



IP or IT?

Democratizing content production with commodity infrastructure

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Introduction

- StreamPunk Media?
- IP or IT? Questions to ask
- Steam-powered approach - IoT
- Prototype products
- Services and support
- Conclusions



Introducing Streampunk Media

- **Brand new media-specialist startup**
 - Small company
 - Big ambition and vision
- **Democratizing content production using the same commodity infrastructure as services like GMail.**
- **Developing tools that are free at the point use, for both creation and delivery, providing new opportunities for personalized immersive social TV.**
- **Providing education, design, prototyping, development and cloud services, lowering risk for your transition beyond IP to IT.**
- **True value of a transition to IT**
 - Transformative creative services;
 - Capabilities not limited by locations, formats and hierarchies;
 - More than like-for-like replacement;
 - Today's tech-savvy audience.
- **SPM are experienced media & technology professionals who understand:**
 - today's signals (SDI, ASI), file formats (MXF, MOV, WAV), streaming, editing and timing;
 - the internet, the web platform, cloud, data centre, how to make it fast and how it scales;
 - emerging IP-based standards for media transport (TR-03, ASPEN, MPEG-DASH) & discovery (NMOS).

What are you buying?

Pragmatic IP solutions are here today.

Interoperability standards are in progress.

FAX or VoIP /social / IM / cloud drive?

THE computing platform is defined:

- *Mi-goog-azon-book-er* (x86)
- Proven in post production
- Proven in file-based workflows
- Proven for big data - stream processing
- To be proven for live stream processing?

Signal-driven products using IP?

Failing to exploit all the x86 has to offer?

Expression of computer scientists' frustration!

What if we started again - data-driven?

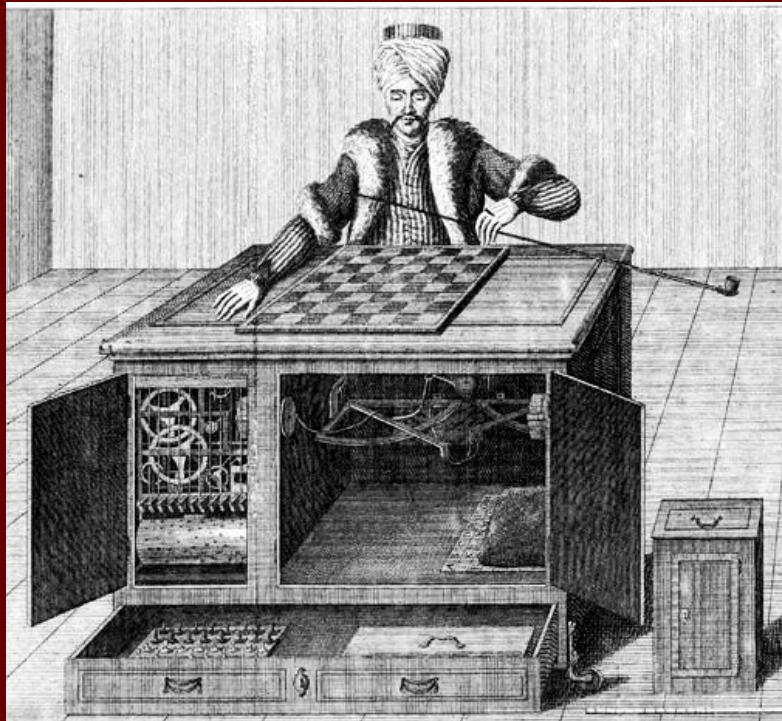
How do you detect divergence from x86?

- Mechanical Turk?
- Snake Oil?
- Sleight of hand?

Mechanical Turk?

Draw back the curtain and nothing has changed?

