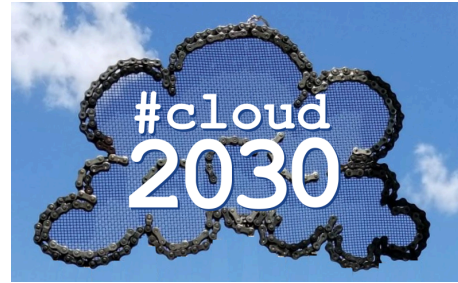# DevOps Lunch And Learn

Cloud2030 Meeting Tactics

For simplicity, all times in US Pacific (-8)

Visit for [Thursday Strategy Meetings](#)
Catch up on past sessions: [Podcast](#)

Join!

Tuesday's at 11 am PT.

You can join at the time of the meeting from this link: https://us02web.zoom.us/j/86216295721

Want to Present?

We'd be happy to host your demo, idea, product in the Cloud2030 venue. Please note that we're a round table format and *not* a guided interview.

Upcoming

Events of Interest

Covering items in 🗒 Technical Ops Series for current schedule until May 2024

- Future Topics[Technical Ops Series](#)
  - GitOps - release channels
    - Open GitOps Group
  - Kubernetes Admission Controllers
    - Lack of implementation?
    - Guest Speaker - Chris Short? https://devopsish.com/288/
  - eBPF part 2
  - The role of OSS on A/R sensor networks

Edge Smart NIC
- ○ Complexity Design Rules
  - ■ See other doc
- ○ Storage Tales from the (en)Crypt
  - ■ Storage: LinStor
    - ● replacement for Ceph
    - ● Using DRBD
  - ■ Flash
  - ■ Integration of Backup
  - ■ Software
  - ■ Cleanup
- ○ Chaos Engineering
- ○ Release Process Management (Claus)
- ○ BotOps / ChatOps
- ○ Organization of DevOps and how it creates success
- ○ Linux Tips and Tips

Switch Automation?

Outline for Secure Development Practices (Sept 7)

- ● References:
  - ○ https://about.gitlab.com/handbook/engineering/security/secure-coding-training.html
  - ○ https://www.meetup.com/KW-Cyber-Security-Meetup/ - Arctic Wolf
- ● DevSecOps
  - ○ CI components - Lint, SAST (static analysis), DAST (dynamic analysis)
  - ○ Dependency Graph
  - ○ Gating and review
  - ○ Fuzz Testing
  - ○ Tracking build components and ownership
  - ○ Maintaining historical builds
- ● Service Exposure
  - ○ Ports
  - ○ Security
  - ○ Encryption
  - ○ Scanning and Testing

- - PenTesting
- CIS Benchmarks - https://www.cisecurity.org/cis-benchmarks/
  - Host hardening guidelines
  - Application hardening guidelines
- System hardening
  - Enforcing
  - Checking
  - Documentation
  - Reducing the blast radius (assume compromised)
  - Algorithm selection and enforcement
  - Dealing with elevated and root permissions
- Data Storage
  - Partitioning
  - Limiting secrets
  - Encrypting data - appropriate encryption
  - Coding Salting correctly
- Default behaviors and safe modes
  - Requiring secure defaults
  - Time to live on exceptions & token
  - Working w/ elevated permissions
  - Token revocation
  - Safely handling unexpected inputs
    - Establishing inputs banding
    - https://en.wikipedia.org/wiki/IDN_homograph_attack
  - Type validation
- Thinking like an attacker (what's the risk)
  - Goal: system take over
  - Goal: data extraction
  - Goal: chaos
  - Goal: profit / ransom
  - User Behavior
    - Verifying application is valid
    - Building trustworthy notifications
- Observability
  - Sufficiently verbose
  - Logs, traces, performance

- - Can this substitute for direct access?
    - Leaking sensitive information & PII info logs
    - Anonymization of logs
    - Tracking user behavior and access
- User Session Management
    - Caching sensitive information in tokens or cookies
    - Password management and processes
    - Authentication & Authorization & Accounting
    - Role Based Auth - doing this well
    - Using and requiring Multi-Factor Authentication
    - Not rolling own AAA
- Process and Security
    - How to build in security in design
    - How to continue adding security into system
    - Agile and regular security review and audit
    - Tracking channel issues
    - Backporting requirements and processes
    - Protecting the code
        - Developer auth
        - Supply Chain Attack
- Reporting and Tracking Vulnerabilities
    - How do we know that something is a vulnerability?
    - Reporting obligations
    - Reporting responses
    - Obligations to amplify issues fro dependencies
    - Tracking and incorporating fixes
    - How and process for community
    - What is a vulnerability?
- Hygiene and standard practices
- Feb 22, 2022 - retro games in the world of post DRM
- Mar 1, 2022 - Applications for DLT

