

A Smart Way to Manage Packages in Yocto Project -Report about recent activities-

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- Fan Xin, Fujitsu Computer Technologies Ltd.
- Embedded Linux Developer
- In-House Embedded Linux Distributor of Fujitsu
- Our Distribution includes LTSI Kernel and is built with Yocto Project
- Our Distribution is used for
 - IVI, Server System Controller, Storage System, Network Equipment, Printer, etc.



IVI: In-Vehicle Infotainment

- The Smart Package Manager project focus on solving the package management problem including upgrading and installation.
- This project started on May 4th, 2004, and version 1.0 was released on Aug 14th, 2008
- The latest version is 1.5
- Merged into Yocto Project 1.4 (dylan), but unavailable in Yocto Project so far
- Currently, the smart community is inactive

<http://lists.labix.org/pipermail/smart-labix.org/2016-August/017049.html>

<http://fedorasolved.org/Members/rasker/installing-and-using-smart-package-manager>

- We fork the smart and continue to maintenance

- What we have done to improve smart
 - Merge the modification patches to make smart available
 - Add text GUI interface to make smart easy to use
 - Open smart on the GitHub (github.com/ubinux/smart2)
 - Release the smart version 2.0



github.com/ubinux/smart2

Recent Activities

- Yocto Project switches to Python 3.x
- The choice between Smart and DNF
- Remote update function
- Next step for Smart

Yocto Project switches to Python 3.x

■ From Yocto Project 2.2, require for the Python 3.x

Yocto Project 2.2 Themes

- Need to switch to Python 3.x
- Move to do multiple configurations to allow multiple builds which allows for multiple machines and possibly **distributed builds**.
- Need to better integrate patchwork, swupd, and error reporting system for a better process.
- Need to better integrate and get user adoption of Toaster, eSDK, and CROPS.

https://wiki.yoctoproject.org/wiki/Yocto_2.2_Features

■ But some packages still need Python 2.7

	Python 2.7	Python 3.x
Yocto 2.0	✓	
Yocto 2.1	✓	
Yocto 2.2	✓	✓
Yocto 2.3		✓

■ About adopting DNF replace of smart

- Smart depends on Python 2 and Yocto Project 2.3 prefers to use DNF to manage packages.

Mark Hatle 2016-09-02 03:35:37 UTC

[Comment 5](#)

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> The conclusion about this bug is keep using smartpm until Yocto 2.2,  
> and change to dnf from Yocto 2.3 .
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The content for YP 2.3 has not yet been decided. But generally I believe this will be true.

YP 2.2 will definitely be smart, it's too late to change now.

We are going to strongly consider DNF for YP 2.3, but as you mentioned there are some API level compatibility issues that will have to be investigated and resolved.

So it is not yet committed for YP 2.3, but highly likely.

https://bugzilla.yoctoproject.org/show_bug.cgi?id=9894

- Becomes popular in ALS 2016

- mender.io


- Mender is an open source remote updater for embedded Linux devices.
- Mender proposes to use over-the-air updates for securing the software defined car
- <http://events.linuxfoundation.org/sites/events/files/slides/Securing%20the%20Connected%20Car%20-%20ALS%20Tokyo%202016.pdf>

- ATS Advanced Telematic Systems

- ATS works with GENIVI and AGL to implement secure software updates in development / reference platforms
- <http://events.linuxfoundation.org/sites/events/files/slides/Open%20Source%20secure%20software%20updates%20for%20Linux-based%20IVI%20systems.pdf>

Next Step for Smart

- List up the 12 issues(including the remote update function) to finish on GitHub (<https://github.com/ubinux/smart2/issues>)
- Smart is open source and available to anyone
- Smart is open on GitHub and welcome issues and patches.



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