

# Userspace CNI:

## Weekly Meeting Minutes

Meeting Link: <https://zoom.us/j/2392609689>

TIME: **12:00 PM UTC** every other Wednesday  
(8:00 AM EST / 9:00 AM EDT / 1:00 PM GMT)

**When suggesting topics and agenda items for an upcoming meeting please make sure to include your name in the suggestion.**

## Summary

The Userspace CNI is a Container Network Interface (CNI) plugin designed to implement userspace networking (as opposed to kernel space networking), like DPDK based applications. It is designed to run with either OVS-DPDK or VPP along with the [Multus CNI plugin](#) in Kubernetes deployments. It enhances high performance container Networking solution and Data Plane Acceleration for NFV Environment.

### Useful Links:

**Source Code:** <https://github.com/intel/userspace-cni-network-plugin>

**Design Document:** [Userspace CNI Design Document](#)

### Weekly Meeting Details:

**Meeting Time:** Every Other Wednesday at 8-9am EST

**Meeting Dates:**

7/3/19	7/17/19	7/31/19
8/14/19	8/28/19	
9/11/19	9/25/19	
10/9/19	10/23/19	
11/06/19	(No 11/20/2019 meeting, KubeCon NA - San Diego)	
12/04/19	12/18/19	

**Meeting Bridge:** <https://zoom.us/j/2392609689>

**Meeting Minute Document:** [Userspace CNI: Weekly Meeting Minutes](#)

### Contacts:

~~Report issue via Trello: [Trello: Userspace CNI](#)~~ *Trello Board has been deleted.*

**Contact via slack:** <https://intel-corp.herokuapp.com/> Channel: #k8s-userspace-network

Feel free to contact the developer @garyloug or @bmcfall in slack

**Contact via Google Group:** <https://groups.google.com/forum/#!forum/userspace-cni>

## Wednesday, October 23, 2019

Meeting Time: 8-9 AM, EDT

Attendees: Billy McFall, Gary Loughnane, Philip Brownlow

Agenda:

- Agenda Bashing
- [Billy] Userspace Update
  - Multus now supports passing configuration data to CNI through CNI Args. This can be used as an alternative to writing to annotations. Will work with Tomo to understand syntax and try to integrate into Userspace CNI (after vDPA work).
  - Philip (from Intel) Pull Request was merged
    - Upstream travis builds are failing. PProbably because VPP headers are not being installed.
      - Option 1) Make travis run 'sudo make install-dep' and 'sudo make install'. This adds VPP headers/api files to the server so CNI can build (for both OvS and VPP).
      - Option 2) Update repo to include VPP headers/api files (see Makefile for list). VPP APIs change version to version, so may consider including version subdirectories.
- [Gary] Customer having issues using Userspace CNI with OvS. Not seeing socketfiles. Could it be K8s 1.16?
  - [Billy] See how the customer is using Userspace CNI. There are two options:
    - 1) Passing in KubeConfig file so Userspace CNI can call KubeAPI to read and write pod spec and annotations. **This works**. Gary said something about the customer's setup of OvS is placing files in a non-standard directory. Make sure the "shared-dir" annotation is set in Network-Attachment-Definition. This tells CNI where this non-standard directory is.
    - 2) Pass in a 'SharedDir' for Userspace CNI to write data to a configuration file that is shared with container. **This has issues** because directory is passed through Network-Attachment-Definition, i.e. - value is common across network. This has issues when either the pod has multiple networks or two pods on the same host share a network. To fix, need Multus logic to pass pod data through CNI Args.
- [Gary] Willing to update README, agrees it is a mess.

- [Billy] Fine with Gary reworking. Thoughts were to have a basic overview in the top level README, with an example of how to make. Lower level READMEs, one for OVS and one for VPP. Maybe take the next bullet into account when rewriting README.
- [Billy] 'docker' sub-directory will go away.
  - The 'dpdk-app-centos' docker image has been copied over to <https://github.com/openshift/app-netutil> and is being maintained there. Don't want to maintain two copies, so this one will go away.
  - The 'vpp-centos-userspace-cni' docker image runs VPP in a container, and a portion of the Userspace CNI (via the usrsp-app under 'docker' subdirectory) to provision VPP. This has VPP also running on host as a vSwitch. With the 'dpdk-app-centos' image, not sure this one is needed any more.