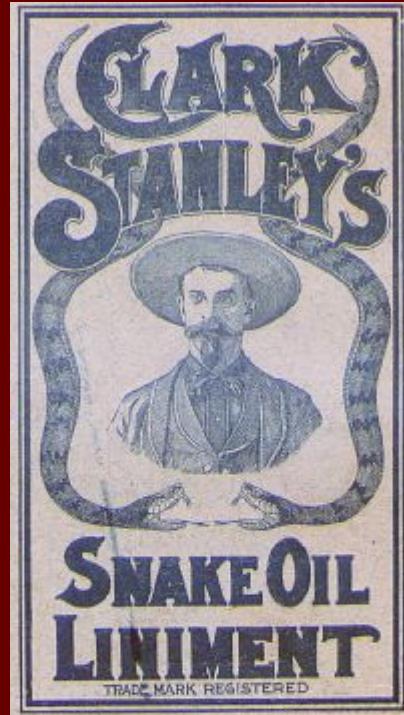
- Router and switch are media-specific?
- Point-to-point layer 2 solution?
- Switching video with software-defined networking?
- Existing product with a thin skin of IP?
- Embedding ancillary data inside a signal? Use an API?



Snake Oil?

Media-specific product of questionable or unverifiable benefit?

- Proprietary codec or protocol is required? Really?
- Running out of bandwidth - can you add an extra card?
- Supplier has the expertise to get 100% from CPU & GPU?
- Claims of reliability, energy efficiency & performance fairly measured?



Sleight of hand?

Looks like IT, smells like IT, is it IT?

- Single vendor app store? Why not MS/Google/Apple stores?
- Media-specialist expansion card required? No virtualisation?
- Compatible with enterprise IT security and auditing?
- Riding 40+ years of TCP/IP optimisation or re-inventing wheels?



Steam-powered approach ...



Steam-power?

Give a Victorian the internet and x86

Mixing up before broadcasting with the web

Inspired by the steampunk subculture

- DIY ethic
- Anti-establishment
- Open source

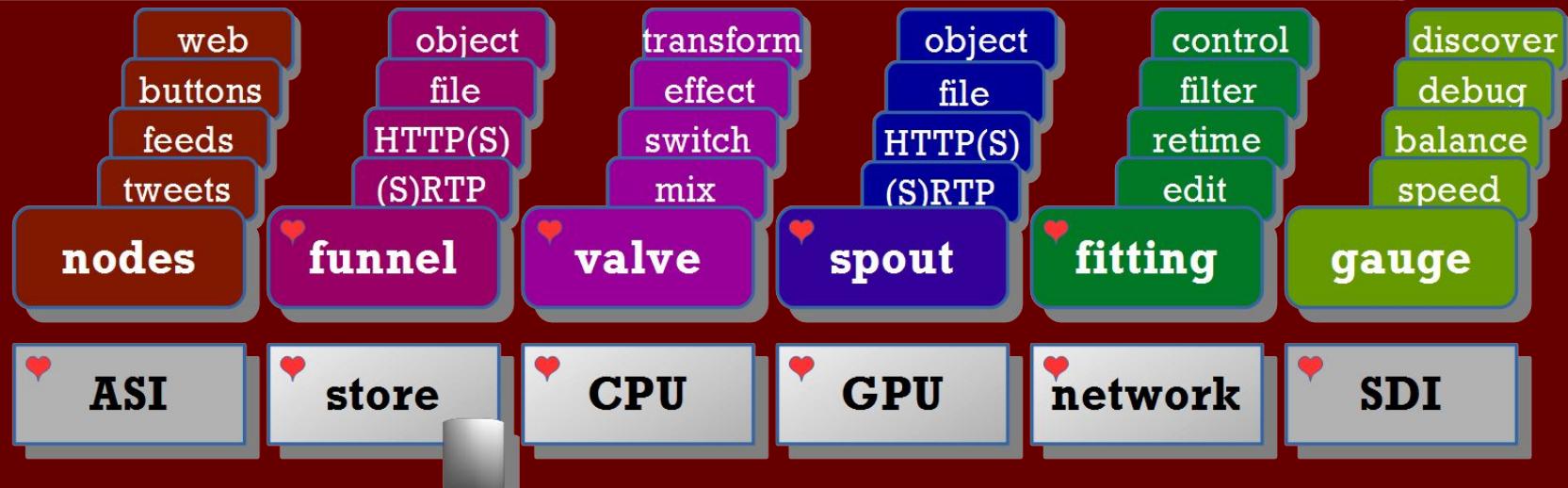
Back to basics innovation

- Data-driven, map the legacy signals later
- Re-imagining stream-based production

