

facebook

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Open Networking @ Facebook

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Facebook Open Networking Projects

FBOSS

OpenBMC

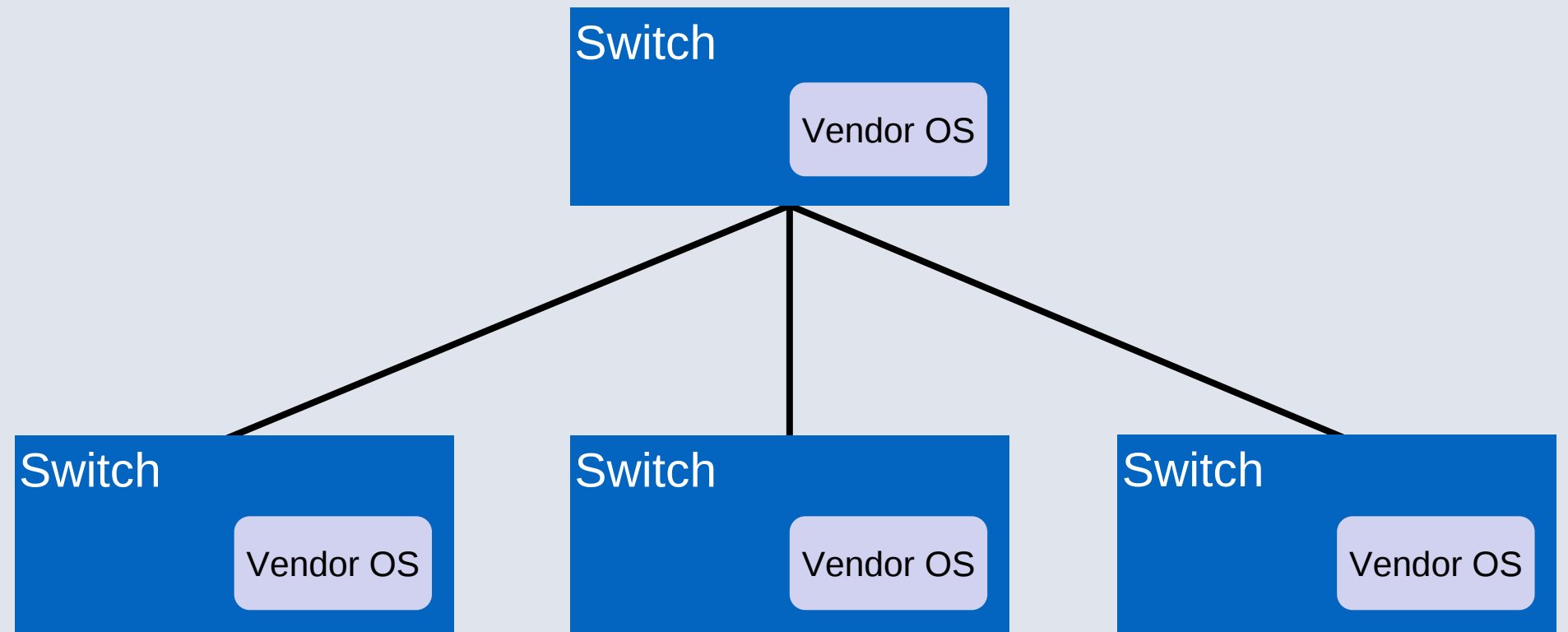


