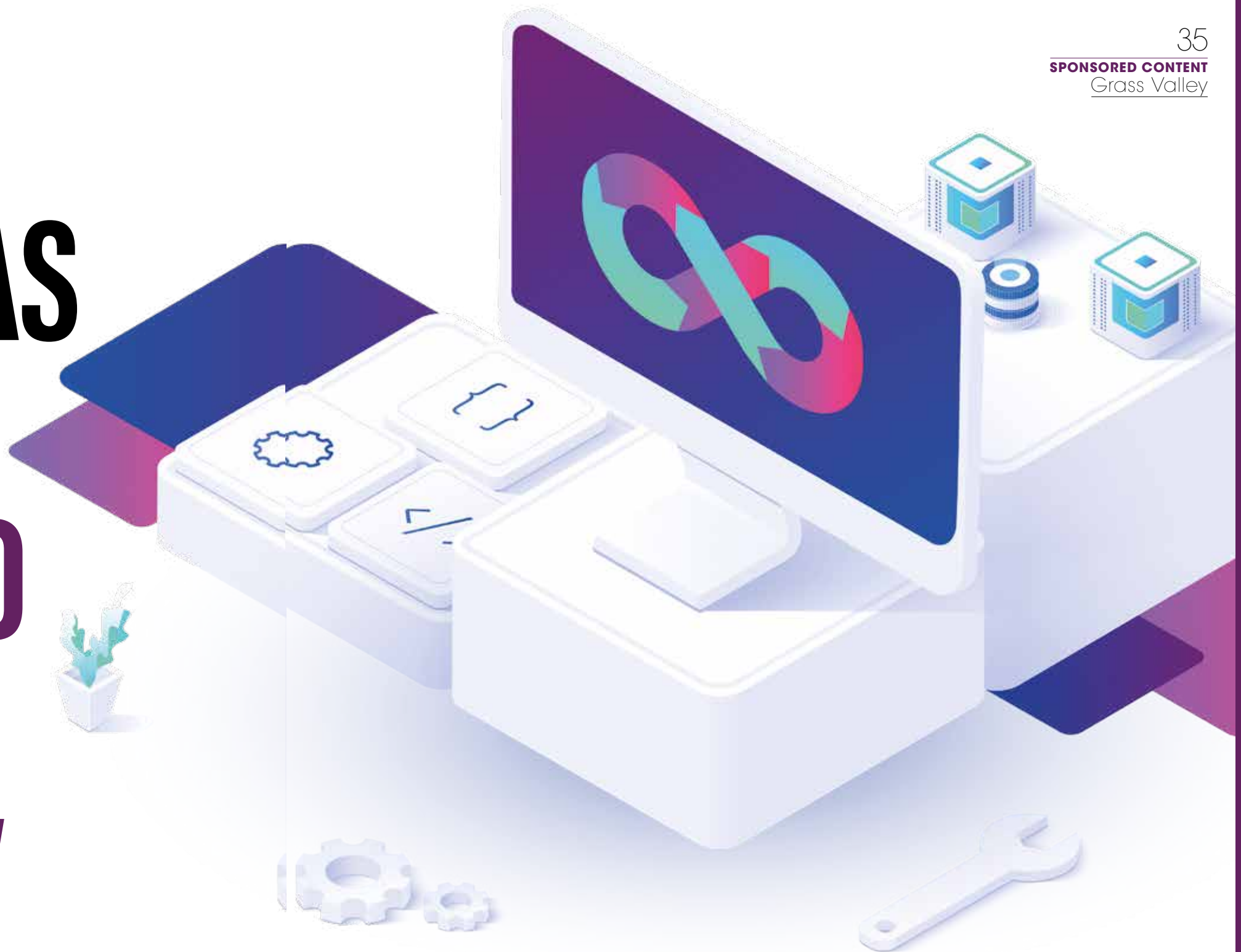# BROADCAST AS CODE: A NEW APPROACH TO SOFTWARE IS CHANGING TV

IT thinking has finally reached broadcasting, and innovators such as Grass Valley are providing tools and services – like its new GV AMPP platform – to fully leverage the power of infrastructure-as-code

Software-centric systems have brought huge benefits to the broadcast space, with media companies increasingly likely to shed their hardware-based systems for more flexible, all-digital solutions. The question now is not whether software underpins your broadcast systems, it's whether those installations are up to the task in the current climate – when your business is bombarded with opportunities and disruptors in equal measure.

"Traditional enterprise class software applications – and this isn't specific only to the broadcast industry – tend to be big, expensive, complicated projects to implement," notes Sydney Lovely, SVP,

worldwide products and technology at broadcast systems vendor Grass Valley. "And when you upgrade the software, it can be a huge effort – difficult and drawn out."

As much as the software revolution has transformed broadcasting, there are still lots of pain points caused by clinging to legacy workflows, straight-jacketed by legacy software systems.

The traditional world of broadcast software is based on a 'waterfall' model where each phase depends on the deliverables of the previous one. It's a very pipelined system, with lots of hand-overs.