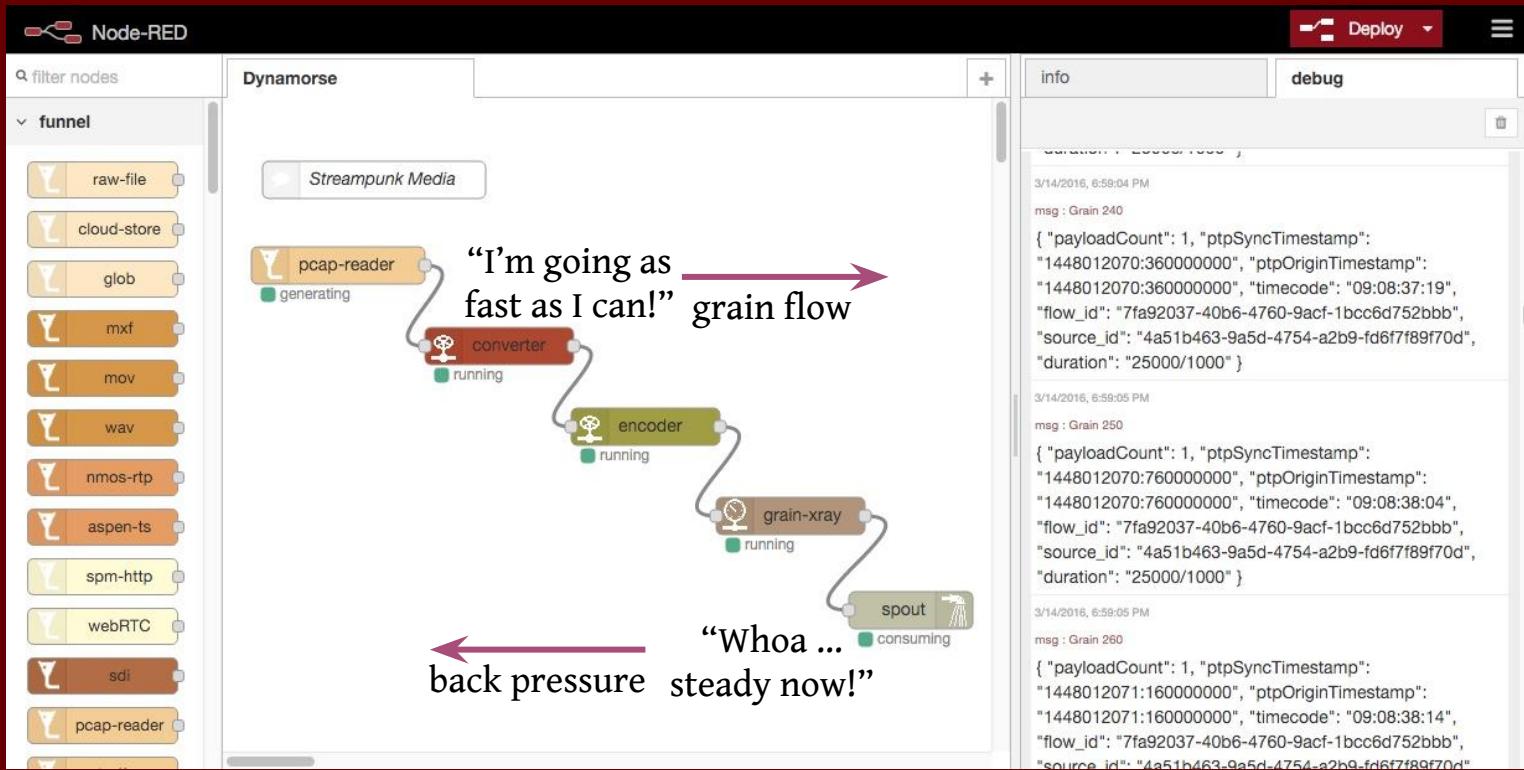
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- Parallel TCP/IP reliably fills network pipes to & from applications
 - Brittle UDP/RTP does not
 - 1ns == 30 cm / 11.8 inches
 - Clockwork required JT-NM
 - Big data uses stream processing
 - Reactive streams with back pressure
 - The Internet of Things is modern wiring
 - Value is in high-level services
 - Infrastructure is commodity PAYG
 - Software is open source
 - Opportunity to personalize content
 - Create templated experiences
 - Deliver immersive social TV
- ”

