



PowerShell Conference Europe

DONT PANIC

(when containers are not an option)

Manfred Wallner



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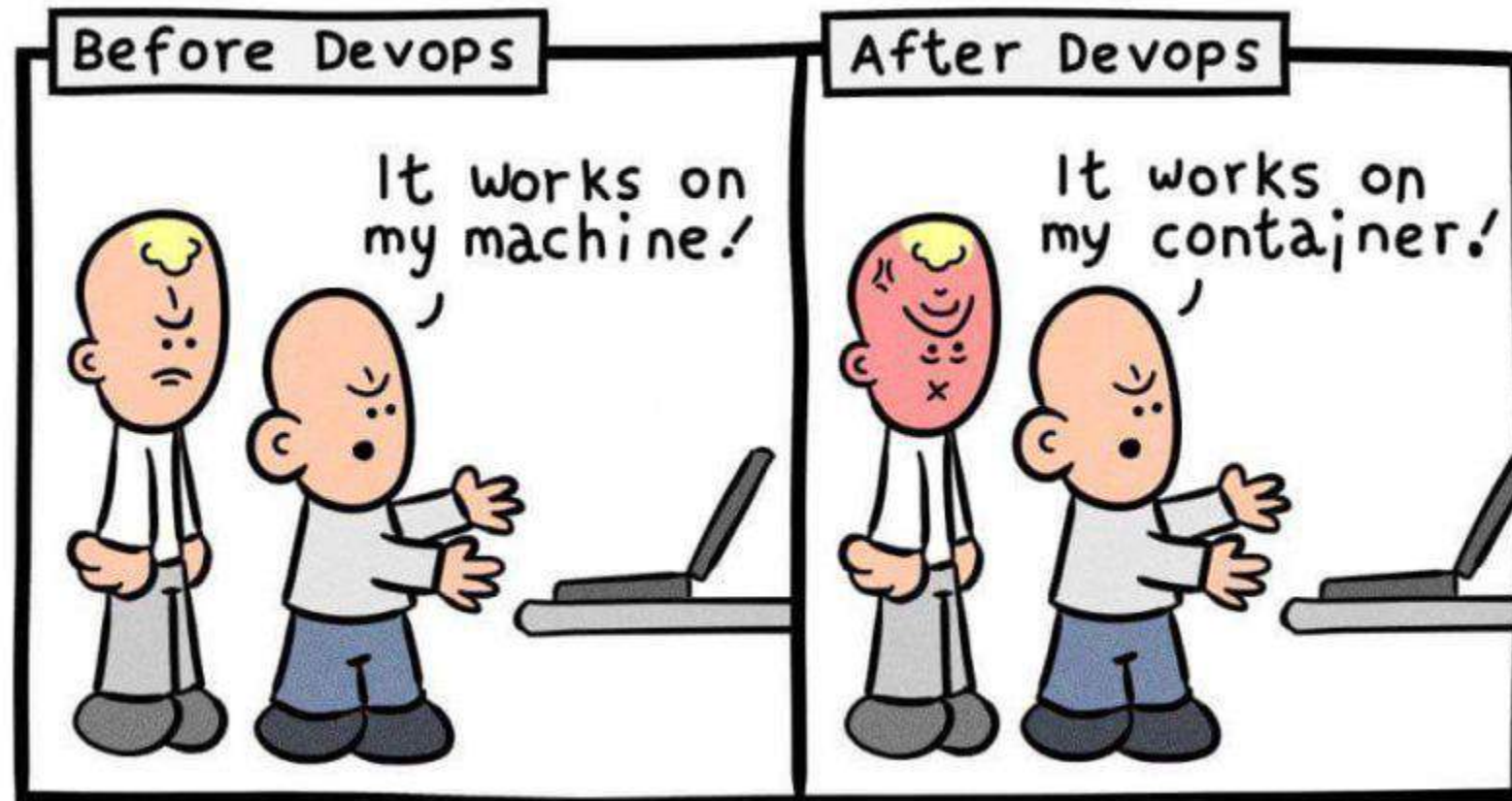
Manfred Wallner

- Software Engineer (~15 years)
 - Freelancer, R&D
 - Automotive
- PowerShell since 2016 (Chocolatey)
-  @schusterfredl



Containers ...

we've been *sold* the idea that containers will solve some of the main pain points in software development (and operation)



Daniel Stori (turnoff.us)

Containers

- increase developer productivity / velocity
- simplify configuration & deployment
- application isolation
- "lift and shift"



Containers

- are a great tool for dealing with state in development environments
- help developers and sysadmins to keep host systems 'clean'
- are *super-convenient*

Containers in ...

