Infrastructure
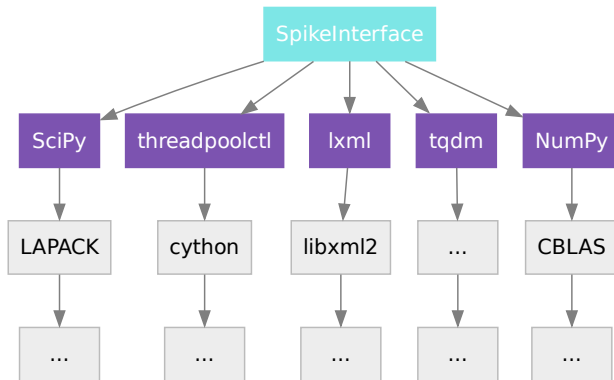
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ODIN

October 12, 2023
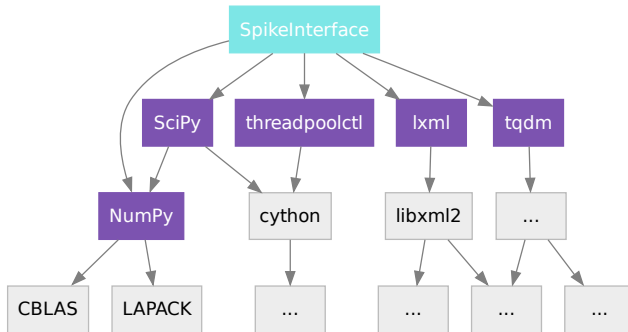
Probably more than you think.
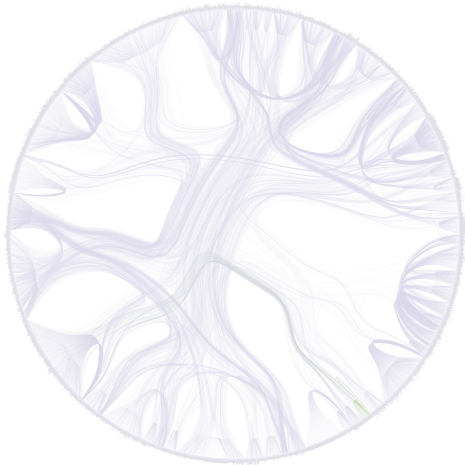
What are you actually using?
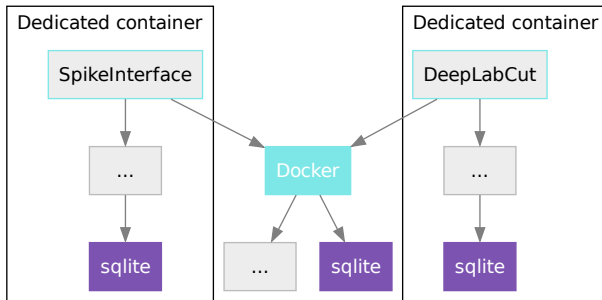
Probably more interconnected than you think.

Probably *much* more complex than you think.

No, but you can make it worse.

▶ Now you have three clocks and don't know what time it is.

Can you make this complexity go away?

And not just with respect to details.

```
FROM ████ matlab-base

USER root

RUN chmod 755 /usr/bin/mlrtapp████ compiled
ENV PATH="/usr/bin/mlrtapp:${PATH}"

# Installing Python with miniconda
RUN apt-get update && \
    apt-get install -y build-essential  && \
    apt-get install -y wget && \
    apt-get install -y git && \
    apt-get clean && \
    rm -rf /var/lib/apt/lists/*

ENV MINICONDA_VERSION 23.1.0-1
ENV PYTHON_VERSION py39
ENV CONDA_DIR /home/miniconda3
ENV LATEST_CONDA_SCRIPT "Miniconda3-${PYTHON_VERSION}_${MINICONDA_VERSION}-Linux-x86_64.sh"

RUN wget --quiet https://repo.anaconda.com/miniconda/$LATEST_CONDA_SCRIPT -O ~/miniconda.sh && \
    bash ~/miniconda.sh -b -p $CONDA_DIR && \
    rm ~/miniconda.sh
ENV PATH=$CONDA_DIR/bin:$PATH
```

▶ But good solutions are irresistible.

The Software Stack
○○○

Denial
○○

Acceptance
●

How can your work thrive in an interconnected software stack?

Key Discussion Items

Concepts:

- ▶ distributed workload;
- ▶ testing and sustainability;
- ▶ user-developer feedback loop;
- ▶ flexibility and transparency;
- ▶ adaptability;
- ▶ resource integration;

Questions:

- ▶ What infrastructure do you use (scale, security, etc.)?
- ▶ How do you manage your software stack?
- ▶ Do you benefit from controlling your environment?
- ▶ What advantages do you gain from open source?
- ▶ Do you treat scientific software stacks differently from other software, if so, why?