"A developer writes code. That gets handed off to a QA person who tests the code and finds issues, and they spend a

while on that loop. Then it gets handed off to a professional services person who goes out and installs the code for the customer and works through any issues there. After the system gets stabilised, if a customer has an issue, they raise a ticket, and a first-level person picks up the ticket and if they can't resolve the problem, it escalates to the next level of expertise. If all that sounds slow, it's because it is."

This linear approach has been an enduring feature of both content production and the tech enabling it, and has tended to cap efficiencies – and opportunities – at what can be physically accomplished by a human being during a work day. But new infrastructure-as-code technologies, and

new methods for working within them, have made what a single individual can accomplish almost infinitely scalable.

Software in this new broadcast realm isn't based on hard installs with on-premises hardware, or even virtualised systems running on off-premises servers. Code operating in a distributed environment – whether in the public cloud or on premises – means that tools can be launched, updated, scaled, and customised instantly and continuously. At this point, a DevOps (software development and IT operations) model of software deployment starts to make sense...

DevOps is a cluster of practices and tools that allows technology businesses ⇒

THESE NEW TECHNIQUES ALLOW US TO BE MORE EFFICIENT, AND MAKE IT EASIER TO ADDRESS THESE PAIN POINTS FOR CUSTOMERS

IN THE PAST, WHEN YOU WENT INTO THE BEGINNING OF A SPORTS SEASON, YOU LOCKED YOUR SOFTWARE DOWN

to deliver products and services at high speed and make improvements at a much faster pace. DevOps is not just an improved approach to software development, it's also a business culture that emphasises continuous deployment and monitoring – with the goal of continuous optimisation of the customer experience.

Integrating a DevOps mentality into broadcasting requires its own specialised skills. During a broadcast, there is no room for system failure. A minute of downtime in a corporate setting might get someone fired, but a minute of downtime in a major broadcast could mean millions of dollars in lost revenue.

This need for absolute reliability was a contributing factor in the broadcast industry's slow approach to adopting IP and cloud technologies, but as OTT and VOD content took centre stage, being able to work within the IT space has become the norm.

BRINGING IT TO BROADCAST
Earlier this year, Grass Valley introduced AMPP – Agile Media Processing Platform. GV AMPP is a SaaS platform specifically designed to offer broadcasters the full power of cloud-based elastic compute and to overcome broadcasters' long-time reliance on hardware-based systems.

AMPP is fully browser-based and allows users to spin up or spin down a variety of broadcast-optimised applications on a pay-as-you-go basis.

AMPP was started as an incubator within Grass Valley that looked at best practices across multiple industries. Incorporating a lot of DevOps methodology, it offers broadcasters of all sizes a gateway into an improved way of producing and distributing content.

"There's a lot of IT knowledge within Grass Valley," says Mike Cronk, Grass Valley's VP of advanced technology. "We didn't have to go out and hire an army of new people. We had people here

working within the broadcast industry who understand the pain points.

"One of the tenets of DevOps is you need to understand what infrastructure you're deploying on, making sure that there's methodology such as infrastructure-as-code and ways to monitor remotely. Some traditional deployments aren't necessarily geared for that now, so there'll be a change over time as more and more people go to DevOps. But the ability to make changes, to be agile, to connect the customer and developers more closely are all positives that will keep growing over time."

Using DevOps and CICD (continuous integration/continuous delivery), Grass

Valley is able to update and improve the platform, responding to customer and market needs in the most efficient and agile way possible.

"We're working with people now who are going to air every weekend and they're totally comfortable upgrading their software, getting new features," says Cronk. "In the past, when you went into the beginning of a sports season, you locked your software down. Even if there are some bugs or you want an additional feature, you can't because you want to preserve your stability. Now that's no longer an issue, allowing for more collaboration and greater satisfaction from the customer side."

With an SaaS solution like AMPP, users can save a snapshot of their configurations and preferences – which in a traditional infrastructure might have taken weeks to properly configure – and call it up instantly in the browser with a single click, and do this no matter where they're working.

A NEW WAY FORWARD
"The definition of insanity is to keep doing the same thing over and over again and expect different results," says Lovely. "If we keep approaching software development the way we have for the last decade, it's not going to get any better. So that's where these new techniques allow us to be more efficient and make it easier to address these pain points for customers."

A lot of the concerns about moving to SaaS services like GV AMPP have melted away in the post-coronavirus world. Companies have been forced to embrace remote production and have discovered that live productions can be done almost as easily from the dining room table as from a central master control room.

"At Grass Valley, we've taken special care in how we deploy software, to let customers take it to air when they're ready. If you're a broadcaster, you don't want to have a button move on a GUI after you've trained all of your operators on how to use the system. We've put special processes and technology in place to deal with version management, to allow customers to take new versions of our applications as it suits them, while in the meantime we continue to roll out new versions as fast as we need to.

"It's about giving the customer a better experience, but also about making ourselves more productive in the process. But it takes a modern way of designing and deploying software to do that."

grass valley