## Wednesday, October 9, 2019

Meeting Time: 8-9 AM, EDT

Attendees: Billy McFall, Gary Loughnane

Agenda:

- Agenda Bashing
- [Billy] Userspace Update
  - Concentrating on the vDPA and tying into SR-IOV CNI/Device Plugin and app-netutil. SR-IOV CNI (in vDPA fork) is leveraging package in Userspace CNI to share virtio-user socketfiles with the container using vDPA interfaces.
- [Gary] Userspace Update
  - Philip (from Intel) is doing a little work in Userspace, trying to get Unit Tests via travis integrated into project.
  - Has pull-request sitting out there.
- [Billy] Not getting updates on project. Learned about 'watching' a repo, so now should get notified on Issues and Pull Requests.

## Wednesday, September 25, 2019

Meeting Time: 8-9 AM, EDT

Attendees: Billy McFall, Gary Loughnane

Agenda:

- Agenda Bashing
- [Gary] Update on build issue.
  - Gary indicated on a clean system, he had to do a few 'go get' commands.
- [Billy] Userspace Update

- Concentrating on the app-netutil and running with SR-IOV, so minimal work on Userspace over the two weeks. Only work has been with the 'dpdk-app-centos' docker image and making it more generic.

## Wednesday, September 11, 2019

Meeting Time: 8-9 AM, EDT

Attendees: Billy McFall

Note: Gary Loughnane and Dave Cremins have a conflict and won't attend.

Agenda:

- Agenda Bashing
- [Gary via Email] Some colleagues are having dependency issues building Userspace CNI. No details on the exact issue. Billy will address once details are provided.
- [Billy] Userspace Update
  - Concentrating on the app-netutil and running with SR-IOV, so minimal work on Userspace over the two weeks. Only work has been with the 'dpdk-app-centos' docker image and making it more generic.
- Next scheduled meeting is during ONS EU (Antwerp). Billy is not attending and will be here, but not sure others plans. Just an FYI.

## Wednesday, August 28, 2019

Meeting Time: 8-9 AM, EDT

Attendees: Billy McFall, Gary Loughnane

Agenda:

- Agenda Bashing
- [Billy] Userspace Update
  - Merged upstream code.
  - Current work items:
    - Finalizing the docker/dpdk-app-centos docker image to leverage app-netutil (<https://github.com/openshift/app-netutil>) to run in the container to consume the Userspace-CNI data within the container.
    - Code still uses KubeConfig to call KubeAPI to read VolumeMounts and write annotations for the container. Working on logic for those that don't want to call KubeAPI. If KubeConfig input string is empty, then pass in a 'sharedDirectory', which is the local host directory where socket files are created in. The code will then write a config file in the same directory. Current issue is that container doesn't know which files belong to it, so this is still a work in progress,

- Reworking directory structure in the project so outside projects can leverage different modules. For example, if SR-IOV CNI wants to write annotations, that code is in it's own pkg/annotations/ module.
- Gary and Billy agreed for now that Billy can keep pushing and merging code into project because Gary isn't actively working on project at this time.

Action Items:

- [Billy] Still plans to update the README file and rework the design document.

## Wednesday, August 14, 2019

Meeting Time: 8-9 AM, EDT

Attendees: Billy McFall

Agenda:

- Agenda Bashing
- Gary on PTO.
- [Billy] Userspace Update
  - Rework complete. Userspace now reads and writes annotations if KubeConfig is provided. If not, then 'sharedDir' must be provided, which indicates directory where socket files should be created. ConfigData is also written there in a file.

## Wednesday, July 31, 2019

Meeting Time: 8-9 AM, EDT

Attendees: Billy McFall, Gary Loughnane

Agenda:

- Agenda Bashing
- [Billy] Userspace Update
  - Please review and see if it can be merged by end of the week.
  - Last release label added was v1.1 on 8/31/2018. 32 commits since labeled. Should we add a v1.2 before my PR is merged?
    - Billy and Gary agreed to add v1.2 release.
  - Comment from last week: Have logic in sandbox where Userspace is writing configuration data to an annotation and reading from annotation. Going to rework code so that Multus is doing the read/write instead of Userspace.
    - Talked with Multus team (Doug) and no hooks in Multus to do this. I will leave the code as is (CNI writing to annotation) but considering adding logic that if a kubeConfig (credentials to call kubeApi) is not provided, then write the same data to a file in the same directory as socket file.