Past Events

Past Events
- June 1-3 **LISA** by Usenix https://www.usenix.org/conference/lisa21/program [RackN has extra passes]
- June 7-17 **GrafanaCONline 2021** https://grafana.com/about/events/grafanacon/2021/
- June 9-10 **Observability** by Honeycomb.io https://o11ycon-hnycon.io

Our Calendar

- May 18 - Centos and the Linux reshuffle
  - Distro
- May 25 Release Process Management (Claus)
  - CI/CD automation
  - Split Test - LaunchDarkly?
  - Quality Gates
  - Git Tags/Releases
- June 1 Learning DevOps Roadmap
- June 8 Weakest Link Analysis
  - Finding weak links in infrastructure chains
  - How do you know what small think could bring down the overall system
- June 15 Observability
- June 22 - What's broken in CI/CD
  - Unscripted - Harness.io Conference
- June 29
  - CDcon
- July 6
  - NO MEETINGS
- July 13
  - Right to Repair
- July 20 - What makes good API design?
  - Payload?
  - Webassembly?
  - REST

- - CLI design?
- July 27 - Adhoc Terraform Automation Discussion
- August 3
  - NO MEETING
- August 10
  - Cluster Upgrades and Changes
  - Control Plane for Clusters
- August 17
  - Kubernetes Install Process
  - Cert Management
- August 24
  - Terraform Ecosystem & Orchestration "TACO"
    - Atlantis - https://www.runatlantis.io/
    - Env0
    - Digital Rebar Runner
    - Pulmuni
    - Terragrunt
- Aug 31, 2021 Challenges for Distributed Infrastructure Mgmt
  - High latency
  - Isolated operations
  - Consistency in different places
  - Open Infrastructure PTG: https://www.openstack.org/ptg
- Sept 7, 2021 Secure Development Practices
  - Build Outline Session(s)
  - Topics Exploration
  - Areas of Interest
- Sept 14, 2021 - Continuous Infrastructure Automation
  - Preventing Drifting
  - vs Orchestration
  - Reconciliation / Kubernetes
  - GitOps - state seeking, Crossplane
- Sept 21, 2021 - Secrets Management
  - Potential speaker: Don Bowman (from Agilicus) on using SOPS for secrets
- Sept 28, 2021 - DevOps / Automation Composability
  - Reusable components

- ○ Common Patterns
- Oct 5, 2021 - Edge Networking
  - ○ Telcom & 5G
  - ○ Edge Cloud
  - ○ Shared Resources
  - ○ Barriers to Adoption
- Oct 12, 2021 - DNS
  - ○ DNSSec
  - ○ DNS over HTTP
  - ○ Internal vs External
  - ○ Edge DNS
  - ○ Service Discovery
- Oct 19, 2021 - What is IaC?
  - ○ Revisited
  - ○ Between SREcon 14 & ADDO 28
- Oct 26, 2021 -Backups
  - ○ New Tools Available / New Thinking
  - ○ What makes them hard
  - ○ Recommended practices
  - ○ Managing cost (storage, egress, transfer, tools)
  - ○ System Recovery (it's not just about the data)
  - ○ Protecting Ransomware
- Nov 2, 2021 - Network Theme [Possible for July]
  - ○ 5G and Edge Networking Rollout
  - ○ New Ideas in Networking
    - ■ DNS
    - ■ Standardization of QUIC
      - ● Quick UDP connect
      - ● HTTP over UDP
  - ○ Edge Management
  - ○ IPv6?
- Nov 9, 2021 - Role & Goals of a Platform Team
  - ○ Developer Experience (DX) Team
  - ○ Kubernetes
  - ○ KPIs
    - ■ developer metrics