- specialized environments
 - pci devices access
 - Windows environments
 - legacy OS (< Server 2016 ...)
- high perf (cpu/gpu passthrough)
- disconnected networks

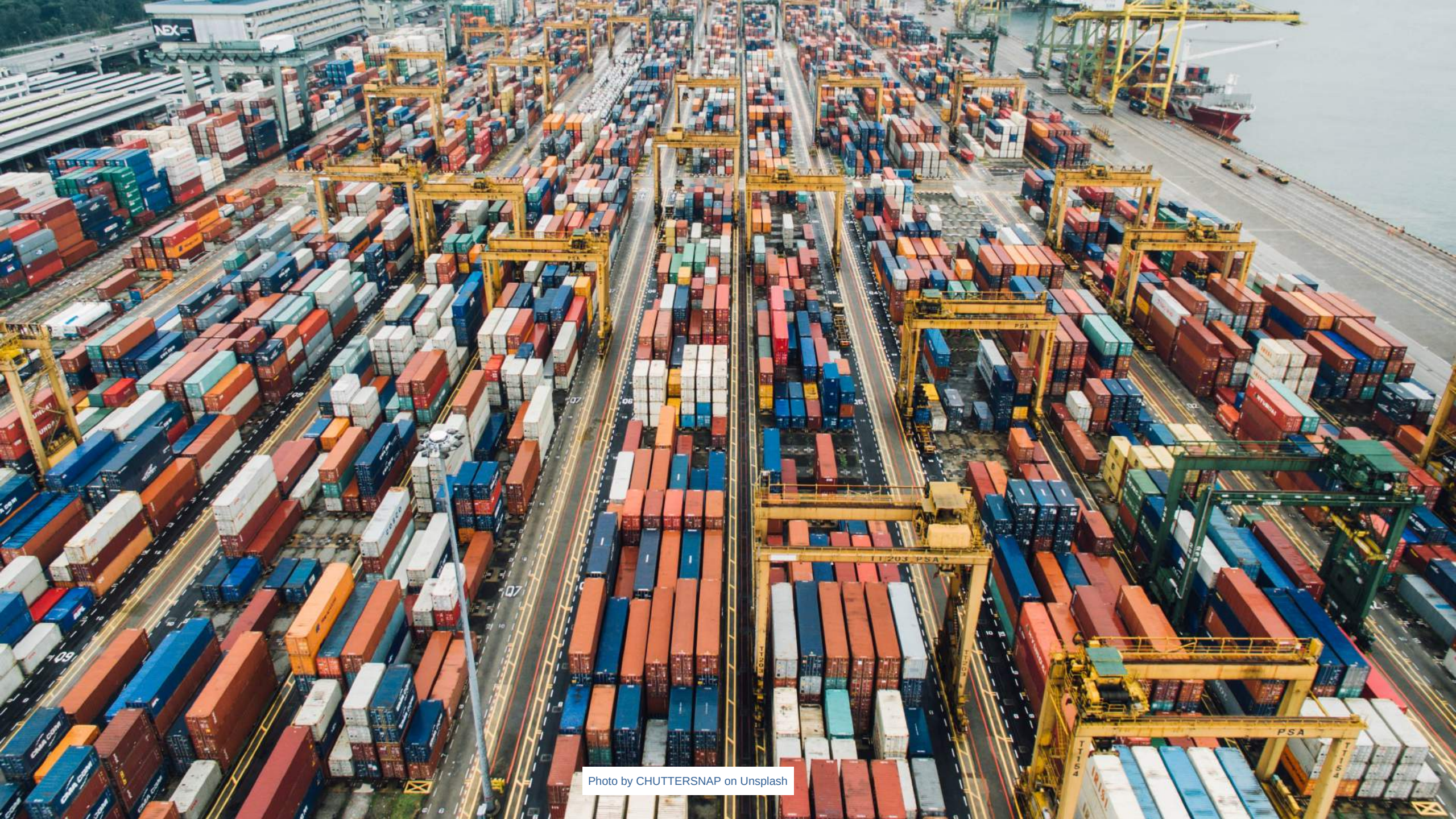


Photo by CHUTERSNAP on Unsplash

Containers

- quickly get complicated to deal with in certain environments
- benefit-cost ratio is sometimes not as clear as we want it to be

Example Scenario

- CI/CD environment system with special hardware and high security constraints
 - direct hardware/pci access
 - disconnected network
 - reproducible builds

Reproducible Builds 101

- source: **everything** is in SCM
 - NO external input/assets
- automated software setup & configuration deployment
 - put this in SCM!
- **know** your **state**
 - **monitor** your state
 - **manage** your state

Offline Environments Pitfalls

- anything relying on public infra/services?
 - nuget, npm, maven, pip, ...
 - git
 - remote/cloud agents
 - ...?
- We still have to solve the same problems as when on bare metal.



Containers

Are great, but sometimes just not fit for the job at hand.



Managing State with Jenkins Agents

```
Push-State  
try {  
    Something  
}  
finally {  
    Pop-State  
}
```

Managing State

- Processes / Services
 - PowerShell
- Applications
 - Chocolatey / PowerShell
- Registry
 - PowerShell
- Files
 - Win32_ShadowCopy / PowerShell

DONT'T PANIC

- we still know how to solve basic problems without using containers
- SCM and configuration management are here to save the day
- you don't have to control *all* the state
- you *can* use containers where possible