- [Billy] Suggested breaking up the README into a smaller main README which links to other README in sub-directories.
  - Gary agreed.
- [Gary] Gary out for 8/14/2019

Action Items:

- [Billy] To follow-up on RHT's "Fast Datapath" as a term or project for Dave.

## Wednesday, July 17, 2019

Meeting Time: 8-9 AM, EDT

Attendees: Billy McFall, Gary Loughnane

Agenda:

- Agenda Bashing
- [Gary] DPDK Proxy - Never took off, no existing overlap within Intel. Continue working on app-netutility.
  - <https://github.com/openshift/app-netutil>
- [Billy] Userspace Update
  - Have logic in sandbox where Userspace is writing configuration data to an annotation and reading from annotation. Going to rework code so that Multus is doing the read/write instead of Userspace.

Action Items:

- 

## Wednesday, July 3, 2019

Meeting Time: 8-9 AM, EDT

Attendees: Billy McFall, Gary Loughnane, Abdul Halim

Agenda:

- Agenda Bashing
- Meeting Cadence
- KubeCon Submittal
  - Topic
- Github.com/Intel/Userspace Copyright notice in each file
  - Red Hat can be in
  - Years - Leave existing year as created
- [Billy] Standard DPDK Interface in container - Update

Action items:

- [Gary] Update meeting to every other week
- [Gary] Ask DPDK team how initial configuration data is typically consumed

## Wednesday, June 26, 2019

Meeting Time: 8-9 AM, EDT

Attendees: Billy McFall, Gary Loughnane

### Agenda:

- Agenda Bashing
- [Billy] Standard DPDK Interface in container - Update
  - DPDK Proxy - Internal Intel project - Within DPDK - Gary to get some more details.
- Suggestion to move meeting to every other week. Bring up again next week.
  - Billy +1
  - Gary +1
  - Feng +1
  - Meet next week, then go to every other.
- Kural closed Trello Board. Do we need another or stick with git issues?
  - Stick with github
- [Billy] Need to stay on top of github issues
- [Billy] Copyright notices in files
  - Need to be Intel?
  - Update the year?
  - Move to SPDX-License-Identifier format (like DPDK)? Example of header in each file:

```
/* SPDX-License-Identifier: BSD-3-Clause
 * Copyright(c) 2014 John W. Linville <linville@tuxdriver.com>
 * Originally based upon librt_pmd_pcap code:
 * Copyright(c) 2010-2015 Intel Corporation.
 * Copyright(c) 2014 6WIND S.A.
 * All rights reserved.
 */
```

Then a license directory with all applicable licenses.

- [Feng] KubeCon NA - CFP closes July 12th

### Action Items:

- [Gary/Billy] Work out any KubeCon submittals
- [Gary] Gary to ask about license (see above for details)
- [Gary] Update meeting to every other week
- [Billy] Update README to indicate every other week meeting.
- [Billy] To present next week on current Userspace CNI/SR-IOV CNI design

# Wednesday, June 19, 2019

Meeting Time: 8-9 AM, EDT

Attendees: Billy McFall, Gary Loughnane

## Agenda:

- Agenda Bashing
- [Billy] Standard DPDK Interface in container
  - Looking to use Downward API to pass data between host container
  - Looking into Admission Controller to add volume mounts and additional annotations.
  - Looking into sidecar in container with gRPC API for DPDK APP to query interface details
    - Gary suggested looking into DPDK Proxy. Might be doing a similar thing as sidecar.
- [Gary] Other Intel engineers starting to use Userspace CNI. (Michael Pederson)
  - Found a few Multus/VPP issues. To write git issues to track.
- Suggestion to move meeting to every other week. Bring up again next week.
  - Billy +1
  - Gary +1
- Kural closed Trello Board. Do we need another or stick with git issues?

## Action Items:

- Trello Board?
- Bi-weekly meeting (every other week)?

