

Software Backplanes: Why aren't they a thing?

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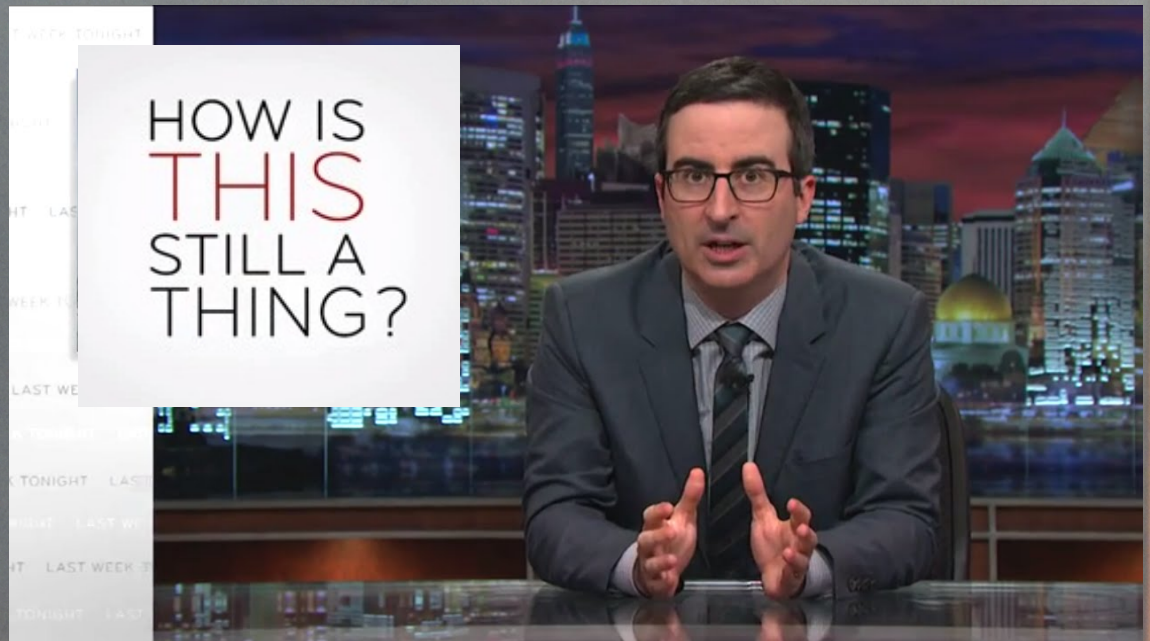
Clean Slate Systems

Homage to John Oliver

How is THIS still a thing?

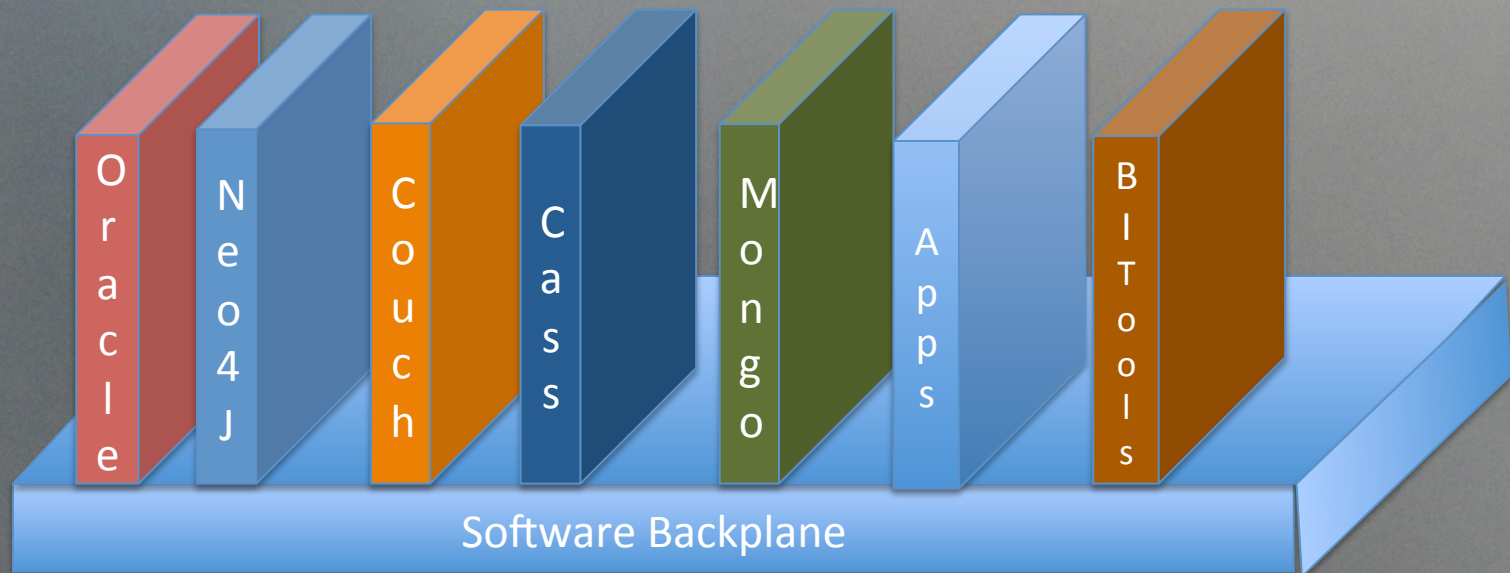
- Sports Illustrated Swimsuit Issue
- Daylight Savings
- Columbus Day
- Ayn Rand
- Televangelists
- ...

**Why are some things
Not a thing?**



Software Backplanes: Why is this NOT a thing?

- An interconnection layer that connects the inputs and outputs of software products and components.



- Is this idea just too complex to be realistic?

Hardware Backplanes

- A **backplane** (or "**backplane system**") is a group of electrical connectors in parallel with each other, so that each pin of each connector is linked to the same relative pin of all the other connectors, forming a computer bus.
- Pinouts are defined
- Protocols established



Software Backplanes: How Might this work?

- Standard “pin-outs” for software?
- Standard protocols for data exchange?
- Common Middleware Platform for Interoperability?

Could Enterprise Service Bus (ESB) do this?



ESB Experiences (The Bad Ones)

- Don't use an ESB unless you absolutely, positively need one, Mule CTO warns
- Enterprise Service Buses (ESBs) - Utopia or Money Pit?
- Time to Get Off the Enterprise Service Bus?
- **General Sense:**
 - Too bloated, too complex for most solutions
 - Nothing automatic (not a backplane)

What about ... TupleSpaces and The Trellis?

- Mike Factor and David Gelernter (Yale 1991)
 - ➔ The Linda TupleSpace System
- Coined the term “Trellis” as a software backplane for agents working collaboratively in a distributed system. Uses the TupleSpace system (the whiteboard model) for communications.
- Based on the (old) Expert Systems (Blackboard Model). Experts collaborate via common communications medium (the blackboard)

Software Backplanes: Is It Time? Is It Possible?

- High Performance TupleSpace Middleware
 - Data Push, Data Pull Capability
 - Multiple Interface Capability
 - REST Interfaces for existing function
 - Enhanced TupleSpace API for new and high vol function
 - Micro-services for composition of new function
- ➔ Maybe a new era for federated databases?