Steam-powered concept

{ “**Node-RED**” : [“REST API”, “JSON”] }



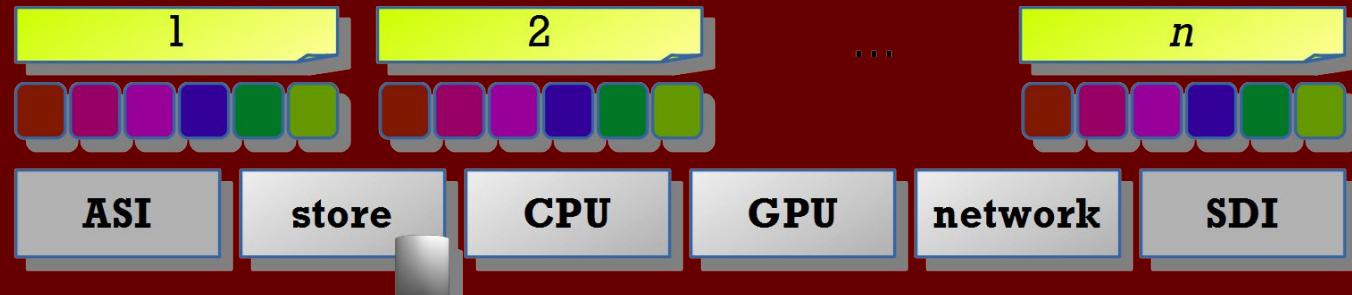
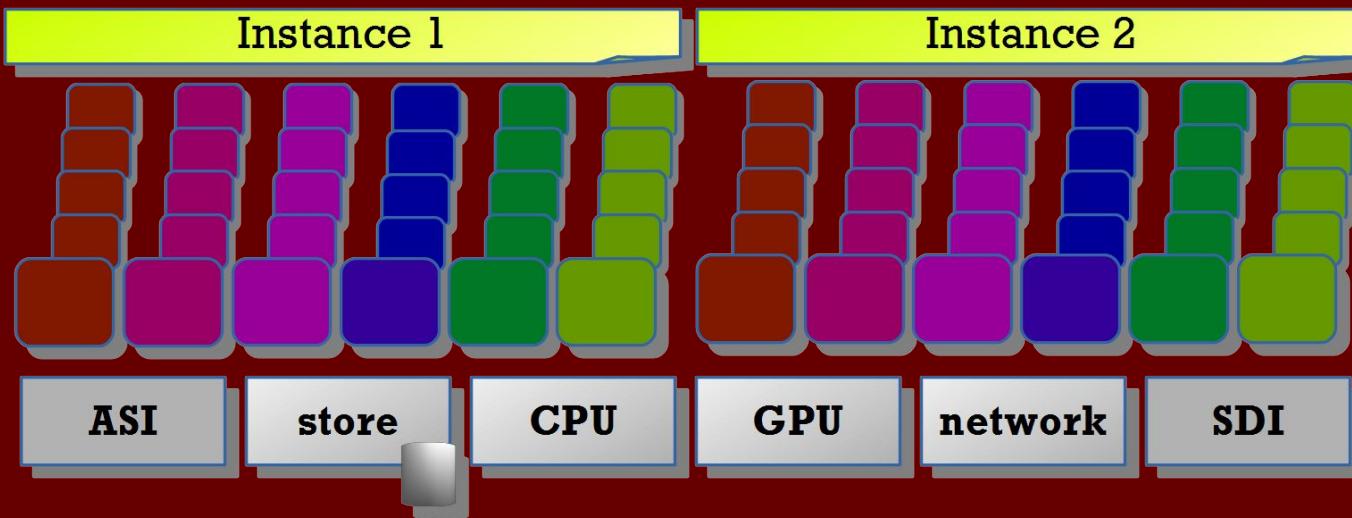
Dynamorse prototype