# Wednesday, June 12, 2019

Meeting Time: 8-9 AM, EDT

Attendees: Billy McFall, Gary Loughnane, Zenghui Shi, Abdul Halim

## Agenda:

- Agenda Bashing
- Standard DPDK Interface in container
  - Abdul (Intel) and Zenghui (Red Hat) (from SR-IOV CNI/Device Plugin) joined the called to discuss.

## Action Items:

- [Billy] Talk with Doug and Tomo regarding Multus Network Status



## Wednesday, June 5, 2019

Meeting Time: 8-9 AM, EDT

Attendees: Billy McFall, Gary Loughnane, Dave Cremins, Toni Kangas

Agenda:

- Agenda Bashing
- [Gary] Device Plugin Update
- [Billy] CNI Update
- [Billy] Standard DPDK Interface

Action Items:

- [Billy] - Cleanup the CNI section of document and reorganize to handle both CNI and Device Plugin.
- [Gary] - Start looking at how vSwitch (OvS) to vSwitch (OvS) will work.

## Wednesday, May 29, 2019

Meeting Time: No Meeting - Multiple conflicts

## Wednesday, May 22, 2019

Meeting Time: No Meeting - KubeCon, Barcelona

## Wednesday, May 15, 2019

Meeting Time: 8-9 AM, EDT

Attendees: Billy McFall, Feng Pan, Gary Loughnane, Dave Cremins

Agenda:

- Agenda Bashing

Action Items:

- **COMPLETE:** Gary/Billy/Feng/Dave will be at KubeCon EU (Barcelona, May 20-23), Schedule is now available. Setup meetup.
  - **Monday Meeting (5/20) - MEETING SET FOR 4PM - Hotel next to Conf Center**
    - AC Hotel by Marriott Som, Carrer Arquitectura, 3, L'Hospitalet de Llobregat, Spain
  - Intel: Gary, Dave, Abdul, Conor, Kate, maybe Swati
  - Red Hat:
    - Feng

- Billy: Arrives Sunday. Right now, fairly open on schedule for Monday.
  - Doug: Arrives midday on Monday, so prefer later in the day (after 3 PM).
- [Billy] - Cleanup the CNI section of document and reorganize to handle both CNI and Device Plugin.
- [Gary] - Start looking at how vSwitch (OvS) to vSwitch (OvS) will work.
  - UPDATE: Talked with internal Intel OvS team, but currently only known way is using Neutron. More investigation needed.

## Wednesday, May 8, 2019

Meeting Time: 8-9 AM, EDT

Attendees: Billy McFall, Gary Loughnane, Feng Pan

Agenda:

- Agenda Bashing

Action Items:

- Gary/Billy/Feng/Dave will be at KubeCon EU (Barcelona, May 20-23), Schedule is now available. Setup meetup.
  - Shoot for Monday Meeting (5/20)
  - Intel: Gary, Dave, Abdul, Conor, Kate, maybe Swati
  - Red Hat:
    - Feng
    - Billy: Arrives Sunday. Right now, fairly open on schedule for Monday.
    - Doug: Arrives midday on Monday, so prefer later in the day (after 3 PM).
- [Billy] - Cleanup the CNI section of document and reorganize to handle both CNI and Device Plugin.
- [Gary] - Start looking at how vSwitch (OvS) to vSwitch (OvS) will work.

## Wednesday, May 1, 2019

Meeting Time: 8-9 AM, EDT

Attendees: Billy McFall, Gary Loughnane, Feng Pan, Dave Cremins

Agenda:

- Agenda Bashing
- [Gary] Device Plugin still under review, few minor issues around documentation. Moving along.
- Discuss Device Plugin Design Document
  - Talk through comments
  - Start looking into how DevicePlugin and CNI interact with each other, if at all.
  - Need to design and document how the container is provisioned. Data passing or side-car or other?

- Need to design and document how intra-pod communication will work. Where will this live (Public Cloud vs Private Cloud)?

Action Items:

- Gary/Billy/Feng/Dave will be at KubeCon EU (Barcelona, May 20-23), Schedule is now available. Setup meetup.
- [Billy] - Cleanup the CNI section of document and reorganize to handle both CNI and Device Plugin.
- [Gary] - Start looking at how vSwitch (OvS) to vSwitch (OvS) will work.