Wedge

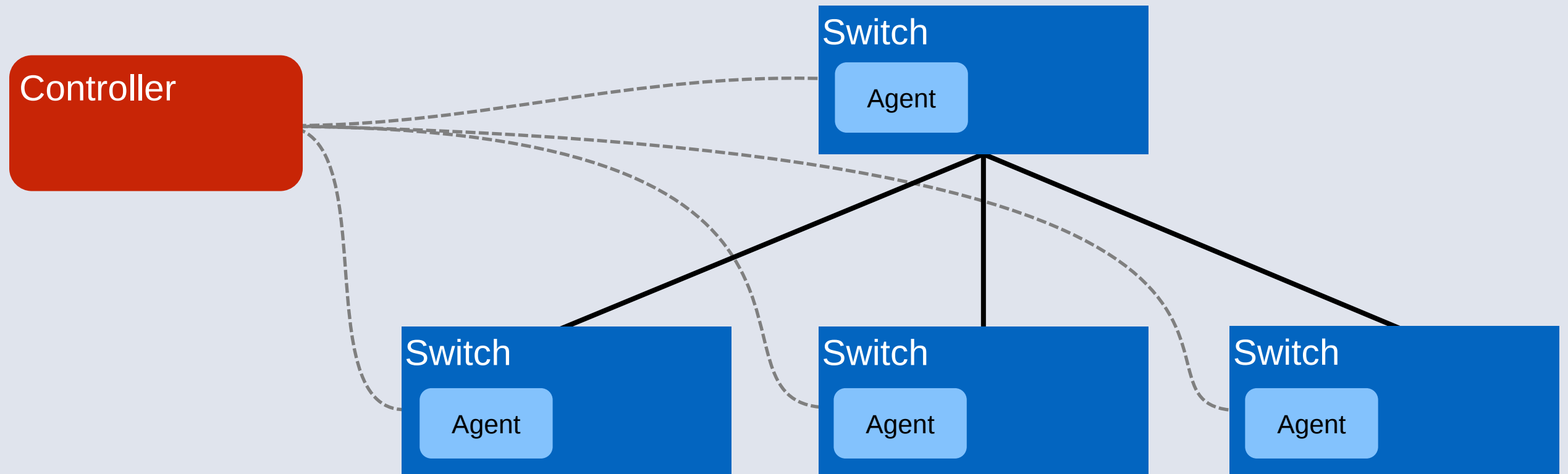


6-pack

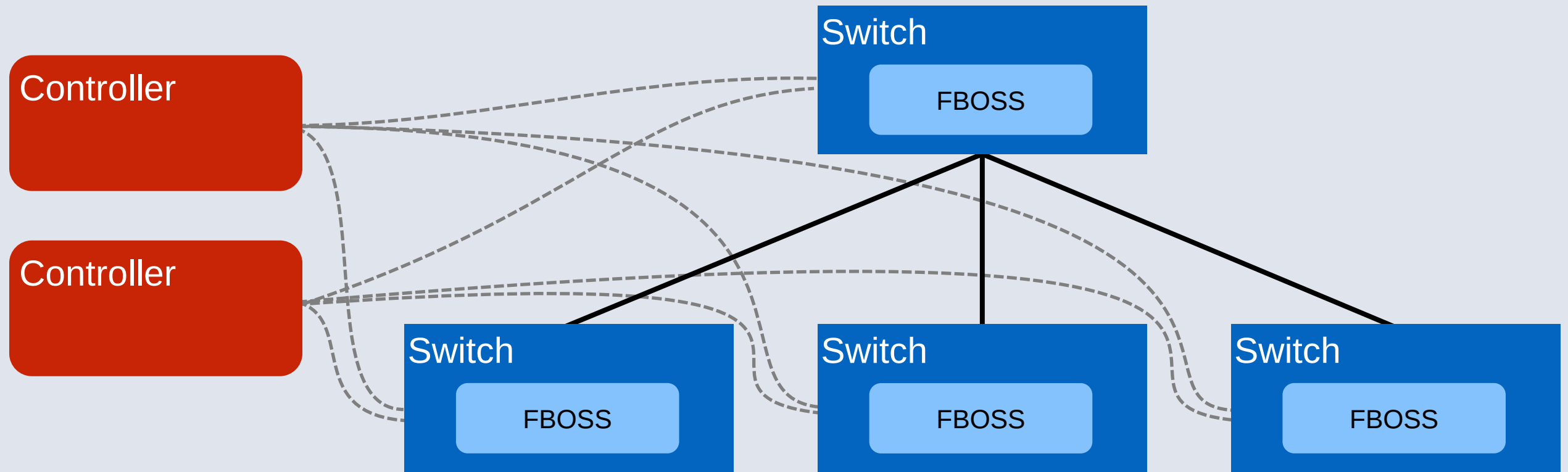
Traditional Network Model



SDN



SDN at Facebook



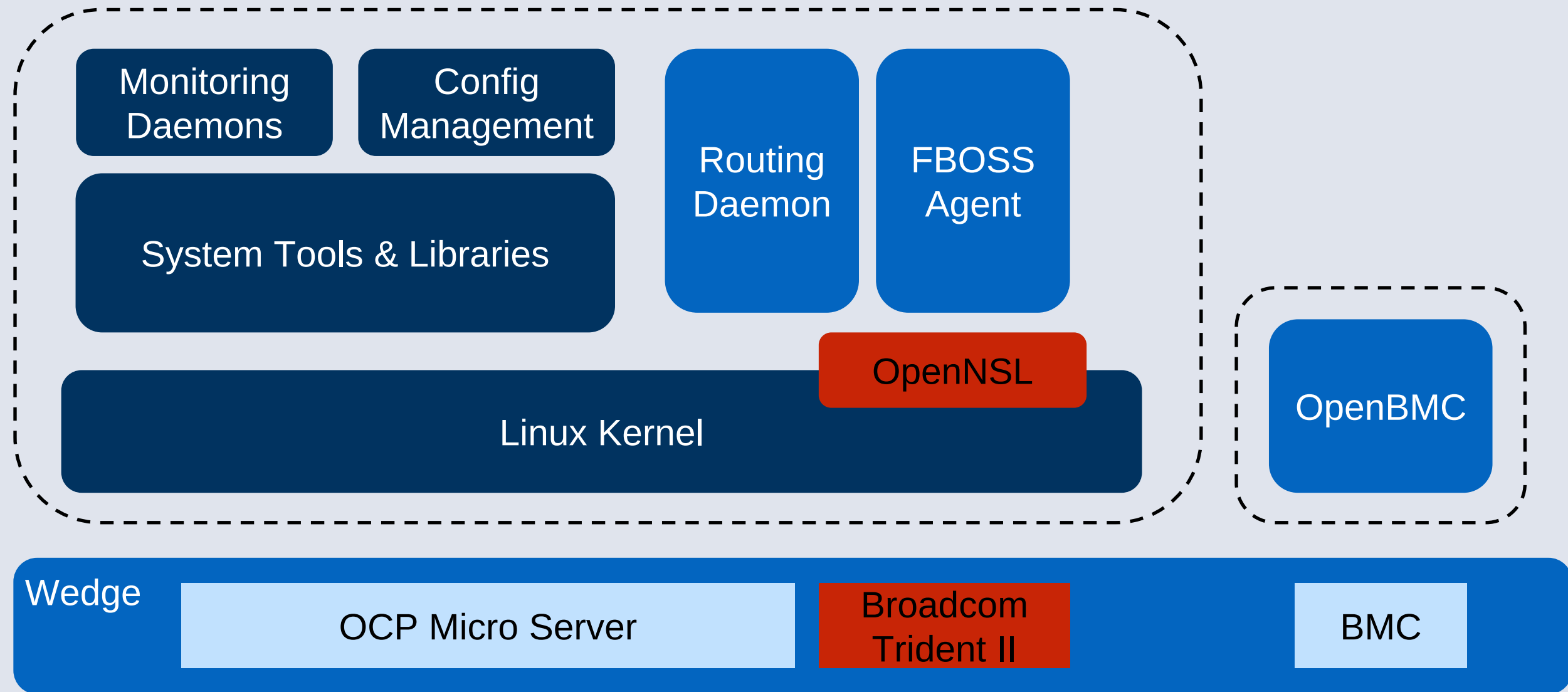
FBOSS

- Control plane software stack
- Runs on Linux
- Provides thrift RPC APIs
- Open source
 - <https://github.com/facebook/fboss>

Open Source Status

- Requires a wedge switch
- Designed for Facebook's environment
- Requires development expertise
- Will improve over time

