

Streampunk Media IoT Tools

Richard Cartwright – CTO

Streampunk Media Ltd. – Hall 10.A42

<https://www.streampunk.media>

<https://github.com/Streampunk>



Node-RED set up

1. Install:

- Node.JS LTS;
- node-gyp prereq.;
- Node-RED.

2. Run node-red

- <http://localhost:1880>

The screenshot shows the Node-RED web interface. At the top right, the 'Deploy' button is circled in red. The main workspace displays a flow named 'Flow 1' with three nodes: a purple 'fridge' node, a blue 'Tweet' node, and a green 'debug' node. The 'fridge' node is connected to both the 'Tweet' and 'debug' nodes. On the left, a node palette is visible with categories 'filter nodes' and 'output'. The 'output' category is expanded, showing nodes like 'debug', 'link', 'mqtt', and 'http response'. On the right, a sidebar shows the 'info' tab for the selected 'debug' node, displaying its name, type, ID, and properties.

Node	
Name	debug
Type	debug
ID	d6087455.3a7c58

► Properties

The Debug node can be connected to the output of any node. It can be used to display the output of any message property in the debug tab of the sidebar. The default is to display `msg.payload`.

Each message will also display

nodes -
capabilities

flow-based IoT
programming

Dynamic media extension

1. Install:

- Node.JS LTS;
- node-gyp prereq.;
- Node-RED.

2. Run node-red

- <http://localhost:1880>

3. Menu -> Manage palette

- Install tab
- Search *dynamorse*

4. Install core module

5. Add other modules

The screenshot displays the Node-RED interface. At the top, the 'Node-RED' logo and a 'Deploy' button are visible. The 'Manage palette' window is open, showing a search for 'dynamorse' with 9/881 results. Two search results are listed: 'node-red-contrib-dynamorse-audio-io' (version 0.1.2, 3 weeks ago) and 'node-red-contrib-dynamorse-core' (version 0.1.1, 1 month ago). Both results have an 'install' button circled in red. The 'Install' button in the 'Manage palette' header is also circled in red. On the right, the main menu is open, with the 'Manage palette' option circled in red. The 'Show tips' option is checked. A 'MEDIA' logo is visible in the bottom right corner.

Wire up infrastructure

Node-RED

Deploy

filter nodes

mpeg ts

funnel

microphone

cloud store

glob

mxf

mov

wav

sdi

Dynamorse

Streampunk Media

wav-in

speaker

sdi-in

converter

encoder

AAC encoder

wav-out

nmos-rtp-in

multiviewer

cloud-store-in

sdi-out

raw-file-out

mpeg-ts-out

Node

Type	wav-in
ID	a9db2de7.8a0f6

Properties

WAVE audio file input

Read grains from a WAVE audio (`.wav`) file, creating one NMOS flows with the number of samples-per-frame matched to a grains-per-second rate.