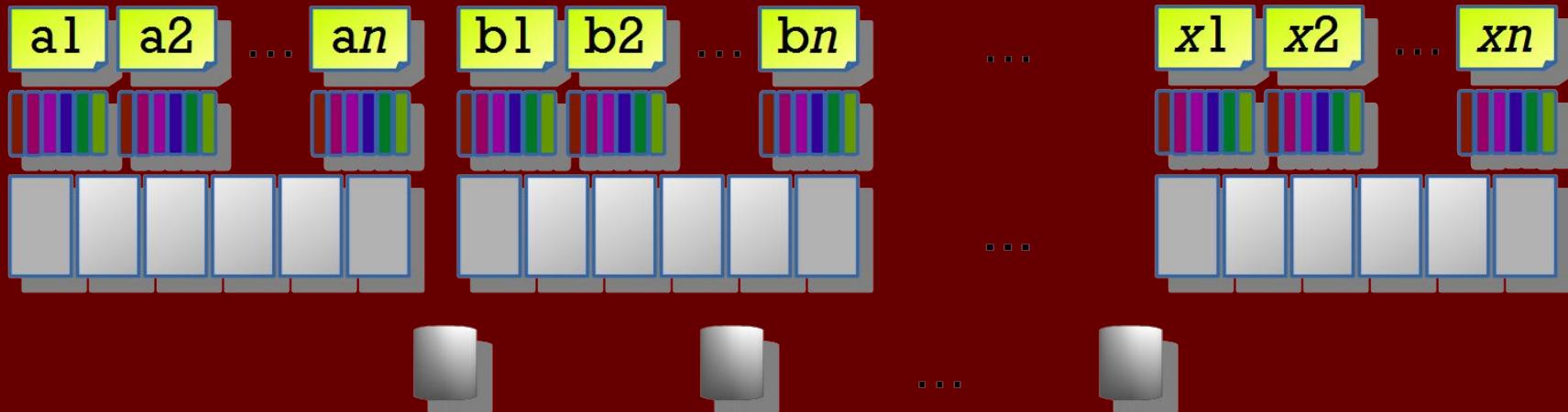
Monitoring with IT tools



Scale up ...