## Wednesday, April 24, 2019

Meeting Time: 8-9 AM, EDT

Attendees: Billy McFall, Gary Loughnane, Toni Kangas, Dave Cremins

Agenda:

- Agenda Bashing
- [Gary] Introduce Dave
- [Gary] Device Plugin still under review, few minor issues. Moving along.
- Holiday last week, minimal work completed.

Action Items:

- [Billy] Review Device Plugin documentation.
- Gary/Billy/Feng will be at KubeCon EU (Barcelona, May 20-23), Schedule is now available. Setup meetup.

## Wednesday, April 17, 2019

Meeting Time: 8-9 AM, EDT

Attendees:

Agenda:

- Agenda Bashing
- [Gary] Device Plugin design added to the overall Userspace Design Document.
- [Gary] Device Plugin still under review, few minor issues. Should have ready by next meeting.
- [Feng] No update on moving projects to CNCF.
- [Gary] New Intel Architect joining, Dave. Replacing Ivan. Will be attending meetings going forward.
- [Discussion] How does the Userspace Device Plugin operate in conjunction with SR-IOV Device Plugin? Is there a way to standardize on a plugin North-bound interface (into container) such that the way the container absorbs the interface (example: virtio)? Can

this work with XDP, physical interface? Without a vSwitch (virtio directly to hardware - [http://doc.dpdk.org/guides/howto/virtio\\_user\\_for\\_container\\_networking.html](http://doc.dpdk.org/guides/howto/virtio_user_for_container_networking.html))?

- All questions, no answers, but things to start thinking about.

Action Items:

- [Billy] Review Device Plugin documentation.
- Gary/Billy/Feng will be at KubeCon EU (Barcelona, May 20-23), Setup meetup.

## Wednesday, April 10, 2019

Meeting Time: 8-9 AM, EDT

Attendees: Billy McFall, Gary Loughnane, Kural Ramakrishnan, Feng Pan, Toni Kangas

Agenda:

- Agenda Bashing
- [Gary] Device Plugin is in the process of being reviewed internally for being released upstreamed.
  - Added support for multiple networks. Demo'd Device Plugin with multiple networks.
  - Documentation in the works, Review next week.

Action Items:

- Gary/Billy/Feng will be at KubeCon EU (Barcelona, May 20-23), Setup meetup.

## Wednesday, April 3, 2019

Meeting Time: 9-10 AM, EDT

Attendees:

No Meeting, ONS NA in San Jose, CA.

## Wednesday, March 27, 2019

Meeting Time: 9-10 AM, EDT

Attendees:

No Meeting,

## Wednesday, March 20, 2019

Meeting Time: 9-10 AM, EDT

Attendees: Billy McFall, Toni Kangas

Agenda:

- Agenda Bashing
- Meeting Schedule for the next two weeks.
  - Gary on PTO this week.
  - [BM] AI - Work out with Kural meetings for the next two weeks. Billy on PTO next week (3/27) and ONS NA (San Jose) is the following week (4/3).

## Wednesday, March 13, 2019

Meeting Time: 9-10 AM, EDT

Attendees:

No Meeting, confusion around US moving to Daylight Savings Time.

## Wednesday, March 6, 2019

Meeting Time: 8-9 AM, EST

Attendees: Billy McFall, Gary Loughnane, Kural Ramakrishnan, Feng Pan, Adrian C

Agenda:

- Agenda Bashing
- [Kural] Will KubeVirt team use the Userspace work?
  - They are interested but not actively involved or looking into it. Maybe in the future. Not ready yet.
- [Gary] Device Plugin vs CNI design
  - Race condition issue - Device Plugin scales number of devices up when there are too few, and scales down when there are too many unused. Race condition existed when some of these excess unused devices were being scaled down (deleted) and K8s attempted to use the device before being notified of deletion.
  - Race condition has been fixed by mark devices “unhealthy” before actually deleting them.
  - Still looking into “cleaner” option.
- [Gary] Need way to specify different networks
  - K8s can request a device on specified bridge, vxlan, etc
  - Can this be done within single instance of plugin, or requires an instance to service each network?
  - Initial thoughts:
    - It's possible, technically, to advertise devices on different bridges
    - It will make scaling more complex. We're no longer monitoring 1 set of devices, we're monitoring 1 to many sets

- Gary will look into it this week.
- [Kural] Discussion on moving project under CNCF
  - Kural shared the current thinking. Need to get advice from someone from CNCF on how to proceed.
- [Billy] Get outstanding code merge into Pull Request
  - No update, not performed.