- - ■ operator metrics
    - ■ velocity
    - ■ Security
    - ■ Cost
- Nov 16, 2021 - Supply Chain Security
  - ○ Open Source
  - ○ What happens w/ upstream
  - ○ Managing dependencies
  - ○ Maintenance of software embedded into solutions
  - ○ Trust of platform composition
- Nov 23, 2021 NO METING
- Nov 30, 2021 (during re:Invent) Propagation of Standards
  - ○ Is AWS setting the standards
  - ○ https://www.joelonsoftware.com/2008/03/17/martian-headsets
  - ○ Using open source for standards
  - ○ Standard bodies
- Dec 7, 2021 - Validating Machine Learning
  - ○ Checking Assumption Live
  - ○ Model Training
  - ○ Troubleshooting in Production
  - ○ What to Expect and how to validate
  - ○ Inconsistent Data Model
  - ○ LFN https://www.lfnetworking.org/publications/2021/11/03/white-paper-intelligent-networking-ai-and-machine-learning/
- Dec 14, 2021 - Infrastructure Pipelines
  - ○ Cluster Lifecycle Pipelines
- Dec 21, 2021 - 2022 Predictions
- Dec 28. 2021 - NO MEETING
- Jan 4, 2022 - Edge HCI https://harvesterhci.io
- Jan 11, 2022 - How to react to tools becoming abandoned/unsupported
  - ○ (inspired by https://thenewstack.io/rust-mod-team-resigns-in-protest-of-unaccountable-core-team/)
- Jan 18, 2022 - Barriers to process improvements
  - ○ Making IaC Collaborative
- Jan 25, 2022 - Integrating legacy workloads into cloud native environments
- Feb 1, 2022 - We are building systems that are not intended to be updated by humans!
  - ○ What can we do about it?

- Feb 8, 2022 - adoption for AR/VR
  - Going metaverse?
  - Operational challenges?
- Feb 15, 2022 - Continuous delivery trends https://www.crowdcast.io/e/continuous-delivery-trends
- Mar 8, 2022 - GitOps - https://www.youtube.com/watch?v=fZEFWh4xBEw&list=PLXOML2VBdIo7xEp8Bo9kFB-d6tTlHK5Fk&index=10
  - GitOps Conference is June 9-10
  - How it's structured
  - Benefits, who is adoption
  - As alternatives to CI/CD
  - GitOps Days Conference
- Mar 15 2022 - Trusting Automated Processes
  - Between Teams
  - Within the control process.
- Mar 29, 2022
  - * as code!
  - https://www.jedi.be/blog/2022/02/23/trends-and-inventory-of-50-as-code-concepts/
- April 5 2022 - What is Confidential Computing?
  - https://www.edgeless.systems/resources/confidential-computing/
  - https://www.oc3.dev/
  - https://www.profian.com
- Apr 12, 2022
  - Does K8s escape vendor Lock in?
  - If yes, how?
  - If no, what's missing
- Apr 19, 2022 - Corporate Promotions hazardous to OSS?
        Based on https://twitter.com/kantrn/status/1511791378497384454
- April 26 -
- May 10 - Governance as Code
- May 17 - Jenkins
- June 21 - Governance as Code pt 2
- June 28 - Working Session on Complexity Design Rules
- July 5 - no meeting
- July 12 - no meeting
- July 19 - Governance as Code Landscape
- July 26 - Event & Monitoring

- - Prometheus "strongest weakness"
  - How to handle
  - Retry / missed events
  - Reporting/Logging for usable event streams
  - Alerts & Alarms
- Aug 2 Improving Interconnected Visibility
- Aug 8 (no meeting) -
- Aug 16 - Events & Orchestration
  - Responding to Events
  - Batch processing
  - Emitting events from automation
  - Alerts & Alarms
- Aug 23 - Platform Teams
  - Enterprise motivations
  - Center of Excellence
  - Skills & Up Skilling
  - Vs SREs
- Aug 30 - [no meeting] VM explore
- Sept 6 - VM explore retro
- Sept 13 - DevOps Mentoring
  - Building a team w/ junior people
- Sept 20 - eBPF
- Sept 27 - Reading the tea leaves of analyst notes
  - Gartner Hypecycles & Quadrants
  - Forrester
- Oct 4, 2022
- Oct 11, 2022 - Kubecon Prep
- Oct 18, 2022 - Multi-Cloud Control Plane
- Oct 25, 2022 - NO MEETING Kubecon
- Nov 1, 2022 - Kubecon Review
- Nov 8, 2022 (US election day) - Thin O/Ses & Thin O/S Provisioning
  - K3os
  - Photon
  - Flatcar
  - Talos