FBOSS Overview



Pros

- Full control of hardware
 - Completely customizable
 - Very good visibility into statistics and hardware behavior
- Managed like a server
- Easy software upgrade
- Rapid prototyping

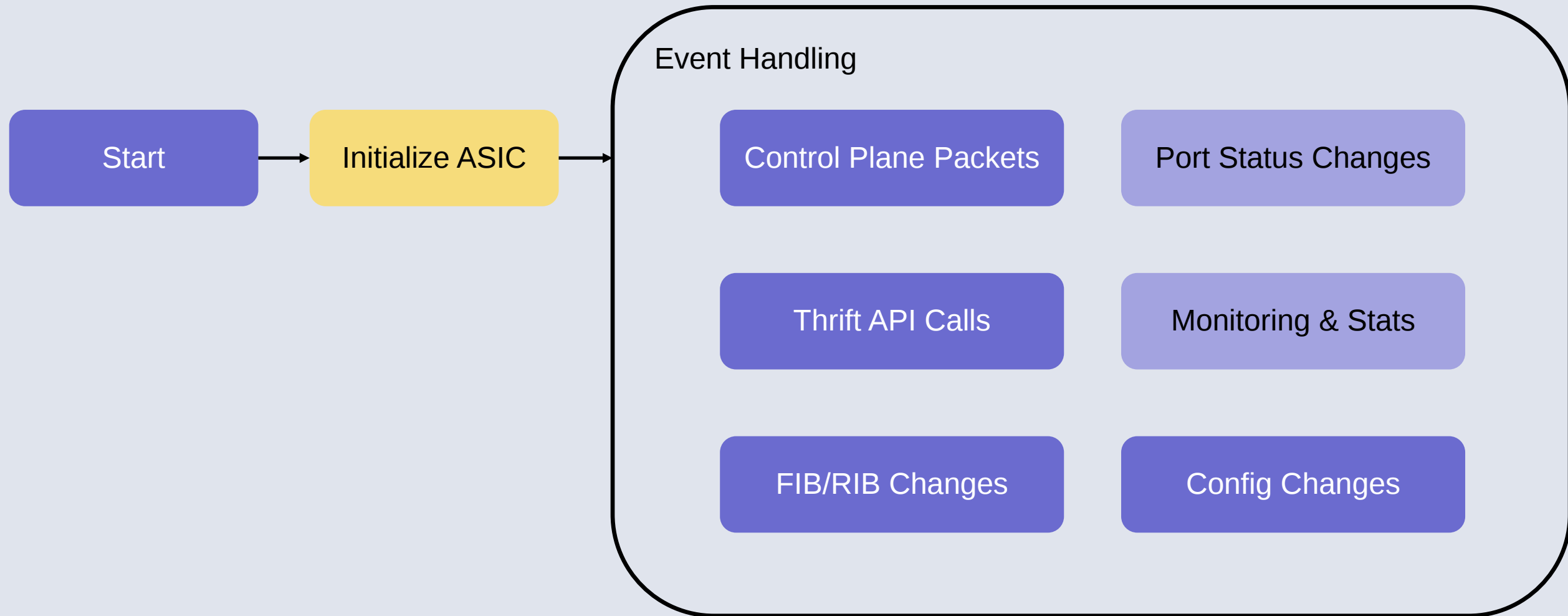
Cons

- Full control of hardware
 - Have to implement everything yourself

Hardware SDKs

- Switch Abstraction Interface (SAI)
- Vendor APIs
 - Broadcom: OpenNSL
 - <https://github.com/Broadcom-Switch/OpenNSL>
 - Mellanox: SwitchX
 - <https://github.com/Mellanox/SwitchX-interfaces>

Agent Workflow



Future Directions

- Better support for non-Facebook environments
- Additional tooling
- Routing daemon
- Additional functionality

Resources

- Source code
 - <https://github.com/facebook/fboss>
 - <https://github.com/facebook/openbmc>
- Hardware specs
 - <http://www.opencompute.org/projects/networking/>
- Engineering Blog Posts:
 - <https://code.facebook.com>

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