Action Items:

- 

## Wednesday, February 27, 2019

Meeting Time: 8-9 AM, EST

Attendees: Billy McFall, Gary Loughnane, Feng Pan

Agenda:

- Agenda Bashing
- [Gary] Device Plugin vs CNI design
  - Demo issues last week - OvS was having trouble with corrupted socket files.
  - Race condition between K8s and Device Plugin, Delete a lot of interfaces then recreate, K8s trying to create, then Device Plugin reports delete of same interface and K8s fails.
- [Kural] Discussion on moving project under CNCF
  - No update.

Action Items:

- [Billy] Get outstanding code merge into Pull Request

## Wednesday, February 20, 2019

Meeting Time: 8-9 AM, EST

Attendees: Billy McFall, Gary Loughnane, Feng Pan, Toni Kangas, Kural Ramakrishnan

Agenda:

- Agenda Bashing
- [Gary] Device Plugin vs CNI design
  - Device Plugin Scaling Demo
- [Kural] Discussion on moving project under CNCF
  - In progress

Action Items:

- In current deployments of OvS/VPP, if host has multiple NUMA Nodes, each with its own set of interfaces, how is the vSwitch deployed? One instance per NUMA Node or one instance with worker core pinning?

# Wednesday, February 13, 2019

**No Meeting**

# Wednesday, February 6, 2019

Meeting Time: 8-9 AM, EST

Attendees:

Short meeting. Organizer was running late and missed meeting so no notes were taken.

# Wednesday, January 30, 2019

Meeting Time: 8-9 AM, EST

Attendees: Billy McFall, Feng Pan, Toni Kangas, Adrian C, Gary Loughnane

Agenda:

- Agenda Bashing
- [Gary] Device Plugin vs CNI design
  - Follow up discussion from last week
    - Added ENV with the number of devices
    - Added code to scale the number of advertised interfaces, as opposed to advertising 65535
    - Scaling up and down of interfaces
    - Started on Design Document, not ready yet.
- [Kural] Discussion on moving project under CNCF
  - Any follow up from last week?
- [Billy] FOSDEM Talk
  - Any Userspace CNI message you want delivered?
  - Abstract: [https://fosdem.org/2019/schedule/event/vpp\\_northbound\\_connections/](https://fosdem.org/2019/schedule/event/vpp_northbound_connections/)
  - Talk before mine:  
[https://fosdem.org/2019/schedule/event/vpp\\_ligato\\_as\\_ipsec\\_gateway/](https://fosdem.org/2019/schedule/event/vpp_ligato_as_ipsec_gateway/)
  - Call to Action
  - Describe layering

Action Items:

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## Wednesday, January 23, 2019

Meeting Time: 8-9 AM, EST

Attendees: Billy McFall, Feng Pan, Gary Loughnane, Moshe Levi

### Agenda:

- Agenda Bashing
- Feng got a Zoom window for all projects.
- Device Plugin vs CNI design
  - Device Plugin demo
- Discussion on moving project under CNCF

### Action Items:

- Gary/Kural - Update Design Document with design of Device Plugin and reasons for using Device Plugin.

## Wednesday, January 16, 2019

Meeting Time: 8-9 AM, EST

Attendees:

### Agenda:

- Agenda Bashing
- Mellanox Intros
- Last week AI:
  - Billy - Look into Flannel (VxLAN) on how it works, then move on to Calico (Routing)
  - Kural - No Zoom. Look for other option.
  - Gary - Continue Device Plugin Model investigation with Userspace CNI - Still in progress
- Device Plugin vs CNI design

### Action Items:

- Feng - Talk with Vikas regarding moving projects (Multus/Userspace/GenericDevicePlugins to CNCF.