- Nov 15, 200 - OPA / Policy Controllers / Admission Controllers
- Nov 22 - NO MEETING THANKSGIVING WEEK
- Nov 29 - NO MEETING - reInvent (in person?)
- Dec 6 - Balancing Architectural overhead vs Getting Things Done
- Dec 13 - Platform Engineering
- Dec 20 - 2023 predictions / topics
- Dec 27 - no meeting
- Jan 3 - 2023 planning
- Jan 10 - backstage.io
- Jan 17 - 1x1 w/ Rocky
- Jan 24 - Chic-Fil-A kubernetes update discussion - https://medium.com/chick-fil-atech/enterprise-restaurant-compute-f5e2fd63d20f
- [Jan 31 - Hackyderm.io Migration Review w/ https://hachyderm.io/@hazelweakly](https://hachyderm.io/@hazelweakly)
- Feb 7 - planning - NO RECORDING
- Feb 14 - Chic-Fil-A Kubernetes continued
- Feb 21 - The challenge of verifying generative programming and automation
- Feb 28 - Making infrastructure less complex (for Developers) [Platform Engineering Topic]
- Mar 7 - Rethinking the SDLC https://www.youtube.com/watch?v=yCU4A-V_J5Q
- Mar 14 - Centralization vs Distributed Control [Platform Engineering Topic]
- Mar 21 - Making SBOM a realityMar 14 - Centralization vs Distributed Control [Platform Engineering Topic]
- Mar 21 - Making SBOM a reality
- April 4 - Don't Say Kubernetes! Let's talk about innovation without the K-word
- April 11 - Platform Engineering - Is sharing caring? Multi-company collaboration possible?
- April 18 - Generative DevOps?!
- April 25 - Don't Say Kubernetes! Let's talk about innovation without the K-word
- May 2 - What even is zero trust?
- May 9 - Security around uneven talent
- May 16 - Redesigning the Kubernetes control plane - can we replace the container manager but keep Kubernetes?
- **May 23 - NO MEETING**
- June 6 - Gluecon Retro, Planning for Summer
- June 13 - GPT group programming
- June 20 - Ad Hoc Topics
- June 27 - LLM integration & co-existence
    - Manage sensitive information
    - Integrate existing information into LLMs
    - The LLM sandwich
- July 4 - **NO MEETING**

- July 18 - Centos Changes
- July 18 - Retrospective on Reddit's k8s-related outage
  https://old.reddit.com/r/RedditEng/comments/11xx5o0/you_broke_reddit_the_piday_outage/
- July 25 - **NO MEETING**
- Aug 1 - misc topics
- Aug 8 - **NO MEETING**
- Aug 15 - OSS + Hashicorp License & Plans for Guests
- Aug 22 - VMware & News
- Aug 29 - general discussion, not recorded
- Oct 3 - What's up with Edge Computing
- Oct 10 -
- Sept 5 (Labor Day Week) -
- **Sept 12 - NO MEETING (Rob in Austin)**
- **Sept 19 - NO MEETING (Rob in Boston at VMUG)**
- **Sept 26 - NO MEETING (Rob in NYC at DevOpsCon)**
- Oct 17 -The road to KubeCon - what's hot, what's not
- Oct 24 - Getting Tractical on Governance
- Oct 31 - NO MEETING
- Nov 7 - Getting Tractical on Governance
  - Endpoint Scanning for Machines
  - Compliance & Audit Systems
  - Know you infrastructure / inventory / maintenance
  - Ability to Patch and keep up to date
  - Documentation
  - Change Management
  - Access controls and limitations
  - Remediation
- Nov 14 - NO MEETING
- Nov 21 - NO MEETING Thanksgiving
- Nov 28 - NO MEETING Re:Invent
- Dec 12 - NO MEETING Gartner
- Dec 19 - NO MEETING RackN
- Dec 26 - NO MEETING Holiday
- Jan 2 - Welcome Back and 2024 look forward (tech side)
- Jan 9 - TechOps Kick Off
- Jan 15 - TechOps topic 1

- Jan 22 - Using CLIs for Automation [from 🗒 Technical Ops Series]
- Jan 30 - Using APIs for Automation [from 🗒 Technical Ops Series]
- Feb 6 - Asynchronous API Automation (Events) [from 🗒 Technical Ops Series]
- Feb 13 - Using Containers for Fun and Profit [from 🗒 Technical Ops Series]
- Feb 20 -   [from 🗒 Technical Ops Series]
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