

Implementing uncompressed over IP in software and the pitfalls

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Hardware

- Need to reduce OS overhead (see BBC R&D @ UKNOF)
 - Netmap, PF_RING, Registered I/O (Windows)
 - Craft packets yourself
- Limits hardware choices, kernel versions, tunings
- 2022-7 (hitless switching) using kernel bypass directly – two cards at the same time?

Software

- SDI frame bugs few have encountered
 - CRCs costly and arguably unnecessary
- Many pixel formats (most broadcast specific)
- Slow format conversions without handwritten assembly code (10x speed boosts)
 - Non mod-6 line width (**1280x720**) annoying
- Written in Upipe (think Apache vs nginx).
- Unicast ARP problems

We're hiring!



Work at the SpaceX of broadcast

- Upipe.org
- BBC R&D UKNOF -
<https://www.youtube.com/watch?v=yLL8wl8YUwA>