## Wednesday, January 9, 2019

Meeting Time: No Meeting



# Wednesday, January 2, 2019

Meeting Time: No Meeting - New Years

# Wednesday, December 26, 2018

Meeting Time: No Meeting - Christmas

# Wednesday, December 19, 2018

Meeting Time: 8-9 AM, EST

Attendees:

Agenda:

- Agenda Bashing
- Last week AI:
  - Billy - Look into Flannel (VxLAN) on how it works, then move on to Calico (Routing)
  - Kural - Continue to work on getting Zoom window - One more try, then give up and find another way.
  - Gary - Continue Device Plugin Model investigation with Userspace CNI - Still in progress
- Billy - 1G Hugepage support in VM - Need help
- Holiday Meetings - No meeting next 2 weeks (12/26 and 1/2).
- KubeCon - 3 take-aways
  - Feng - Community is starting to think about how to get high per performance interfaces into K8s. Last year, is K8s the right platform.
  - Feng - People are trying to solve the problem we are looking at, adding Userspace interfaces to containers. Need a solution/standard out before multiple implementations fragment the space.
  - Feng - Device plugin vs CNI
  - Kural - K-native
- Device Plugin vs CNI design
  -

Action Items:

-

# Wednesday, December 12, 2018

Meeting Time: No Meeting - KubeCon: Seattle

# Wednesday, December 5, 2018

Meeting Time: 8-9 AM, EST

Attendees:

Agenda:

- Agenda Bashing
- Last week AI:
  - Billy - Look into Flannel (VxLAN) on how it works, then move on to Calico (Routing)
  - Kural - Continue to work on getting Zoom window - Still in progress
  - Gary - Continue Device Plugin Model investigation with Userspace CNI - Still in progress
- [Gary] Device Plugin Discussion
  - IPAM
    - Feng/Billy: What is the IPAM solution?
    - Use the binary files
    - Call DHCP or localhost directly
    - Anything other than namespace is done by the plugin
  - Feng: Can we use the CNI library rather than making direct calls to the binary?
    - Yes
  - Multus
    - Feng: Will the device plugin use the Network CRD?
    - Feng: Don't we need Multus anyway to use Userspace + default?
      - Yes, maybe some logic to tell Multus that the Userspace work is already done.
    - Feng: What is the logic?
      - If it's non-CNI then Multus has no work here
      - We probably need some agreement from community on how CNI & non-CNI should work together
    - Feng: How does Multus know that Userspace setup was success/failure?
  - Next steps
    - Billy: What happens later with NUMA, etc.?
    - Billy: If we need NUMA and SRIOV, what happens?
    - Billy: Why are we using different plugins? If they're all similar but with small differences?
      - Complexity and maintainability

- All device plugins are similar but with vendor specific differences
  - Difficult to maintain the “mother of all plugins”
  - One device plugin to focus on SRIOV, one plugin to focus on Userspace with vSwitch
- Mapping
  - We are making the assumption here that we want 1:1 mapping.
  - This is how it works with SmartNIC and profiling the FPGA slots.
  - One socket file per VF
  - Feng: It plugs into the switch not the NIC?
  - *Discussion ended due to losing the meeting room.*

#### Action Items:

- Billy - Look into Flannel (VxLAN) on how it works, then move on to Calico (Routing)
- Billy - Get OvS - Multus test setup working
- Kural - Continue to work on getting Zoom window - Still in progress - If can't get help, may have to drop.
- Gary - Continuum Device Plugin Model investigation with Userspace CNI - Still in progress

## Wednesday, November 28, 2018

Meeting Time: 8-9 AM, EST

Attendees:

#### Agenda:

- Agenda Bashing
- Last week AI:
  - Billy - Recopy Design Document - [Userspace CNI Design Document](#) - Close
  - Billy - Look into Flannel (VxLAN) on how it works, then move on to Calico (Routing)
  - Kural - Talk with Ivan on use-case - Close
  - Kural - Continue to work on getting Zoom window - Still in progress
  - Gary - Continue Device Plugin Model investigation with Userspace CNI - Still in progress
- Billy - Have Userspace CNI running with Kubernetes and Multus. In the process of updating README with a few notes.
- Gary - Got Mellanox NICs installed on local server and working with OVS to consume.
  - Add ethtool offloads setting for tuning plugin. Might need to do something similar: <https://github.com/containernetworking/plugins/pull/238>