node-red-contrib-dynamorse-transition

Dynamorse transition nodes for Node-RED

v0.1.4

node

node-red-contrib-dynamorse-core

Setup and support for Streampunk Media's Node-RED nodes

v0.1.6  300

node

node-red-contrib-dynamorse-file-io

Dynamorse File IO nodes for Node-RED

v0.1.3  138

node

node-red-contrib-dynamorse-http-io

Dynamorse http IO nodes for Node-RED

v0.0.14  136

node

node-red-contrib-dynamorse-sdi-io

Dynamorse SDI IO nodes for Node-RED

v0.1.6  36

node

node-red-contrib-dynamorse-rtp-io

Dynamorse RTP IO and MPEG-TS processing nodes for Node-RED

v0.1.5  26

node

node-red-contrib-dynamorse-cinecoder

Dynamorse processing nodes using Cinecoder for Node-RED

v0.1.0  2

node

node-red-contrib-dynamorse-ffmpeg

Dynamorse processing nodes using FFmpeg for Node-RED

v0.1.3  30

node

node-red-contrib-dynamorse-webgl

Dynamorse processing nodes using WebGL for Node-RED

v0.1.3  26

node

node-red-contrib-dynamorse-audio-io

Dynamorse Audio IO nodes for Node-RED

v0.1.2  29

node

node-red-contrib-dynamorse-fitting

Dynamorse nodes for Node-RED that provide utilities for manipulating streams

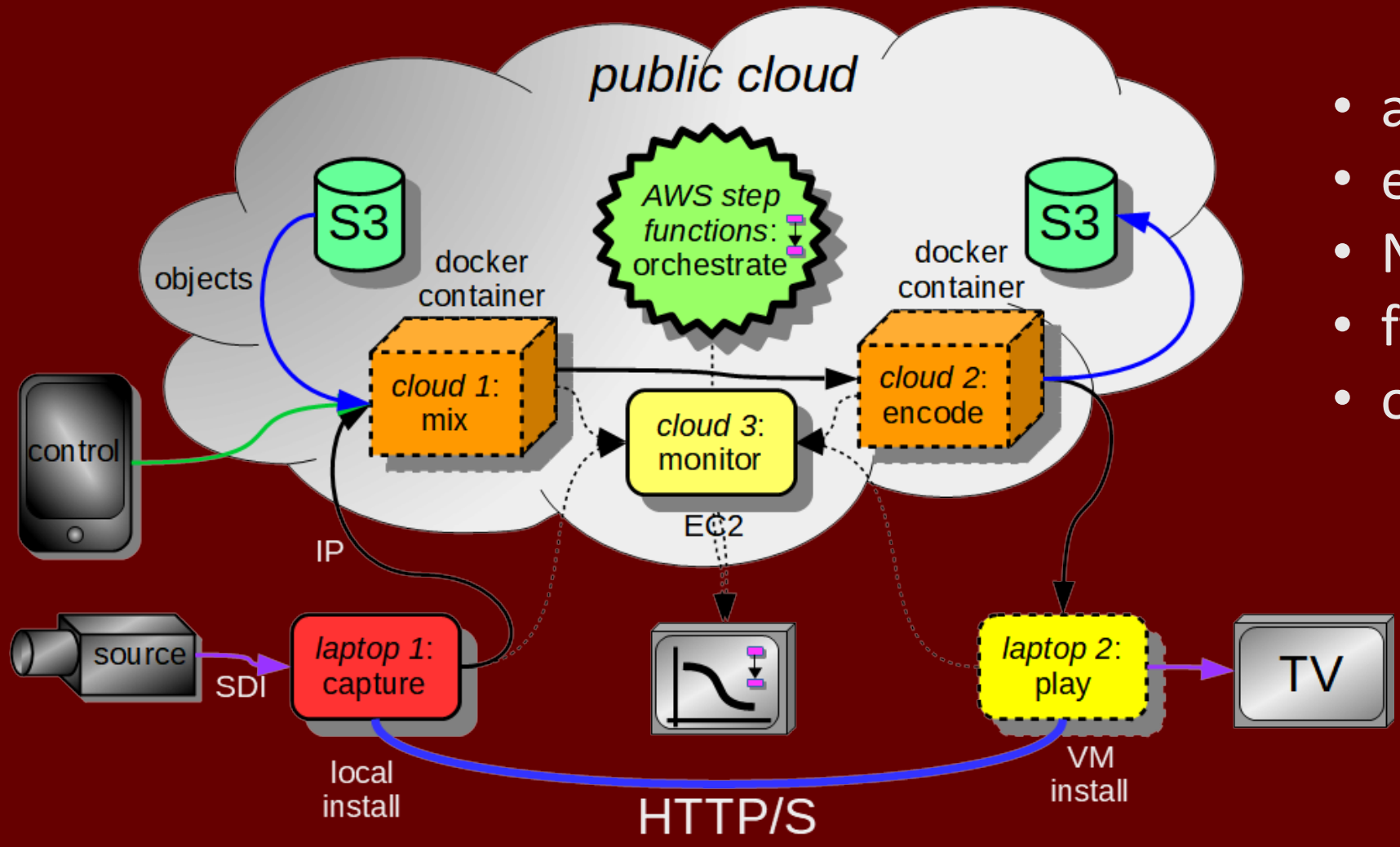
v0.0.2  25

node

<https://flows.nodered.org/search/dynamorse>

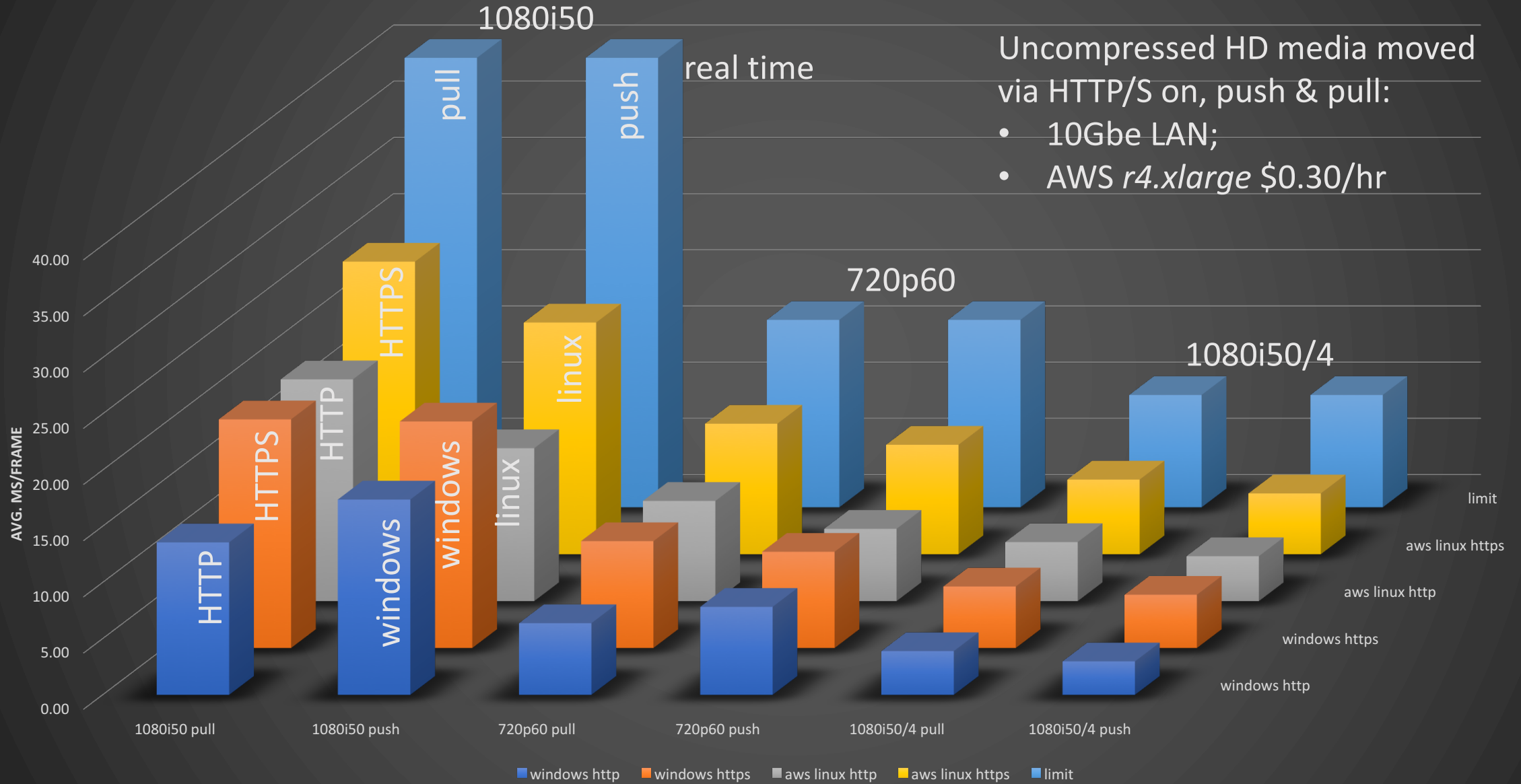


Dynamic software infrastructure



- ansible
- elastic stack
- Node-RED
- ffmpeg libs
- osc on npm

Avg times per 1000 frames - single



Other Node.JS OSC modules

<https://github.com/Streampunk> Apache 2.0

codecadon ffmpeg library bindings

netadon Windows RIO bindings for UDP acceleration

ledger NMOS registration & discovery API v1.0

macadam Blackmagic card bindings for capture and playback

ajatation AJA card bindings for capture and playback, inc Kona IP

kelvinadon streaming MXF library

tesladon MPEG-TS library

automaton Ansible roles

organist orchestration of complete infrastructure lifecycle

arachnid HTTP/S transport specification

cinecoder bindings to Cinegy's codec SDK