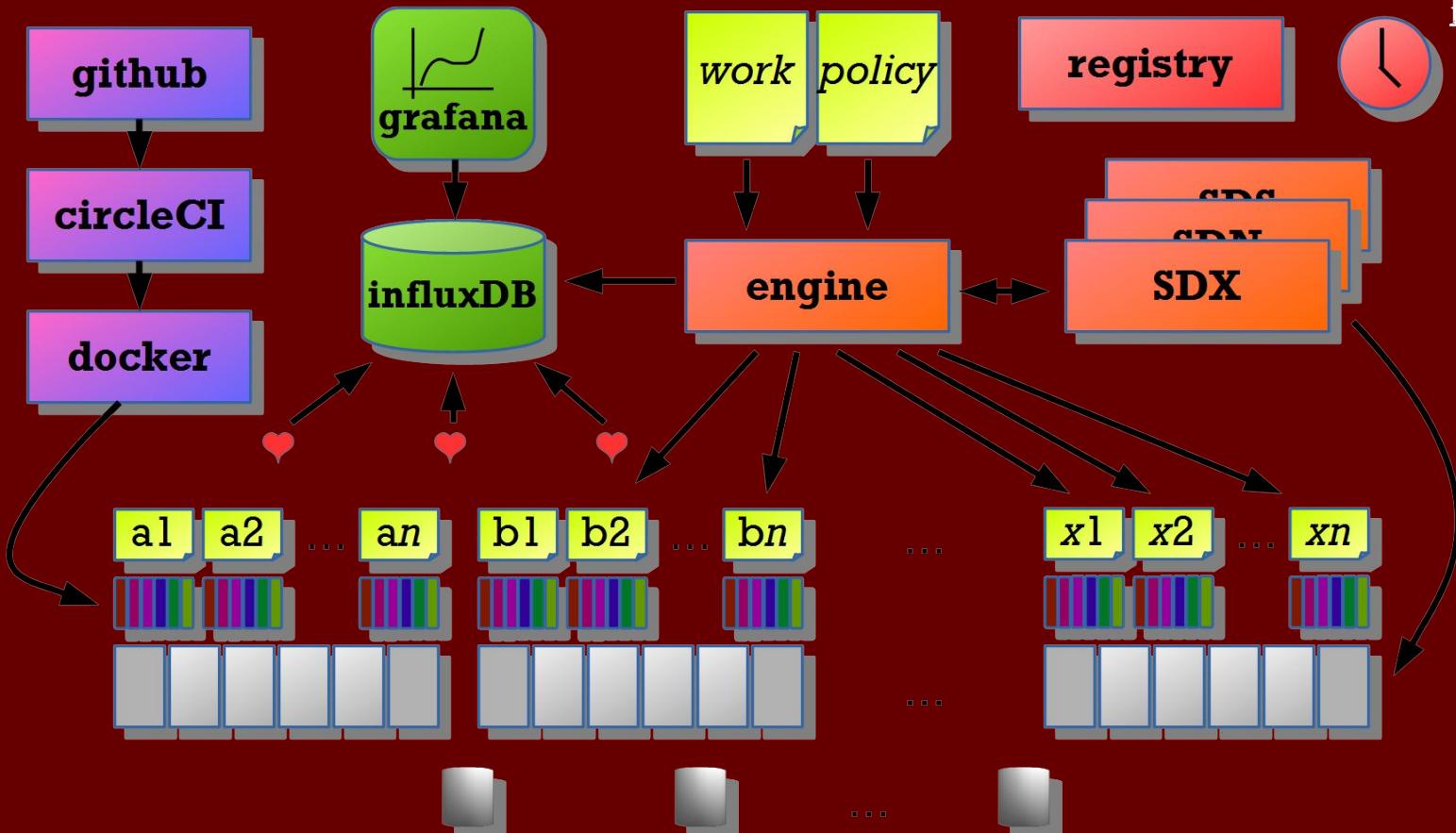


... scale out

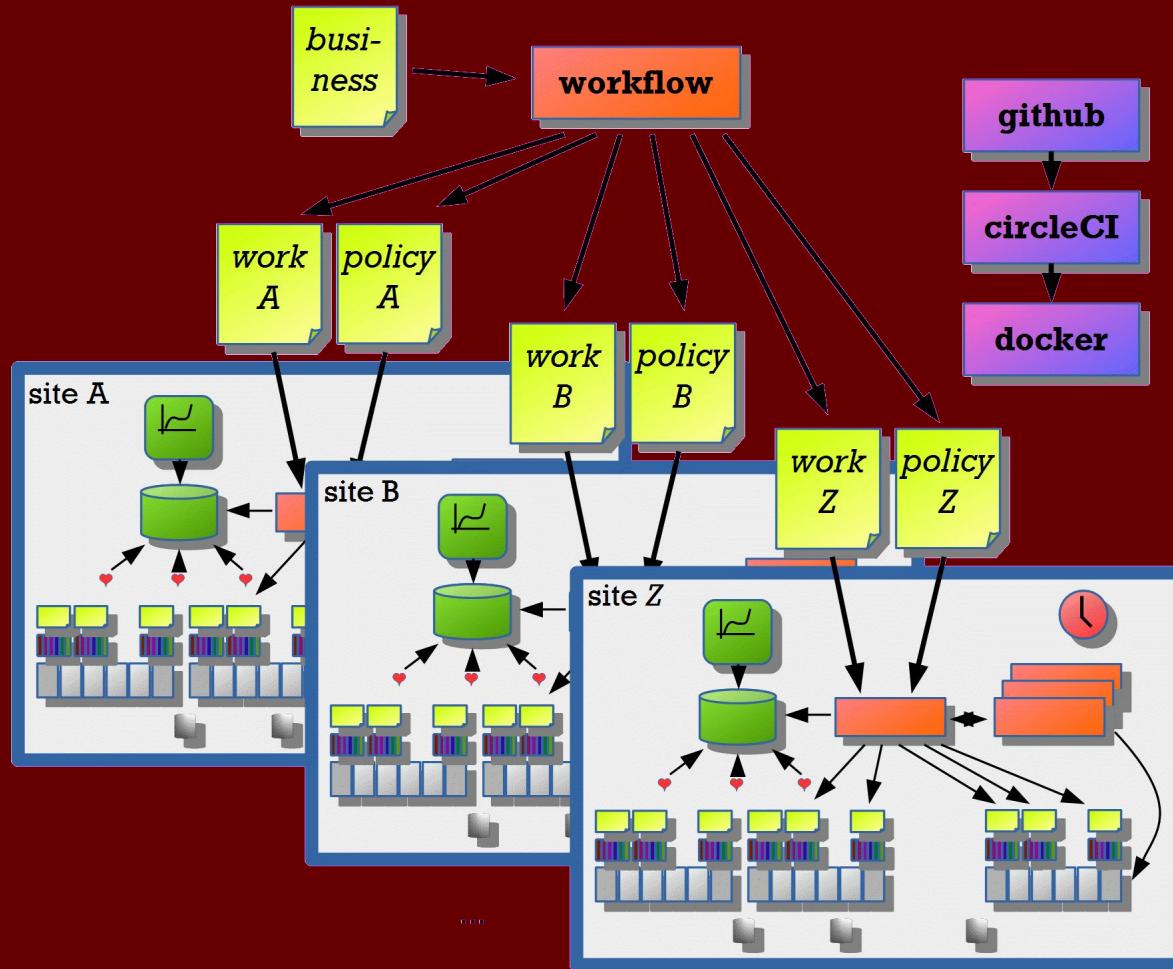


Local context

STREAMPUNK
MEDIA



Business context

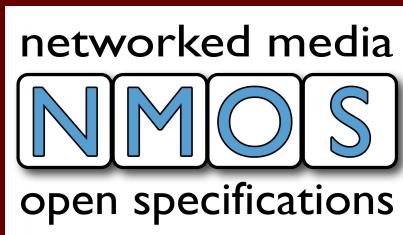
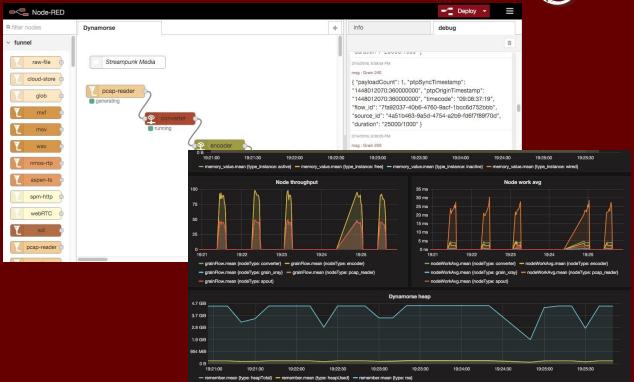


Prototypes in development

Dynamorse

<http://github.com/streampunk>

- IP swiss army knife based on IBM Node-RED
- Adds reactive streams, C++ bindings FFMPEG, ...



Ledger

- JTNm-RA/NMOS - registration and discovery
- To include Node API, peer-to-peer, federation

Automaton

- Low-cost PTP grand master clock - Raspberry Pi
- Build an NMOS lab, local or remote site



Next steps

- **Prototypes already de-risk most aspects of the platform**
 - Performance, reactive streams, configuration, containerisation, testing etc..
- **Continue to develop out the prototypes - <http://github.com/streampunk>**
 - Solve real problems - Work on projects that provide prioritisation
 - Help users to become informed purchasers of IT rather than IP solutions
 - Participate in interoperability testing wherever possible
- **Look for partners & investors**
- **Build out a PAYG cloud infrastructure**
- **Develop or partner with a web-based editing app**
- **Demonstrate and automate local and global contexts**
 - The true value of future broadcast infrastructure





Thank you :-)
Any questions?



Demos are available - just ask!



More info?

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