#### Action Items:

- Billy - Look into Flannel (VxLAN) on how it works, then move on to Calico (Routing)
- Kural - Continue to work on getting Zoom window - Still in progress

- Gary - Continue Device Plugin Model investigation with Userspace CNI - Still in progress

## Wednesday, November 21, 2018

No Meeting - US Thanksgiving Holiday

## Wednesday, November 14, 2018

Meeting Time: 8-9 AM, EST

Attendees: Billy, Feng, Kural, Gary, Toni

### Agenda:

- Agenda Bashing
- Last week AI:
  - Billy - Recopy Design Document - Partial Made copy, still working permissions
  - Billy - Look into Flannel (VxLAN) on how it works, then move on to Calico (Routing) - Ongoing/In-progress
  - Kural - Talk with Dana on use-case - Done
  - Kural - Continue to work on getting Zoom window - Email sent, waiting for a response. Working more channels.
  - Kural - Determine meeting time - Initial proposal is Wed 10-11 am EST (3-4 pm IST)
    - Leave where is and only change if needed.
- Design Plugin Research - Kural
  - Kural - Checking the hardware offloading, Is that we can do it in Device plugin model
  - Gary - Continue Device Plugin Model investigation with Userspace CNI, writing design document. Goal for proposal is early December.
- OVS changes in Pull Request [Billy]
  - Working through OVS required bridge model
- Kubernetes Debug

### Action Items:

- Billy - Recopy Design Document
- Billy - Look into Flannel (VxLAN) on how it works, then move on to Calico (Routing)
- Kural - Talk with Ivan on use-case
- Kural - Continue to work on getting Zoom window
- Gary - Continue Device Plugin Model investigation with Userspace CNI

# Wednesday, November 7, 2018

Meeting Time: 8-9 AM, EST

Attendees: Billy McFall, Feng Pan, Gary Loughnane, Kural Ramakrishnan

## Agenda:

- Agenda Bashing
- Follow-up on last weeks Action Items regarding Meeting Details:
  - Meeting Minutes Document [Billy] - Done - This Document (editable by anyone)
  - Zoom Channel [Kural] - Talked with Dana, Intel working with CNF to get channel
  - Open up Trello [Kural] - Anyone can view.
  - Open up Design Document [Billy] - Done - See summary for link (Anyone can comment)
  - Google Group for Userspace [Feng] - Done - See Summary
  - Do we need to change time? Kural seems to need to change the meeting time often.
- OVS changes in Pull Request [Billy]
  - Not merged, so skip
- FD.io Mini-Summit Status at KubeCon Seattle
  - Plan on giving 50% saving on KubeCon
  - No notification yet
- FD.io Mini-Summit Talk
  - Kural wants to connect VPP on host to SR-IOV
  - Mini-Summit Schedule doesn't have our talk on schedule.
- Userspace CNI - VPP currently only uses Bridge Model
  - Explore other models - like routing
    - VxLAN - Not Interesting
    - Routing -
    - MPLS Fabric -
    - IPv6 Segment Routing
  - CNI assumes IP Connectivity
  - Look for customer to lead requirements
  - Billy - Look into Flannel (VxLAN) on how it works, then move on to Calico (Routing)
  - Figure out what VPP can do that other CNI's can not.
- Move Userspace CNI to Device Plugin Model - Gary
  - Initial goal is to support Smart-NICs and NUMA, but should be generic for all use-cases
  - Currently investigating OvS-DPDK and Userspace CNI
  - Aim for beginning of December to have a proposal

Action Items:

- Billy - Recopy Design Document
- Billy - Look into Flannel (VxLAN) on how it works, then move on to Calico (Routing)
- Kural - Talk with Dana on use-cases
- Kural - Continue to work on getting Zoom window
- Kural - Determine meeting time - Initial proposal is Wed 10-11 am EST (3-4 pm IST)
- Gary - Continue Device Plugin Model investigation with Userspace CNI

## Template: Wednesday, December 5, 2018

Meeting Time: 8-9 AM, EST

Attendees:

Agenda:

- Agenda Bashing
- Last week AI:

Action Items:

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