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CloudNativeCon

North America 2023





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SIG-Windows updates

Mark Rossetti, Microsoft

Aravindh Puthiyaparambil, Red Hat

Speakers



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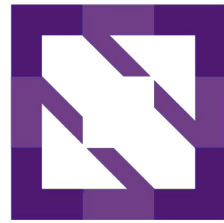


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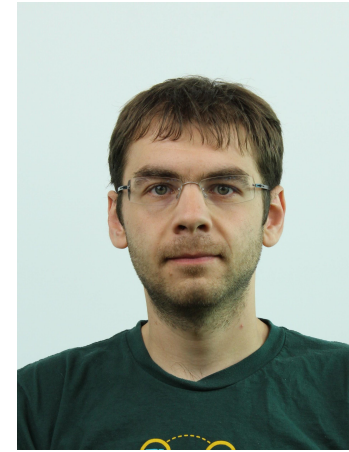
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November 6-9 | Chicago, Illinois
#KubeCon #CloudNativeCon



Mark Rossetti
Software Engineer
Microsoft



**Aravindh
Puthiyaparambil**
OpenShift Staff Engineer
Red Hat

Agenda



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- SIG-Windows / Kubernetes Updates
- Ecosystem Updates
- Contributor Spotlights
- Additional Resources
- Q & A



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SIG-Windows updates

Support image pull per runtime class



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- features.k8s.io/4216
- Going Alpha in v1.29
- Driven through SIG-node
- Allows container runtime to manage different OS targets for hypervisor based isolation
- Support snapshotter per runtimeclass
- Requires updates to the runtime and kubelet
 - Stay tuned

cAdvisor-less Container and Pod stats



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- features.k8s.io/2371
- Windows support added in v1.28
- Targeting GA in 1.30
- Rely on a single component to provide metrics for the Summary API
- Fixes inconsistencies in node metrics

Exposing commit memory



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- For Windows containers
- *kubect*l top <node> reports working set memory
- Memory limits at the container level are enforced based on commit memory
- Normalize across working set memory and commit memory
 - [k/k/pull/119238](https://kubernetes.io/pull/119238) updates the CRI API
- Next steps
 - Community discussion

In-place Pod Vertical Autoscaling



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- features.k8s.io/1287
- Going Alpha in v1.29 with Windows support
 - Took 4 years
- Driven through SIG-node
- Add CPU, Memory resources to Windows Pods without restarting the containers
- Support added to containerd
- e2e tests running on Windows

Node Log Viewer



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- features.k8s.io/2258
- Targeting beta in v1.30
 - Took 2 years to hit alpha in v1.27
- kubelet API
- Enabled using
 - NodeLogQuery feature gate
 - EnableSystemLogQuery kubelet option
- Used to query node service logs
 - # Fetch kubelet logs from a node named node-1.example
 - `kubectl get --raw "/api/v1/nodes/node-1.example/proxy/logs/?query=kubelet"`
- Please try it out and report issues



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Ecosystem Updates

Windows support for k3s agent



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- k3s agent now supports Windows!
- Tracking issue
<https://github.com/k3s-io/k3s/issues/7258>
- Implementation PR with documentation
 - <https://github.com/k3s-io/k3s/pull/8650>
- Support backported to v1.26 and v1.27 k3s agents
- Tested with Flannel

Example **k3s-config.yaml**:

```
token: '<join token>'
server: 'https://<control plane VIP>:6443'
kubelet-arg=cgroups-per-qos: 'false'
kubelet-arg=enforce-node-allocatable: "
kubelet-arg=resolve-conf: "
pause-image: '<the windows pause image matching to your
Windows VM>'
```

Then run

```
.\k3s.exe agent -config k3s-config.yaml
```

Buildkit support on Windows



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- As a developer I want to be able to build Windows Containers with BuildKit
 - <https://github.com/microsoft/Windows-Containers/issues/34>
- Lots of progress being made here!
 - [Windows] Implement executor on Windows ([moby/buildkit#3517](https://github.com/moby/buildkit/pull/3517)) has a good summary of completed work to date

At this stage, this is just a draft, as it needs a number of other changes to land in various projects. A (hopefully) complete list bellow. Will amend the list if more are needed:

