
- odhcp6c RA / DHCPv6 client
- odhcpd routing & address announcement / delegation

LuCl2 - New Web UI

Incremental rewrite of existing LuCl code

Current development

- CGI + Lua Templating ⇒ Javascript + JSON-RPC
- Faster code
- Better modularity



BARRIER BREAKER

- * 1/2 oz Galliano
- * 4 oz cold Coffee
- * 1 1/2 oz Dark Rum
- * 2 tsp. Creme de Cacao

Pour all ingredients into an irish coffee mug filled with crushed ice. Stir.

Collaboration with industry vendors

- Some talks with router vendors (e.g. Linksys)
- Strange adoption by a few ODMs
- Better approach: collaboration with chip vendors
 - Qualcomm Atheros
 - Lantiq
 - MediaTek/Ralink

Collaboration with chip vendors

- Differences in motivation
 - OpenWrt: Code quality, long term health
 - Vendors: Cost reduction, time to market
- Red tape, bureaucracy
- Licensing / IP issues
- Development process issues

- Upstream integration of our patches
- Freifunk and other mesh network communities
- Bufferbloat.net (CeroWrt)
- IETF IPv6 integration projects (HIPnet, HomeNet)

Thank you for listening

Questions?