- Depends on: [🔗 Mount snapshots on Windows](#) containerd/containerd#8043
- Depends on: [🔗 \[Windows\] Add get-user-info utility](#) #3516
- Depends on: [🔗 \[Windows\] Handle paths on Windows](#) #3322
- Depends on: [🔗 Fix copy on windows plus tests](#) tonistiigi/fsutil#145
- Depends on: [🔗 Implement proper renameFile on Windows](#) tonistiigi/fsutil#146
- Depends on: [🔗 Fix follow symlinkResolver on Windows](#) tonistiigi/fsutil#147

- GA support for running Calico using Windows HostProcess containers starting with v3.27.0!
 - cni-plugin and node container images built with Calico project
 - <https://github.com/projectcalico/calico/pull/7857>
- Support also added to tigera operator!
 - <https://github.com/tigera/operator/pull/2732>
- Reach out to Project Calico for more information



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Contributor Spotlights



- **List of contributions to the Kubernetes project**
 - KEP: [4216: Image pull per runtime class KEP enhancements#4217](#)
- k8s/k8s PRs:
 - [Expose commit memory used in WindowsMemoryUsage struct kubernetes#119238](#)
 - [Add runtime handler field to ImageSpec struct kubernetes#121121](#)
- sig-windows



- [kubelet: Implement support for Windows podAndContainerStatsFromCRI](#)
 - Needed for [cAdvisor-less, CRI-full Container and Pod Stats](#)
- CI Signal Shadow for 1.28, 1.29
- She is also involved with kubernetes/test-infra

Contributor Spotlights



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- **Tatenda Zifudzi**
 - Windows Operational Readiness on EKS
- **Kulwant Singh**
 - Windows Operational Readiness on EKS



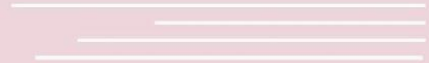
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Additional Resources



How To Contribute



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- Visit our [SIG-Windows community page](#)
- Follow our [contributing guide](#)
- Join our [community meetings](#) (12:30pm EST every tuesday)
- Join our SIG-Windows pairing sessions:
<https://github.com/kubernetes-sigs/sig-windows-samples/blob/master/PAIRING.md> (right after the main meeting)
- File bugs or review open PRs from our project boards - [Issues](#) - [PRs](#)

HELP NEEDED!



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- Windows networking
- Testing
- Help us write additional documentation and user stories

- CVE-2023-3676: Insufficient input sanitization on Windows nodes leads to privilege escalation
- [Kubernetes Security and Disclosure Information](#)
 - Please perform pen-testing and disclose any vulnerabilities you find!
- [Kubernetes | Bug Bounty Program Policy | HackerOne](#)
 - Bug bounty program available to Kubernetes projects!

Additional Resources



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Aravindh Puthiyaparambil

Co-Chair
Redhat
@aravindh [Slack]
@aravindh [GitHub]

Mark Rossetti

Co-Chair / Technical Lead
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Jay Vyas

Technical Lead
VMWare
@jayunit100 [Slack / GitHub]

James Sturtevant

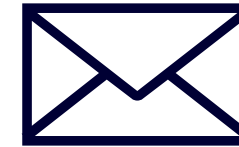
Technical Lead
Microsoft
@jsturtevant [Slack / GitHub]

Claudiu Belu

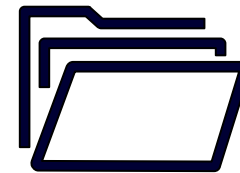
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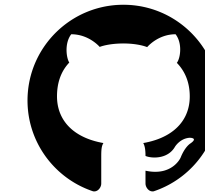
#sig-windows



<https://groups.google.com/forum/#!forum/kubernetes-sig-windows>



<https://kubernetes.io/docs/setup/production-environment/windows/>



<https://github.com/kubernetes/community/tree/master/sig-windows>



[YouTube Playlist](#)



<https://zoom.us/j/94389601840>
Every Tuesday @ 12.30pm EST



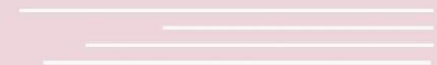
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Q & A





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